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THE DICTIONARY

OF

SCIENCE AND TECHNICAL TERMS

USED IN

PHILOSOPHY, LITERATURE, PROFESSIONS, COMMERCE, ARTS, AND TRADES.

BY

W. M. BUCHANAN.

WITH SUPPLEMENT.

EDITED BY

JAMES A. SMITH,

AUTHOR OF A TREATISE ON "THE BEING AND FACULTIES OF MAN," "THE STRUCTURE OF MATTER," ETC., EDITOR OF "THE GENERAL GAZETTEER," "JOHNSON'S POCKET DICTIONARY," ETC.

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ADVERTISEMENT.

The rapid progress of modern invention and discovery, involving the continual increase of discriminative nomenclature, has long made it evident that no absolutely complete Dictionary of Technical Terms can ever be compiled. Yet there are some, even among the critical, who look upon every such work as the present with undue expectation, and do not hesitate to find fault because impossibilities are not achieved. It is necessary, therefore, to explain that an exhaustive dictionary of Chemistry alone, up to the existing stage of that science, would fill several volumes larger than the present, and be, from the necessary cost, almost inaccessible to either the general or the special student. With the terminology of all the other sciences added, it is plain that a work would be involved of such dimensions that a remunerative circulation could hardly be expected.

Still, however, a Scientific Dictionary, accurate in its definitions, and something much more than merely general in its scope and details, was seriously wanted when the first edition of the present work appeared; and Mr. Buchanan, in his "Technological Dictionary,"

which form[illegible] body of this volume, met the demand with an amount of judgment, knowledge, and ability, which at once fixed the character of his performance, as not only an efficient and unrivalled feat of scientific lexicography for the time, but also as an invaluable nucleus for all sound and judicious subsequent augmentations. In both these respects the present Editor is able to testify, from his personal experience, that it is still without an equal in the field of scientific literature; and he can only hope that, in the Supplement now appended, and the corrections which time has rendered necessary in the original text, he has, without increasing the cost of the work to the purchaser, been fortunate enough to meet by a further instalment the public requirement, and not wholly unsuccessful in maintaining that clear and condensed style of explanation, of which Mr. Buchanan has given so excellent an example, and without which the present enlargement would not have been possible within due limits.

London, 1876.

A

TECHNICAL DICTIONARY.

A, is the first letter of all known alphabets, except the Ethiopic, in which it is the *thirteenth*, and the Runic, in which it is the *tenth*.

A is naturally the first letter, because it represents the first vocal sound naturally formed by the human organs; being the sound uttered by merely opening of the mouth, and without effort to alter the natural position of the lips. Hence this letter is found in many words first uttered by infants: which words are the names of objects with which infants are first concerned, as the breast and the parents. Hence in Hebrew, *am* is mother, and *ab* is father. In Chaldee and Syriac, *abba* is father: in Arabic, *aba*: in Ethiopic, *abi*: in Malayan and Bengalese, *bappa*; in Welsh, *tad*, whence Scotch, *daddy*; in old Greek and Gothic, *atta*: in Irish, *aithair*: in Cantabrian, *aita*: in Lapponic, *atki*: in Abyssinian, *abba*: in Amharic, *aba*: in Shilhic and Melindane (African dialects), *baba*; and *papa* is found in many languages. Hence the Latin *mamma*, the breast, which is, in popular use, the name of mother: in Swedish, *amma* is a nurse.

A, was used by the Romans as a numeral to denote 500, and with a dash over it, $\bar{A}$, to mean 5000. The Romans also employed A, the initial letter of *antiquo*,—I oppose, to signify dissent in voting. The letters U.R. (for *uti rogas*, be it as you desire), were the form of assent. [These letters were marked on two wooden ballots, and given to each voter, who gave one of them as his vote.] In criminal trials, A. stood for *absolvo*, I acquit; C. for *condemno*, I condemn: and N. L. for *non liquet*, it is not evident; and the judges voted by ballots so marked. In Roman inscriptions, A stands for *Augustus, argentum, aurum*, &c.

A, in *music*, is the nominal of the sixth note in the natural diatonic scale, and the natural key in the minor mood. It is the open note of the second string of the violin, by which the other strings are tuned and regulated.

A, in *commerce*, stands for "accepted;" à for "to;" and @ for "at." Merchants and public officers also number their books and documents by the letters A, B, C, instead of figures.

A, in *logic*, denotes a universal affirmative proposition. A asserts, and E denies. In BARBARA, the *a* thrice repeated means that so many of the propositions are universal.

A, $\bar{A}$, or $\bar{\bar{A}}$, in *pharmacy*, are abbreviations of the Greek word ανα, *ana*, which signifies *of each*, or that equal quantities of each thing are to be taken.

AAA, in *old chemistry*, stands for *amalgam*, or *amalgamation*.

AAM, a Dutch measure for liquids. At Amsterdam it is equal to about thirty-five imperial gallons.

AARON'S ROD, in *architecture*, a rod with a serpent twined round it. It is sometimes confounded with Caduceus, (q. v.)

A. B. an abbreviation of *artium baccalaureus*, bachelor of arts.

AB, in the Jewish Calendar, the 11th month of the civil year, and the 5th month of the ecclesiastical year, answering to a part of July and of August. In the Syriac calendar, *Ab* is the last summer month of the year. As a prefix to English names, *Ab* is usually an abbreviation of *abbot*, or *abbey*.

ABACK', from Saxon, *a*, on, and *baec*, back. A nautical term, signifying the situation of the sails when flattened by the wind against the masts. *Taken aback*, is when they are carried back suddenly by the wind; *laid aback*, is when they are purposely placed so to give the ship sternway.

Ab'acot, in *architecture*, a small member representing the *abacot*, or cap of state, in the form of a double crown, anciently worn by the kings of England.

Abac'tor (Latin, from *abigo*, to drive away), in *law*, one who steals numbers of cattle: in distinction to one who steals one or two.

Ab'acus, Latin, from αβαξ, any thing flat, as a bench, a table. 1. A small sanded or waxed table, or board, on which, of old, mathematicians traced their diagrams, and children were taught to write. ——2. An instrument to facilitate arithmetical calculations, similar to the *swanpan* of the Chinese. It consisted of a board of an oblong figure ▭ divided by lines or cords. A counter placed on the lower line denoted *one*, on the second *ten*, on the third *a hundred*, &c.: on the spaces between the lines, counters denoted half as much as on the lines immediately above. Other schemes are called by the same name. ——3. In *architecture*, the upper member of the capital of a Greek Doric column, and a collection of members or mouldings, serving as a kind of crowning in other orders. It is usually square, but in the Corinthian order it is encurvated, which curving is called the *arch* of the abacus. The upper member of the abacus in this order is sometimes called the *boultine*, or *echinus*: the member under it, the *fillet*: and the third and undermost member, the *plinth*. *See* Capital.——4. A table of numbers ready cast up, to expedite arithmetical operations, e. g. the *Abacus Pythagoricus*, the common multiplication table, invented by Pythagoras: the *Abacus Logisticus*, or *canon* of sexagesimals, is a rectangled triangle, whose sides forming the right angle contain the numbers from 1 to 60, and its area the result of each pair of the numbers perpendicularly opposite.

Abacus Harmonicus, the structure and disposition of the keys of a musical instrument.

Abacus Major, a trough to wash ore in.

Abad'don, from *abad*, to be lost. The destroying angel of the bottomless pit.—Rev. ix. The bottomless pit.—*Milton*.

Abaft, from Sax. *beæftan*, to be behind in place. The situation of anything placed towards the stern of the ship: opposed to *afore*. Relatively it means *farther aft*, or nearer the stern. Contr. *aft*.

Ab'agun, the name of an Ethiopian fowl, remarkable for a sort of horn on its head. The name means *proud abbot*.

Abai'sir, spodium, burnt ivory, or ivory-black.

Abaissed, Fr. *abaissé*, depressed. In *heraldry*, applied to the wings of eagles, &c., when the tips are depressed below the centre of the shield or shut. The natural bearing is *volant*, (q. v.)

Abaliena'tion, from *ab* and *alienation*, (q. v.). In *law*, transferring title to property from one to another. In *medicine*, decay of body or mind.

Aban'donment, from *abandon*, to forsake entirely. In *commerce* and *navigation*, the relinquishing to underwriters all the property saved from loss by shipwreck, capture, or other peril stated in the policy. The *abandonment* being made, the insured claims indemnification for a total loss.

Ab'anet, in *surgery*, a bandage resembling the *abanet*, or girdle, worn by Jewish priests.

Aban'ga, the *ady*, a species of palm-tree in the West Indies. It furnishes a juice of which a species of fermented drink is made.

Abaptis'ton, in *surgery*, the perforating part of the trephine: der. α, not, and βαπτω, to dip, because it was made with *abaptista*, or shoulders, so as not to enter the brain.

Abarticula'tion, from *ab* and *articulation*, (q. v.) In *anatomy*, that articulation of joints which admits of manifest motion. Syn. *diarthrosis*, (q. v.)

Abas', a Persian weight for pearls equal to seven-eighths of a carat.

Abased, in *heraldry*, the same with *abaissed*, (q. v.)

Abassi, or Abassis, a Persian silver coin of the value of ten pence sterling.

Abatamentum, from *abate*. In *law*, an entry of a freehold, when a person dies seised, and another enters before the heir.

Abate, Fr. *abattre*, to beat down, to destroy, e. g. in *law*, to abate a castle is to pull it down: to abate a writ, is to overthrow or defeat it: to abate by covin, to overthrow by deceit. In *horsemanship*, a horse is said to *abate* when, working upon curvets, he puts both hind legs down at once, and observes the same exactness in all the times.

Aba'tement, from *abate*. In *commerce*, 1. An allowance or discount for prompt payment; 2. A deduction sometimes made at the custom-house from the duties chargeable upon such goods as are damaged. Syn. *rebate*. In *heraldry*, a mark of dishonour in a coat of arms. In *law*, the English word for *abatamentum*, (q. v.)

Abatis, or Abattis, from α, not, and βατος, pervious. In *war*, a temporary work, made of felled trees, with the branches pointed outwards.

Abator, from *abate*. In *law*, a person who intrudes into a freehold on the death of the last possessor before the heir. *See* Abatamentum.

Abb, yarn for the warp of a web.

Ab'ba, the Syriau and Chaldee name

for *father*. In the Coptic, Syriac, and Ethiopic churches, it is the title of bishops, and the bishops bestow it by way of distinction on the bishop of Alexandria. Hence the titles of *baba*, *papa*, *pope*.

AB'BACY, from *abba* (low Lat. *abbatia*), the dignity, rights, and privileges of an abbot.

ABBE, (*abby*), from *abba*. Originally, an *abbot*: subsequently, a common title in Catholic countries, implying no determinate rank, office, or rights; and latterly, an academic, but not properly a churchman.

AB'BESS, from *abba*, the female superior of a nunnery.

AB'BEY, from *abba*, a monastery or religious society of persons of either sex. The males, called *monks*, are governed by an *abbot*; the females, called *nuns*, are governed by an *abbess*. Abbeys were suppressed in England by Henry VIII.

AB'BOT (formerly *abbat*, from *abba*, Latinised *abbas*), the superior of an abbey or monastery. Abbots are *regular* and *commendatory*. The regular abbots are such as take the vow; the commendatory are seculars, but obliged, when of suitable age, to take orders. The title is also borne by bishops whose sees were formerly abbeys. The *A. of unreason* was a sort of histrionic character peculiar to Scotland, similar to the *lord of misrule* in England.

ABBREUVOIR, from *abbreuver*, to water. A watering place. In *masonry*, the joint between two stones, to be filled up with mortar.

ABBRE'VIATE, from *abbrevio*, to shorten. In *mathematics*, to reduce fractions to their lowest terms. *A. of adjudications*, in Scotch law, is an abstract of a decree of adjudication, which is recorded in a register kept for that purpose.

ABBRE'VIATED, Lat. *abbreviatus*, shortened. In *botany*, an abbreviated perianth is shorter than the tube of the corolla, as in the *pulmonaria maritima*.

ABBREVIA'TION, from *abbreviate*, the contraction of a word or a passage, by omitting some letters or words, as i. e. *id est*, that is; e. g. *exempli gratia*, for example; A.M. *ante meridiem*, before noon; P.M. *post meridiem*, afternoon; *A. of fractions*, the reduction of them to their lowest terms.

ABBRE'VIATOR, one who *abbreviates*. *Abbreviatores* are officers in the Chancery of Rome, who draw up the pope's briefs, and reduce petitions, when granted, to due forms for *bulls* or mandates.

ABBRE'VIATURE, Lat. *abbreviatura*, an abridgment. A mark or character used in abbreviation, e. g. A B C used for the whole alphabet.

ABBUTTALS, the *butting* or boundary of land towards any point.

ABCEDARY, belonging to the alphabet (a, b, c.) *A. psalms*, are those whose parts are arranged according to the letters of the Hebrew alphabet, e. g. psalms 25, 34, 119.

AB'DALS, a sect of fanatics in Persia, who sometimes run out into the streets, and attempt to kill all they meet who are of a different religion; and if they are themselves killed, they are considered martyrs.

ABDERITE, an inhabitant of *Abdera*, in Thrace; Democritus was so called because he was a native of it, and as he was given to laughter, foolish laughter is called *abderian*.

ABDICATE, in a general sense, to relinquish, from Lat. *ab-dico*, to send away. To relinquish an office before the expiry of the time of service. In the *civil law*, to disinherit, e. g. a son during the lifetime of the father.

ABDICA'TION, from *abdicate*, the act whereby a person in office gives it up before the time of service is expired. The term is chiefly used with reference to the supreme magistrate; we say of the monarch that he *abdicated* the throne, and of a minister that he *resigned* his office.

ABDO'MEN, in *anatomy*, the lower belly, or that part of the body between the thorax and the pelvis. It is lined by the peritoneum, and contains the stomach, liver, spleen, pancreas, kidneys, bladder, and intestines. It is separated from the chest internally by the diaphragm, and externally by the extremities of the ribs. It is divided into four regions,—the epigastric, umbilical, hypogastric, and lumbar. The term is usually derived from Lat. *abdo*, to hide, and *omentum*, the caul, because it conceals the viscera; but some maintain that *men* is merely a grammatical augmentation, and that *abdomen* is formed from *abdo* in the same way as *legumen* is formed from *lego*.

ABDOMINAL, belonging to the *abdomen*, e. g. *A. aorta*, that portion of the aorta which is below the diaphragm: *A. ring*, the inguinal ring, an oblique tendinous ring in both groins, through which pass the spermatic cord in men, and the round ligaments of the uterus in women.

ABDOMINALS, Latinized *abdominales*, a class of fishes whose ventral fins are placed behind the pectoral. The class contains nine genera, the loche, salmon, pike, argentine, atherine, mullet, flying-fish, herring, and carp. They chiefly inhabit fresh water.

ABDOMINOUS, belonging to the *abdomen*.

ABDUCENT, Lat. *abducens*. In *anatomy*, muscles which pull back the parts into which they are inserted are called *abducent muscles*, or *abductors*; muscles which have an opposite action are called *adducent muscles*, or *adductors*. The sixth pair of nerves are also called abducent (*nervi ab-*

ducentes), from their distribution to the abductor muscle of the eyeball.

Abduc'tion, Lat. *abductio*, from *abduco*. *See* Abducent. 1. In *physiology*, the action by which muscles draw back by their contraction the parts into which they are inserted; and also the state of a part so withdrawn, e. g. when certain muscles withdraw the arm from the side, or the thumb from the rest of the fingers, they are said to perform the abduction of those parts, and the parts are said to be in a state of abduction.——2. In *surgery*, a species of fracture in which the parts recede from each other. It is sometimes used to denote a sprain.——3. In *law*, the taking away of a child, a ward, a wife, &c., either by fraud, persuasion, or open violence.——4. In *logic*, a species of argumentation, called by the Greeks *apagoge*, in which the major is evident; but the minor is not so clear as not to require further proof; e. g. in this syllogism—

Whatever God has revealed is certainly true:
Now God has revealed a future retribution;
Therefore a future retribution is certainly true.

Abduc'tor, Lat. *abductor-oris*, from *abduco*. In *anatomy*, a muscle which performs the abduction of any part; its antagonist is called an *adductor*, e. g. the *abductor pollicis pedis*, which pulls the great toe from the rest.

Abeceda'rian, or Abece'dary, one who teaches the letters of the alphabet. A novice in any art or science.

Abece'dary, pertaining to or formed of the letters of the alphabet. *See* Abcedary.

Abele, or Abel-tree, the hoary or white poplar (*populus alba*). The wood is white and soft, fit only for coarse work. The best sort of abel-trees having come from Holland, it is in some places known by the name of *Dutch beech*.

Abel'ians, Abelo'nians, or A'belites. In *church history*, a sect which arose in Africa during the reign of Arcadius; they married, but lived in continence, after the manner, as they pretended, of Abel, and attempted to maintain the sect by adopting the children of others.

Abellice'a, an old name of the logwood-tree (*hæmatoxylon campechianum*).

Abelmosk, Abelmosch, or Abelmusk, the Syrian mallow, or musk okro, a species of hibiscus (*H. abelmoschus*). The plant rises on an herbaceous stalk of three or four feet in height. The seeds have a musky odour; hence its name, *habb el musk* (Arabic), musk seed. It is a native of the East Indies.

Aberra'tion, Lat. *aberratio*, from *aberro*, to wander from; wandering, deviation. 1. In *astronomy*, a small apparent motion of the fixed stars, occasioned by the progressive motion of light, and the earth's annual motion in its orbit. The *A. of a planet* is equal to the space it appears to move, as seen from the earth, during the time that the light employs in passing from the planet to the earth. Thus, in the sun the aberration (in longitude) is constantly 20″, that being the space moved by the earth in 8′ 7″ of time, the interval that light takes to pass from the sun to the earth. From this the aberration of the other planets is readily found; for, knowing the distance of the sun from the earth, it will be, by common proportion, as the distance of the earth to the sun is to the planet, so is 8′ 7″ to the time the light takes to pass from the planet to the earth; then finding the planet's geocentric motion in that time, it will be the aberration of the planet.——2. In *optics*, a deviation of the rays of light, when inflected by a lens or speculum, by which they are prevented from uniting in one point. It is occasioned by the figure of the reflecting body, or by the different refrangibility of the rays themselves: this last is called the *Newtonian aberration*, from the name of its illustrious discoverer. *Crown of aberration*, a luminous circle round the disc of the sun, depending on the aberration of the solar rays, by which his apparent diameter is enlarged.——3. In *medical language*, (1.) The passage of a fluid in the living body into vessels not destined to receive it; (2.) The determination of a fluid to a part different to that to which it is usually directed; (3.) The alienation of the mind.

Abesasum, the oxide which forms on the iron of wheels: formerly used in medicine.

Abet', in *law*, to encourage, counsel, incite, or assist, in a criminal action; from Sax. *betan*, to push forward, or advance.

Abet'tor, one who *abets* or incites. In *law*, one who encourages another to the performance of an unlawful action. In *Scotch law*, an abettor is said to be *art and part*. In *treason*, there are no abettors; all concerned are principals.

Abevacua'tion, from *ab*, dim. and *evacuation* (q. v.). In *medicine*, a partial evacuation of the morbid humours, either by nature or art.

Abey'ance, from Norm. *abaizance*, in expectation (*bayance*). In expectation of law. The fee-simple or inheritance of lands is in *abeyance*, when there is no person in whom it can vest; so that it is in a state of expectancy, until a proper person shall appear; e. g. if land is leased to a man for life, remainder to another for years, the remainder for years is in *abeyance*, until the death of the lessee for life.

Ab'hal, the fruit of a species of Asiatic cypress, said to be a powerful emmenagogue.

Abho'rrers, a name given to a party in England about 1680, in opposition to those who petitioned for a redress of grievances.

Ab'ib, the first month of the Jewish ecclesiastical year, called also Nisan. It begins at the spring equinox, and answers to the end of March and beginning of April. Its name, which means a full ear of corn, is derived from the wheat being full grown in Egypt at that season.

Abide, from Sax. *abidan*, to continue. *Abiding by writings*, in Scotch law, means compelling a person to abide by a false deed as if it were true.

Abies, the trivial name of the Norway spruce fir (*pinus abies*), which affords the Burgundy pitch, and common frankincense (*abietis resina*). Name, from *απιος*, a wild pear, to which its fruit bears some resemblance.

Abietic, from *abies*. *A. acid* (*acidum abieticum*), an acid discovered in the resin of the *pinus abies*. It crystallises in square plates, is soluble in alcohol, and forms salts with the alkalies.

Abi'etine (*abietina*), a resinous substance obtained from the Strasburg turpentine.

A'biga, the ground-pine, or chamæpitys (*Teucrium chamæpitys*). Name, from *abigo*, to expel, as it was supposed to promote parturition.

Abigeat (*abigeatus*), the crime of stealing cattle in droves; called also *abactus*. *See* Abactor.

Abil'ity, from Lat. *habilitas*, ableness, from *habeo*, to have. In *law*, the power of doing certain actions, principally with regard to the acquisition and transfer of property.

Abintes'tate, from Lat. *ab* and *intestatus*, without a will (*testator*). In *law*, applied to the person who inherits the estate of one dying *intestate*, or without a will.

Abiotos, deadly; from *α*, not, and *βιοω*, to live. A name given to hemlock (*conium maculatum*), from its deadly qualities.

Abirritation, from *ab* and *irritation*, a medical synonyme for asthenia, debility, &c.

Abjuration, from *abjure*, Lat. *ab-juro*, to deny upon oath. A renunciation upon oath; e. g. "an *abjuration* of the realm," by which a person swears to leave the country for ever. This is much the same with what in Scotland is called *signing an act of banishment*, and was allowed formerly in England to felons who had taken refuge in a church, and confessed their guilt. In some statutes, it is an oath disclaiming all allegiance to a pretender. The "*abjuration of heresy*," is the recantation of any religious doctrine as false.

Ablacta'tion, the weaning of a child from the breast. In *gardening*, a mode of grafting, in which the scion is not separated from the parent stock till it is firmly united to the new one. It is now called *grafting by approach*, or inarching.

Ablaquea'tion, from Lat. *ab* and *laquear*, a covering. In *gardening*, the operation of laying bare the roots of trees to the air and water.

Abla'tion, Lat. *ab-latio*, a carrying away. In *medicine*, the taking away from the body whatever is hurtful: evacuations generally. In *chemistry*, the removal of whatever is finished.

Ab'lative, Lat. *ablativus*, from *aufero*, to carry away (of *ab* and *fero*). In *Latin grammar*, the name of the sixth case, peculiar to that language. Words are used in this case when the actions of *carrying away* or *taking from* are signified. It is therefore opposed to the *dative*. It is sometimes called the comparative case, as being much used in comparing things. *Ablative absolute*, is when a word in that case is independent in construction of the rest of the sentence.

Able-bodied, in *nautical language*, it denotes skill in seamanship.

Ablec'ti (*selected*). In the Roman army, a select body of soldiers chosen from among those called *extraordinarii*.

Able'gima (*απολεγμοι*). In Roman *archæology*, the parts of the victim which were offered to the gods in sacrifice. The word is derived from *ablegere*, in imitation of the Greek *απολεγειν*.

Ablep'sy, Lat. *ablepsia*, from *α*, not, and *βλεπω*, to see. Blindness.

Ab'luent, Lat. *abluens*, from *ab-luo*, to wash away (Ir. *lo*, or *lua*, water.) In *medicine*, that which purifies the blood. It is sometimes used in the sense of *diluent*, and *abstergent*.

Ablu'tion, Lat. *ab-lutio* (of *luo*, or *lavo*, to wash). 1. Purification by water. Appropriately, the washing of the body as a preparation for religious duties, enjoined by Moses, and still practised in oriental countries. The priests of Egypt used daily ablutions; the Grecians, sprinklings; the Romans, lustrations; the Jews, washings and baptisms. The ancient Christians had their ablutions before communion; the Roman Catholic has his before mass; on Good Friday, the Syrians, Copts, &c., have solemn washings.——2. In *chemistry*, the separation of extraneous matters from any substance by washing.——3. In *medicine*, the washing of the body.

Abnor'mal, or Abnormous, Lat. *abnormis*, irregular. Deviating from nature: unnatural.

Aboard (*a* and *board*), within a ship

boat, &c.: hence, *to go aboard*, to enter a ship: *to board*, to enter a ship by force of arms: *to fall aboard*, to strike a ship's side, to encounter; *aboard main-tack*, an order to draw the main-tack, i.e. the lower corner of the mainsail, down to the chess-tree.

ABOLI'TION, from Lat. *ab* and *oleo olesco*, to grow. In *law*, 1. The repealing of any statute. 2. Remitting the punishment of a criminal. 3. Leave given to a criminal accuser to desist from further prosecution of the accused.

Abolition conveys the notion of a more gradual proceeding than either *repeal* or *abrogate*, and seems more applicable to the obliteration of customs; e. g. we say a change of taste has caused the *abolition* of tournaments; but that such a law has been *repealed*, or *abrogated*; such an edict has been *revoked*, contract *annulled*, or debt *cancelled*.

ABOL'LA, in *Roman archæology*, a woollen cloak or pall, which was worn by the soldiers; and also by judges. The word is identical in signification with *pallium* (φαρος).

ABOMAS'US, the fourth stomach in ruminating animals: from *ab*, and *omasum*, the paunch. In calves, the runnet, or earning, is formed in the abomasus.

ABOMINATION, detestation: from Lat. *abomino* (of *ab* and *omen*), to deprecate as ominous. *A. of desolation*, foretold by Daniel, the statue of Jupiter Olympius, which Antiochus Epiphanes caused to be put up in the temple of Jerusalem. *A. of desolation*, mentioned by the evangelists, the ensigns of the Roman army when Jerusalem was besieged by Titus.

ABO'REA, a species of duck called, by Edwards, the black-bellied whistling duck. It is of a reddish brown colour, with a sort of crest on its head: the belly is spotted with black and white.

ABORI'GINES, the first inhabitants of a country—as the Celts in Europe, and the Indians in America. The term is Lat. from *ab*, and *origo*, origin. Adj. *aboriginal*. The name was first given to the ancient or original inhabitants of Italy, who, according to tradition, were conducted into Latium by Saturn.

ABOR'TIENT, Lat. *abortiens*, miscarrying. A term sometimes used by botanical writers, as synonymous with *sterilis*, barren.

ABORTION, Lat. *abortio*, miscarriage, (of *ab* and *orior*). The premature expulsion of the fœtus. If it occur before the end of the sixth month it is called *abortion*, or *miscarriage*; if between the sixth and end of the ninth month, *premature labour*. *Miscarriage* is restricted by some writers to the expulsion of the fœtus within six weeks after conception: abortion and miscarriage are, however, generally used synonymously.

ABOR'TIVE, applied, 1. To a medicine which has the power of exciting abortion (q.v.); 2. To flowers or florets which do not produce perfect seed. Abortive flowers are generally such as have stamens, but no pistils.

ABOUT, from Sax. *abutan*, coinciding with αμφι. *About ship*, the order to the ship's crew for tacking; the situation of the ship immediately after she has tacked.

AB OVO, from the beginning: literally *from the egg*, with which the banquet began.

ABP., abbreviation for *archbishop*.

ABRACADAB'RA, the name of a deity worshipped by the Syrians. The name was supposed by the cabalists to possess great virtues in preventing and curing fevers. To render its powers certain, it was written on paper as many times as it contained letters, omitting the last letter every time, thus—

A B R A C A D A B R A
A B R A C A D A B R
A B R A C A D A B
A B R A C A D A
A B R A C A D
A B R A C A
A B R A C
A B R A
A B R
A B
A

The word is a corruption of *Abrasadabra*, which means "divine decree."

ABRAC'ALAN, a cabalistic term, to which the rabbins ascribed the same virtues as to the *Abracadabra*.

ABRAHAMIC, pertaining to Abraham the patriarch, e. g. the *Abrahamic covenant*. *Abrahamites*, a sect of heretics who adopted the errors of Paulus, and who are therefore called *Paulicians*. Also an order of monks exterminated in the ninth century, by Theophilus, for worshipping images.

ABRAN'CHIA, from α, not, and βραγχια, gills. Animals which have no gills, or apparent organs of respiration.

ABRANCHIA'TA, from *abranchia* (q. v.), the third order of Articulata, having no apparent external organ of respiration, but seem to respire, some by the entire surface of the skin, and others by internal cavities. They have a closed circulating system, usually filled with red blood. This order is divided into two families: the *A. setigera*, which are provided with setæ which enable them to crawl, e. g. the earth-worm; and the *A. asetigera*, which are aquatic, and have no setæ, e. g. the leech.

ABRASAX, a word which has been derived from the initial letters of the Hebrew

words, *Ab*, *Ben*, *Ruach-hakodesh*, (Father, Son, and Holy Ghost), and the Greek words, Σωτηρια απο Ξυλου (salvation from the cross); but more probably, it is made up of the Greek numerals, $\alpha=1$, $\beta=2$, $\rho=100$, $\alpha=1$, $\sigma=200$, $\alpha=1$, $\xi=60$, which together make 365: for it was, 1. The name of the supreme god under whom the Basilidians supposed 365 dependent deities, who had the government of so many celestial orbs. It was the principle of the Gnostic hierarchy whence sprung the multitude of *æons*. 2. An antique gem or stone with the word *abraxas* engraven on it. There are many of various figures, e. g. of beetles, serpents, human heads, mostly as old as the third century. The letters are mostly Roman, Greek, and Phœnician. They appear to have been early sought after as amulets.

Abra'sion, from *abrado* (of Lat. *abrado*, to scrape off). In *physics*, the effect produced by attrition. In *medicine*, the effect produced by corrosive applications.

Abraum, a red clay brought from the Isle of Wight, with which cabinet-makers darken and polish mahogany.

Abraxas, in *entomology*, a subgenus in the classification of Leach, including the *Phalæna Grossulariata* (magpie), and *Phalæna Ulmata* (clouded magpie), of Latreille. Feed on the leaves of the currant and gooseberry.

Abrazite, Zeagonite or Gismondine, a mineral which occurs in semi-globular masses (sometimes in octahedral crystals with a square base), in the volcanic rocks of Capo di Bove, near Rome. Conts. Silica, 41·4; lime, 48·6; alumina, 2·5; magnesia, 1·5; oxide of iron, 2·5.—*Philips*.

Abreast, (*a* and *breast*), in *nautical language*, the position of two or more ships which have their sides parallel, and their heads equally advanced. *Abreast* within ship, means in a line with the beam, main hatchway, &c. From this point the position is reckoned *fore* or *aft*.

Abrido'ment, from *abridge* (of βραχυς, short), an epitome; a summary of a book. In *law*, shortening a count or declaration; e. g. in assize, a man is said to abridge his plaint, and a woman her demand in action of dower, if any land be put therein, which is not in the tenure of the defendant: for, on a plea of non-tenure in abatement of the writ, the plaintiff may leave out those lands, and pray that the tenant may answer to the remainder.

Abroga'tion, from *abrogate*, to annul by an authoritative act. The act of abolishing by authority of the legislative power. The term is derived from *abrogo*, from *rogo*, to ask, in allusion to the Roman custom which admitted no law to be valid to which the consent of the people had not been obtained by asking; or *abrogated*, but in the same way, by gaining the popular consent.

Abro'ma, from α, not, and βρωμα, food. A genus of plants of the polyadelphia dodecandria class and order; containing two species, the *A. augusta*, and the *A. fastuosa*. They grow freely in common garden soil, and are easily propagated by seeds and cuttings. The first is a native of the East Indies, and the other of New South Wales.

Abro'tanum, southernwood, from βροτονον (of α, not, and βροτος, mortal, because it never decays). A species of plant arranged under the genus *artemisia*. H. shrub.

Abrupt, Lat. *abruptus*, broken; applied to the leaves of plants when the extremity of the leaf is, as it were, cut off by a transverse line.

Abruptly-pinnate, *abrupte-pinnatus*, a term applied in botany to a leaf which is pinnate, and terminates abruptly, without an odd leaflet or cirrus.

A'brus, the knob-rooted wild liquorice, from αβρος, soft, in reference to the softness of its leaves. A genus of plants of the class and order diadelphia decandria. There is only one species known in Europe, the *abrus precato'rius*. It grows wild in both East and West Indies, and in Africa, and produces those beautiful red seeds, called *Angola seeds*, marked with a black spot or eye at the one end, which have been so much used as beads for making necklaces and *rosaries* (whence the specific name *precatorius* of the plant).

Absce'dent, Lat. *abscedens* (of *abscedo*, to depart). Applied to a decayed part of an organised body, which is separated from the sound.

Ab'scess, Lat. *abscessus* (of *ab* and *cedo*, to go from), an imposthume; a collection of morbid matter or pus in the cellular or adipose membrane; matter generated by the suppuration of an inflammatory tumour.

Abscis, or Abscissa, from *ab* and *scindo*, to cut. In *conics*, any part of the diameter or axis of a curve, intercepted between the vertex, or some other fixed point, and another line called an *ordinate*. An abscis and ordinate considered together are called *co-ordinates*. By means of these the equation of the curve is defined.

Abscis'sion, from *abscindo* to cut off. In *surgery*, the separation of any soft part of the body, by an edged instrument, and as *amputation* is when bones are cut.

Absco'nsio, from *abscondo*, to hide. In *anatomy*, the cavity of a bone which receives and conceals the head of another bone.—*Lat.*

Abconsa, from *abscondo*, to hide. A

dark lantern, used by the monks in burying the dead at night.—*Lat.*

Absin'thate (*absinthas*), a salt formed by the combination of *absinthic* acid with a base.

Absin'thic, related to *absinthium*. *A. acid* (*acidum absinthicum*), a peculiar acid contained in absinthium.

Absin'thine (*absinthina*), the bitter principle of *absinthium*.

Asin'thites, wine impregnated with absinthium.

Absinthium, wormwood: a bitter plant used in medicine as a tonic. It is a species of artemisia (*artemisia absinthium*). Name Latinised from ἀψίνθιον, supposed to be derived from ἀ, not, and ψίνθος, sweet, on account of its bitterness.

Ab'sis, in *astronomy*, the same with *Apsis* (q.v.)

Absolute, Lat. *absolutus*, independent of anything extraneous. 1. In *grammar*, the absolute case is when a word or member of a sentence is not immediately dependent on the other parts of the sentence in government, e.g. "*Pray* without ceasing." the word *pray* is taken *absolutely*. ——2. In *mathematics*, an absolute term or number, is one which is completely known, and to which all the other part of the equation is made equal, e.g. in the eq. $x^2 + 10x = 25$, the absolute number term is 25, which is equal to the square of x, added to ten times x.——3. In *astronomy*, absolute equation is the sum of the optic and eccentric equations: the apparent inequality of a planet's motion in its orbit, arising from its being at different times at different distances from the earth, is called its *optic* equation: the eccentric inequality arises from the uniformity of the planet's motion in an elliptical orbit, which for that reason appears not to be uniform.——4. In *physics*, absolute space is space considered without relation to any object. *Absolute gravity* is that property in bodies by which they are said to weigh so much, without regard to circumstances of modification: this is always as the quantity of matter they contain.——5. In *chemistry*, *absolute* is applied to substances free of some usual combination, e.g. alcohol free of water is called *absolute alcohol*.

Absolu'tion, Lat. *absolutio* (of *ab* and *solvo*, to loosen). In *civil law*, a definitive sentence of acquittal by a judge, releasing the accused from all further prosecution. In the *Scotch Presbyterian church*, a sentence of the church judicatories, releasing an individual from excommunication and receiving him again into communion. In *Roman Catholic churches*, a remission of sins pronounced by a priest in favour of a penitent. *Absolutio ad cautelam* is a provisional absolution granted to a person who has appealed from a sentence of excommunication.

Absor'bent, Lat. *absorbens* (of *ab-sorbeo*, to drink in). 1. In *anatomy*, the delicate, transparent vessels which take up substances from the surface of the body, or from any cavity, and carry it into the blood, are termed *absorbents*. These are the lacteals and lymphatics. The same name is given by naturalists to those fibres of roots which draw nourishment from the earth.——2. In *chemistry* the term is applied to any substance which withdraws moisture from the atmosphere, neutralises acids, &c.——3. In *pharmacy*, a medicine which destroys acidities in the stomach and bowels (e.g. magnesia, prepared chalk).

Absorp'tion, Lat. *absorptio* (of *absorbeo*, to drink in). 1. In *physiology*, a function of living organised bodies, which consists in taking up substances, and conveying them into the mass of circulating fluids, by means of the absorbing vessels. —*Hooper.*——2. In *chemistry*, the passage of a gas into the pores of a liquid or solid substance; the passage of a liquid into the pores of a solid.

Abster'gent, from *abstergo*, to cleanse, (*abstergeo*), a medicine which removes foulness. The term *detergent* is now commonly used.

Ab'stract, from Lat. *abs-traho*, to separate; distinct from something else, e.g. an *abstract idea*, in metaphysics, is an idea separated from a complex object, or from other ideas which naturally accompany it: as the solidity of marble, considered apart from its colour or figure. *Abstract terms* are those which express abstract ideas, as whiteness, roundness, (in contradistinction to concretes, as white, round), without regard to the subjects in which they exist. *Abstract numbers* are numbers used without application to any particular objects, as 3, 7; but when applied to anything, as 6 men, they become concrete. *Abstract*, or *pure mathematics*, treat of magnitude or quantity in general, as arithmetic and geometry; opposed to mixed mathematics, which treat of the relations of quantity, as applied to sensible objects, as astronomy, optics. An *abstract* is a summary, or epitome, containing the substance of a treatise or writing. To *abstract* means, in chemistry, to separate the volatile parts of a substance by distillation. In this sense the word *extract* is commonly used.

Abstrac'ti, in *church history*, a sect of Lutherans, who asserted that Christ is to be adored not only in the concrete, as the Son of God, but that he is in the abstract an object of adoration.

Abstraction, the act of separating or state of being separated. *See* Abstract.

1. In *metaphysics*, the operation of the mind when occupied with abstract ideas, as when some particular part or property of an object is considered apart from the rest, e.g. as when the mind considers a branch of a tree by itself, or the colour of the leaves, as separate from their size or form ——2. In *logic*, the power of the mind in separating the combinations presented to it, bears the name of *abstraction.—Stewart.*

Abstraction may be regarded as the *science of generalization*, as it is by abstracting from individuals that which is peculiar to each, and retaining what is peculiar to all, that we come to form the idea of *species*, and proceeding in the same way with species, we arrive at *genera;* from thence we proceed to *orders* and *classes.*

3. In *chemistry*, the term denotes the separation by heat of the volatile parts of a compound. When the part abstracted is collected, the process is called *distillation* or *sublimation*, according as the process is wet or dry.

Abstrin'gent, Lat. *abstringens.* Medicines which are used to resolve obstructions, concretions, &c., are called *abstringents*, e.g. soap.

Absurd, Lat. *absurdus* (from *ab* and *surdus*, deaf), opposed to manifest truth. In *mathematics*, a term employed in demonstrating converse propositions. The proposition is not proved in a direct manner from principles before laid down, but the contrary of the proposition is proved to be impossible or absurd, and this indirectly proves the truth of the proposition itself. Thus the fourth proposition of the first book of Euclid is demonstrated by showing that if the extremities of two right lines coincide, the lines themselves will coincide in all their parts, otherwise they would enclose a space, which is *absurd*, being contrary to the tenth axiom. This is called *reductio ad absurdum.*

Ab'sus, the trivial name of a small Egyptian lotus (*cassia absus*). The powdered seeds are used in the cure of ophthalmia.

Abun'dant, Lat. *ab-undans* (from *unda*, a wave). In *arithmetic*, a number, the sum of whose aliquot parts is greater than the number itself, is called an *abundant number*, e. g. 1, 2, 3, 4, 6, the aliquot parts of 12, make the sum 16. This is opposed to a *deficient number*, as 14, the aliquot parts of which are 1, 2, 7, the sum of which is 10, and both to a *perfect number*, which is equal to the sum of all its aliquot parts, as 6, whose aliquot parts are 1, 2, 3.

Abut'ilon, a genus of exotic shrubs, containing 26 species; class *monadelphia*, order *polyandria*, natives of South America, East and West Indies, Senegal, Egypt, and Canaries. One species (*A. Avicennæ*) is a native of the south of France.

Abutment, from *abut*, to meet (chiefly used in describing the bounds or situation of land). The extremity; chiefly used to denote the solid mound or pier erected on the bank of a river, to support the end of a bridge. *Synonymes*, land-stool, land-pier. The term, however, often means simply the masonry casing of this pier. Among *carpenters*, the joining of two pieces of timber is called an *abutment.* In this the fibres of the wood are placed as nearly as practicable at right angles to each other.

Abut'tal, the butting or boundary of land; a headland. *See* Abbuttals.

Abyss, from ἄβυσσος, without bottom; something profound, as it were bottomless; e.g. the ocean, hell (bottomless pit).

The term has been used by some to denote a vast cavity filled with water, which they supposed to exist in the centre of the earth; and by others, to signify a deep mass of water, which they conceived encompassed the earth in its state of chaos. These waters were, according to the same authorities, collected by the Deity, into the abyss in the centre of the earth, on the third day of creation. Geology has done much of late to correct our notions on these subjects.

2. In *heraldry*, the centre of an escutcheon, e.g. "He bears azure, a fleur de lis, in abyss," i.e. in the middle of the shield clear of everything else.——3. In *archæology*, the temple of Proserpine, so called from the immense treasures it was supposed to contain.

Abyssin'ians, a sect of Christians in Abyssinia, who admit but one nature in Jesus Christ, and reject the council of Chalcedon. They are governed by a bishop, called an *abuna.*

Ac, in Saxon, *oak;* the initial syllable of names, as *Acton*, Oaktown.

A.C., an abbrev. of *Ante Christum* (before Christ).

Acac'alot, the *Tantalus Mexicanus*, a Mexican fowl. *See* Acalot.

Aca'cia, Gr. ακακια, from ακαζω, to sharpen, the Egyptian-thorn, a genus of shrubaceous plants, of the class *polygamia*, and order *monœcia.* This genus contains about 132 species, all natives of hot climates.

The Chinese make a yellow dye from the flowers of one species of it, which bears washing on silks. From another species of it (*acacia vera*), we derive our gum arabic, gum senegal, &c.; and the astringent medicine called *catechu* is the production of a species of the same tree (*acacia catechu*), which is a native of the East Indies

2. In *medicine*, the name of the expressed juice of the immature pods of the *acacia vera*. It is brought chiefly from Egypt in roundish masses, wrapped up in thin bladders.——3. In *archæology*, a roll or bag on the medals of the Greek and Roman emperors, supposed by some to represent simply a handkerchief rolled up, with which signals were given at the games: by others it is said to be a roll of petitions; others make it a purple bag filled with earth, to remind the prince of his mortality.

ACA'CIANS, in *church history*, sects so denominated from their leaders, *Acacius*, bishop of Cæsarea, and *Acacius*, patriarch of Constantinople. Some of them maintained that the Son was only a similar, not the same substance with the Father; others, that he was not only a distinct but a dissimilar substance.

ACADE'MIC, 1. pertaining to an *academy*, college, or university, e. g. *academic studies;* also what belongs to the school or philosophy of Plato, e. g. the *academic sect.*——2. An *academician* (q. v.).——3. One who belonged to the school or adhered to the philosophy of Socrates and Plato.

Plato, the founder of the academical philosophy in Greece, taught that matter is eternal and infinite, but without form, refractory, and tending to disorder, and that there is an intelligent cause, the author of spiritual being, and the material world.

ACADEMI'CIAN, a member of an *academy*, or society for promoting arts and sciences, particularly a member of the French academies; also an academic philosopher; an *academist.*

ACA'DEMY, Lat. *academia*, from ακαδημια; originally a garden or grove near Athens, where Plato and his followers held their philosophical conferences, and ultimately, the sect of academic philosophers.

In the *modern sense*, a society of learned men united for the promotion of the arts and science in general, or of some special department. Hence *academies of antiquity* (for the illustration of whatever regards archæology, as medals, coins, inscriptions, &c.), *ecclesiastical*, *chirurgical*, and *dancing* academies; academies of *belles-lettres*, of *languages*, of *painting*, of *sculpture* and *architecture*, &c. The first modern school under this name was established by Charlemagne, at the instance of Alcuin, an English monk. *Academy* is also applied with us for a kind of school in which the elementary branches of education are taught.

ACADEMY-FIGURE, a draught or design made after a model with a crayon or pencil.

ACÆ'NA, the generic name of a Mexican shrub (*A. elongata*) of the class *tetrandria*, and order *monogynia*. Name ακαινα, a prickle.

ACÆNITUS, in *entomology*, a genus of ichneumonides.—*Latreille.*

ACALOT, a Mexican fowl resembling the ibis; it is called by some the *water-crow.*

ACA'LYCINE, Lat. *acalycinus*, (α, *without*, and καλυξ, a *calyx*), without calyx or flower-cup.

ACA'LYPHA, from ακαλἠφη, the nettle, (*urtica*, Lin.). 1. A genus of plants of 16 species, some of which much resemble the broad-leaved pellitory of the wall: class *monœcia*, order *monadelphia.*——2. A class of radiated animals (*radiata animalia*), comprising zoophytes (*zoophyta*), which swim in the ocean, and in whose organisation vessels can be recognised. These are generally, however, "mere productions of the intestines excavated in the parenchyma of the body." The acalyphæ are divided into two orders; the *A. simplicia* (simple A.), and the *A. hydrostatica* (hydrostatic A.). The first swim by the alternate contractions and dilatations of their body, although their substance is apparently without fibres. The hydrostatic A. have one or more bladders, filled with air, by means of which they sustain themselves in their liquid element.

ACAMACU, the local name of the Brazilian fly-catcher, or *todus* (q. v.).

ACA'MPSY, Lat. *acampsia*, from α, not, and καμπτω, to bend. The same with *Anchylosis* (q. v.).

ACANA'CEÆ, a class of plants in some systems of botany, including all those which are prickly, and bear their flowers and seeds on a kind of head; name, from ακανος, a prickly shrub.

ACANA'CEOUS, armed with prickles; belonging to the class of plants called *acanaceæ.*

ACANGIS, in Turkish military affairs, "a kind of light-armed horse."

ACA'NOS, from ακανος, a *spine.* The *onopordium* (q. v.).

ACA'NTHA, from ακανθα, a *thorn.* In *botany*, a thorn. In *zoology*, the spine of a prickly fin of a fish; also an acute process of the vertebra. In *anatomy*, the spina dorsi.

ACANTHA'BOLUS, from ακανθα, a *thorn*, and βαλλω, to *throw out.* In *surgery*, a kind of forceps for pulling thorns, &c. from the skin.

ACA'NTHIA, in *entomology*, a genus of hemipterous insects; form oval, with a spinous thorax, and ciliated abdomen. Found chiefly on the banks of rivers. Name anciently given to a species of grasshopper found near the city of *Acanthus?*

Acanthiæ cicadæ (singing grasshoppers), had the same meaning among the ancients that *timber tuned* has among ourselves.

Aca'nthine, pertaining to, or resembling the plant *acanthus*. In *architecture*, a border or fillet ornamented with the acanthus-leaf.

The acanthine garments of the ancients were made of the down of the thistle, or embroidered with representations of the acanthus.

Aca'nthine-gum (*gummi acanthinum*). Gum-acacia is sometimes so called, because it is produced by a thorny tree, the *acacia vera*.

Aca'nthocephala, an intestinal worm constituting a family of the order *parenchymata*, and class *entozoa*, and forming the genus *echinorhynchus*, of Gmelin. The A. attach themselves to the intestines by a prominence armed with recurved spines, which also appear to act as a proboscis: hence the name, ακανθος *thorny*; κεφαλη, head.

Aca'nthomera, in *entomology*, a genus belonging to the tribe of blapsides of Latreille; name, from ακανθος, spinous.

Aca'nthopoda, a tribe of coleopterous insects composed of the single genus *heterocerus*, of Bosc; remarkable for their broadish flattened legs armed exteriorly with spines: whence the name, ακανθα, a *spine*, and πους, a *foot*.

Aca'nthoptera, in *entomology*, a genus belonging to the tribe of cerambycini of Latreille. It comprises the *callichroma*, *purpuricenus*, and *stenocorus*, of Dejean; name, ακανθα, a *spine*, and πτερον, a *wing*.

Aca'nthopterygii, the first and by far the most numerous division of fishes; distinguished by having the rays of their fins bony, and many of them prickly at the extremities: whence their name, ακανθα, a *spine*, and πτερυξ, a *fin*. The perch is an example of this order.

Aca'nthopus, in *entomology*, a genus of hymenoptera, belonging to the *apis* of Linnæus, and *apiariæ* of Latreille.

Aca'nthoscellis, a genus of coleopterous insects; anterior tibiæ strongly palmated; posterior short, broad, arched, and spinous: whence the name, ακανθα, a *spine*, &c.

Aca'nthus, from ακανθος, prickly. *Lat.* 1. In *botany*, the plant bear's breech or brank ursine; a genus of about ten species, receiving their name from their prickles: class *didynamia*, order *angiospermia*. The *acanthus mollis* is that which was formerly used in medicine: the *branca ursi*. It is a native of Italy, Sicily, and the Archipelago.—2. In *architecture*, the leaf which forms one of the ornaments of the Corinthian capital. The honour of introducing it is ascribed, by Vitruvius, to Callimachus, who was by the Athenians called κατατιχος (the first of artists).

Aca'nticone, a sub-species of prismatoidal augite, occurring chiefly in primitive rocks, as micaceous schist, gneiss, &c. It is known also as *pistacite* and *epidote*.

Acapatli, the *iva frutescens*, a corymbiferous plant which produces the Mexican quinquina.

Aca'pnon, from ακαπνος, unsmoked. 1. Honey taken from the hive without smoking the bees.—2. The herb marjoram (which when burnt gives out no smoke).

Aca'rda, a genus of fossil mollusca, belonging to the order of testaceous acephala. The shells are thick, and of a solid or porous tissue. M. de Lamarck makes a family of this genus, which he calls *radiata*. They are now usually divided into *radiolites*, *sphærulites*, *hippurites*, *batholithes*.

Aca'rnar, a bright star of the first magnitude in Eridanus.

Aca'rpia, from ακαρπος, unfruitful. Unfruitfulness. *Acarpious*, sterile, barren.

Ac'arus, the tick or mite; a numerous genus of insects of the order *aptera*, or those which have no wings. The acari are oviparous, have eight legs, two eyes, and two-jointed tentacula. Name, from ακειρω, not divisible, as though the insect were too small to be divided. In the system of Cuvier, the acarus belongs to the family of *holetra*, class *arachnides*, and order *trachearæ*. Linnæus enumerates 35, and Gmelin 82 species of acari. They are excessively numerous, and most of them so small as to be almost microscopical. They abound everywhere, even attached to the bodies of other insects, and have been found in the brain and eye of man.

Acatalec'tic, from ακαταληκτος, not defective in number. In ancient poetry, applicable to such verses as have all their regular feet and syllables, e. g. the first two of the following lines of Horace are *acatalectic*, and the last *catalectic*:—

> Solvitur acris hyems grata vice
> Veris et Favoni;
> Trahuntque siccas machinæ carinas.

Acatalep'sia, from α, neg. and κατα λαμβανω, to comprehend. Acatalepsy. In *medicine*, uncertainty in the prognosis or diagnosis of diseases.

Acatalepsy, from *acatalepsia*, (q. v.). In ancient philosophy, the impossibility of comprehending something. The distinguishing tenet of the *pyrrhonists* was, their asserting an absolute acatalepsy regarding everything.

Acata'posis, from α, neg. and καταπινω, to swallow. Difficult deglutition.

ACATHA'SIA, from ακαθαρσις, impure. Acatharsy; an impurity of the blood, &c.

ACA'TIUM, in *archæology*, a kind of boat used in military affairs.

ACA'ULINE, ACA'ULOSE, or ACA'ULOUS, in *botany*, plants which have no *caulis* or stem.

ACA'ULIS, from ακαυλος, without stem. Stemless: applied in *botany*, to those plants whose flowers are without stalks, and rest on the ground, e. g. the *Carline thistle* (the term is not to be too rigidly understood).

ACAWERIA, the Ceylonese name of the root of the *ophyoxylum serpentinum*. It is used in India as an antidote against the bite of serpents.

ACCAPITA'RE, in *old law-books*, the act of becoming vassal to a lord; or of yielding him obedience: hence,

ACCA'PITUM, money paid by a vassal upon his admission to a feu: from *accapitare*, (q. v.) It is also used for the *relief* due to the chief lords.

ACCE'DAS AD CURIAM, in *law*, a writ lying where the man has received, or fears, false judgment in an inferior court. It is issued by the chancery, and directed to the sheriff.

ACCE'LERATE, Lat. *accelero* (of *ad* and *celero*, to hasten), to quicken motion; to add to natural progression. In mechanics, *accelerated motion* is that in which the velocity is continually increasing, from the continued action of the force. *Uniformly accelerated motion* is that in which the velocity increases equally in equal times; e. g. a new impression being made upon a falling body at every instant, by the continued action of gravity, and the effect of the former still remaining, the velocity continually and uniformly increases. *Accelerated motion* is the opposite of *retarded motion*.

ACCELERA'TION, from *accelerate* (q. v.), the act of increasing velocity; the state of being quickened in motion; the opposite of *retardation*. The *acceleration of the moon* is her increase of mean motion from the sun, compared with the diurnal motion of the earth, being about 10″ in a hundred years. This arises from the action of the sun upon the moon, combined with the variation of the eccentricity of the earth's orbit. The *acceleration of a planet* is when the real diurnal motion exceeds the mean diurnal motion; and *vice versâ*, a planet is said to be retarded when the mean diurnal motion exceeds the real diurnal motion. These inequalities of a planet's motions arise from the change in the distance of the planet from the sun. The *diurnal acceleration*, as applied to the fixed stars, is the time by which they, in one revolution, anticipate the mean diurnal revolution of the sun: that is, a star rises or sets about 3′ 56″ sooner each day. This apparent acceleration is owing to the motion of the earth in its orbit, which is at the rate of 59′ 8½″ a day. Therefore, to find the acceleration we have this proportion —360° : 59′ 8½″ :: 24h : 3′ 56″ nearly. In *physiology* and *pathology*, the term is applied to an increased activity of the functions, but particularly of the circulation and respiration.

ACCE'NDENTES, or ACCE'NSORES, from *accendo*, to brighten (*canus*, white). In the Romish church, a lower rank of ministers whose business it is to trim the candles and tapers.—*Lat.*

ACCE'NDONES, or ACCE'DONES, from *accendo*, to kindle. In *Roman antiquities*, officers in the gladiatorial schools, whose business it was to animate the combatants during the fight.—*Lat.*

AC'CENT, Lat. *accentus*, from *ad* and *cano*, to sing. In a general sense, a tone or manner of speaking peculiar to some country, or province, e. g. the Scotch accent, &c.——2. In *elocution*, a particular force or stress of the voice in pronouncing certain syllables of words, which distinguish them from the others.

> Accent is of two kinds, *primary* and *secondary*, as in as'pira'tion. In pronouncing this word, we observe that the first and third syllables are distinguished: the *third* by a full sound, which constitutes the *primary* accent; the *first* by a degree of force in the voice which is less than that of the primary accent, but evidently greater than that which falls on the second or fourth syllables. When the full accent falls on a vowel, that vowel has its long sound, as in *voc'al;* but when it falls on an articulation or consonant, the preceding vowel is short, as in *hab'it*. Accent alone regulates English verse.—*Webster.*

3. A mark or character used in writing, to direct the stress of the voice in pronunciation. We have three kinds of accents; the acute (′), the grave (`), and the circumflex (^ or ˜). The first shows that the voice is to be raised; the second that it is to be depressed; and the third, that the vowel is to be uttered with an undulating sound, between high and low.——4. In *music*, a certain modulation or warbling of the sounds, for the purpose of variety of expression. The principal accent falls on the first note in the bar, but the third place in common time requires also an accent.

ACCE'NTOR, from *accent*, (q. v.) In the old music, one of the three singers in parts, or the person who sung the predominant part in a trio.

ACCE'PTANCE, from *accept*, (q. v.) 1. The receiving of a bill of exchange in such a way as to bind the acceptor to make pay-

ment of the same. This must be by express words; and to charge the drawer with costs in case of non-payment the acceptance must be in writing, under, across, or on the back of the bill. Anything tending to show that the party means to make himself liable for the amount of the bill (as the signature of the initials, or making other marks upon the bill, or even keeping the bill longer than usual), is, in law, an acceptance. The common mode of acceptance is to write the word "*accepted*," and subscribe the name.——2 In *mercantile language*, a bill of exchange accepted; e. g. "I took his acceptance in payment."——3. In *common law*, the tacitly agreeing to some act done by another, which might have been defeated without such acceptance; e. g. a bishop's taking rent reserved on a lease made by his predecessor, is an acceptance of the terms of the lease, and bars him from bringing the writ *cui in vita*.——4. In the *Romish church*, the receiving of the pope's constitutions.

Accep'ter, or Accep'tor, in mercantile affairs, the person who *accepts* a bill of exchange.

Acceptilation, among civilians, the discharging of a debt without receiving payment: compounded of *acceptum*, something received, and *latio*, from *fero*, to take away.

Accession, from *access*, a coming to. 1. In *law*, the property acquired in accessories is acquired by the right of *accession*, e. g. the calf of a cow becomes the property of the owner of the cow.——2. In *medicine*, the commencement of a disease; applied chiefly to fevers having paroxysms or exacerbations.

Ac'cessory, or Accessary, Lat. *accessorius* (from *accedo*, to add to), something that *accedes*—not principal; aiding in certain acts or effects in a secondary manner; e. g. *accessory* sounds in music. 1. In *law*, one who is guilty of a felony, not by committing the offence in person, or as a principal, but by advising or commanding another to commit the crime, or by concealing the offender after the crime is committed. There may be accessories in all felonies, but not in treason.——2. In *anatomy*, the accessory nerves (*par accessorium*), a pair of nerves of the neck, which, arising from the spinal marrow in the vertebræ of the neck, enter the cranium of the great foramen of the occipital bone, and then passing out again with the par vagum, are distributed into the muscles of the neck and shoulders.—*Accessorius lumbalis*, the *sacro-lumbalis*.——3. In *painting* and *sculpture*, those parts of a design which are added merely for ornament.

Ac'cident, from Lat. *accidens*, falling (*ad* and *cado*, to fall). 1. In *logic*, (1.) Whatever does not essentially belong to a thing, e. g. the money in a man's pocket. (2.) Such properties in any subject as are not essential to it, e. g. whiteness to paper. (3.) In opposition to substance, all qualities whatever are called accidents, e. g. sweetness, softness, &c.——2. In *grammar*, something belonging to a word in composition, but not essential to it, e. g. gender, number, &c.——3. In *heraldry*, a point or mark not essential to a coat of arms.——4. *Per accidens* denotes what does not follow from the nature of a thing, but from some accidental qualities of it; it stands opposed to *per se*, which denotes the nature or essence of a thing; e. g. "fire burns *per se*, but a piece of iron burns *per accidens*."

Accidental, Lat. *accidentalis*, happening unexpectedly. In *physics*, the term is applied to that effect which proceeds from a cause occurring by *accident*, without being subject to general laws or regular returns. In this sense *accidental* is opposed to *constant*; e. g. the sun's variation of altitude is the constant cause of heat in summer and cold in winter; but thunder, wind, rain, snow, &c., are accidental causes.——2. In *perspective*, that point in the horizontal line where the projections of all lines parallel among themselves meet the perspective plane, is called the *accidental point*.——3. In *optics*, those colours which depend upon the affects of the eye, in contradistinction to those which belong to the light itself, are termed *accidental colours*.——4. In *music*, the term *accidental* is applied to such sharps, flats, and naturals, as do not occur in the clef, and which imply some change of key or modulation different from that in which the piece began.

Accipenser. *See* Acipenser.

Accip'itres, from *accipiter*, a hawk (from *ad* and *capio*, to seize), that order of birds of prey which are distinguished by their hooked beaks and talons. They form two families, the diurnal and the nocturnal: the vulture and hawk are examples of the first, and the owl of the second.

Accipitrina, hawkweed (*accipiter*, a hawk).

Accipitrine, rapacious; belonging to the order of *accipitres*.

Acclamation, Lat. *acclamatio* (from *ad* and *clamo*, to cry out), anciently, a formula of words, uttered with vehemence, somewhat resembling a song, sometimes accompanied with applause given by the hands, and usually in approbation of some individual or performance. The acclamations were ecclesiastical, military, nuptial, theatrical, &c.: they were musical and rhythmical. At first, the acclamations of the Roman theatres were confused shouts; but in process of time they assumed a regular form, and were performed by a band instructed for that purpose. When Nero played in the theatre, he had the

attendance an acclamation band of 5000 soldiers to chant his praise, which the spectators were obliged to repeat in chorus. Acclamations, at first practised in the theatre, passed to the senate, and at length into the acts of councils and the ordinary assemblies of the church. Sermons were applauded with hands and feet, by leaping up and down, and shouting "*orthodox*," by the waving of handkerchiefs, &c. The acclamation of the Jews was "*Hosanna*;" of the Greeks, Αγαθη τυχη (good luck); of the Romans, *Dii te nobis servent* (may the Gods preserve you!). In the famous French Convention of 1792, decrees were voted by acclamation.

Accli'matize (Fr. *acclimater*), to accustom to the temperature of a foreign *climate*.

Acclivis, Lat. from *clivus*, an ascent. In *anatomy* a muscle of the belly: named from the oblique ascent of its fibres.

Accola'de, from Lat. *ad* and *collum*, the neck. An ancient mode of conferring knighthood, by the king's laying his arm about the young knight's neck, and embracing him.

Accolle'e, in *heraldry*, 1. The same with *aecolade*. 2. Two things joined together. 3. Animals with collars or crowns about their necks. 4. Batons or swords placed saltierwise behind the shield.

Accommodation, from *accommodate*. In a *commercial* sense, a loan of money. An accommodation bill or note, in the language of bankers, means one drawn for the purpose of borrowing its amount, in contradistinction to a note or bill received in payment of goods. The term is also used of a note lent merely to *accommodate* the borrower, and of one given instead of a loan of money.

Accompaniment, from Lat. *ad* and *compagio*, to join (Fr. *accompagnement*). Something that attends as a circumstance, or is added as ornament to the principal thing, or for symmetry; e.g. in *music*, the instruments which accompany the voice to make the music more full: in *painting*, the dogs, guns, &c. of a hunting piece, or the warlike instruments *accompanying* the portrait of a military character.

Accomplice, Fr. *accomplice*, from Lat. *ad-complicatus* from *con* and *plico*, to fold). An associate in crime: generally applied to such as are admitted to give evidence against their fellow-criminals. By the law of Scotland accomplices cannot be prosecuted till the principal offenders are convicted.

Accord, Fr. *accord*, agreement. In *painting*, the harmony which prevails among the lights and shadows of a picture. In *law*, an agreement between parties in controversy, by which satisfaction for an injury is stipulated, and which, when executed, bars a suit.—*Blackstone*. In *music*, the same with *concord* (q. v.). This word is derived by some from Lat. *cor*, *cordis*, the heart. In some of its applications it comes naturally from *chordæ*.

Accor'dion, from *accord*, a small musical instrument, the sounds of which are produced by the action of bellows upon strings made of German silver.—*Crabb*.

Accouchement, the French word for the act of parturition.

Accoucheur, the French word for a man-midwife.

Account, Fr. *conte*, or Account, Fr. *compte*, from Lat. *computo*, to reckon. In a general sense, any arithmetical computation. *Account* signifies more strictly, in mercantile affairs, a single entry or statement of particular debts and credits: in the plural it is used to denote the books containing such entries. A *writ of account*, in law, is a writ which the plaintiff brings demanding that the defendant shall render his *just account*, or show good cause to the contrary. This is also called an *action of account*. *Commissioners of public accounts*, are individuals who examine and report the receipts, issues, and expenditure of the public moneys. *Chamber of accounts*, in the old French polity, was a sovereign court answering to our exchequer.

Account'ant, one skilled in *accounts*; more generally, a person who keeps accounts; a book-keeper in a public office; e. g. an officer in the court of chancery, who receives money, and pays it to the bank, is called *accountant-general*.

Accouplement, in *carpentry*, a tie or brace, and sometimes the whole work when framed.

Accretion, Lat. *accretio*, increase (*ad* and *cresco*, to grow).——1. Growth by the accession of new parts.——2. The growing together of parts naturally separate; e. g. the fingers or toes. In *law*, property acquired in something not occupied, by its adhering to or following another thing already occupied; e. g. a legacy left to two persons, and one of them dies before the testator, the legacy devolves to the survivor by right of *accretion*. Alluvion is another instance of accretion.

Accroche' (*Anglice*, accroach), in *heraldry*, denotes that one thing is hooked in another. Fr. *croc*.

Accrued, in *heraldry*, a full blown tree.

Accumulation, from *cumulus*, a heap. A collecting together. In *law*, the concurrence of several titles to the same thing, or of several proofs to make out one fact. In *universities*, the *accumulation of degrees* means the taking of several of them together, or at shorter intervals than the rules allow.

Accusation, Lat. *ad-causatio* (from *causa*, blame, &c.) In *law*, a declaration charging

a person with something punishable. Promoters of accusations must find security to pursue them; and failing, must pay damages to the accused, and a fine to the sovereign.

Accu'sative, Lat. *accusativus*. In *grammar*, that case of nouns, on which the action of the verb falls: called in English grammar the *objective case*.

Ace, Lat. *as*. 1. A unit; e. g. a single point on a card or die, or the card or die so marked.——2. A trifle; e. g. he would not abate an *ace* of his demand.

Acentric, from α, not, and *centric*; not centred.

Aceph'ala, from α without, and κεφαλη, head. 1. A class of mollusca, having no apparent head, but merely a mouth, which is always edentated, concealed between the folds of their mantle. This mantle is generally provided with a calcareous bivalve, and sometimes multivalve shell. All the acephala are aquatic: the oyster is an example.——2. An order of insects in some systems of entomology.

Aceph'ala Nu'da (*naked acephala*), an order of mollusca, in which the shell of the ordinary acephala is replaced by a cartilaginous substance sometimes so thin as to be as flexible as a membrane. The order consists of two families, the *segregata* and the *aggregata*.

Acephali, from ακεφαλος, headless. In *history*, a party in the reign of James I. who acknowledged no government, civil or ecclesiastical.

Acepha'lia, from ακεφαλος, without head. In *medicine*, that variety of partial agenesia which consists in absence or imperfection of the head.

Acephalobrach'ia, from ακεφαλος and βραχιων, that species of agenesia characterised by absence of head and arms.

Acephalobrach'ius, from ακεφαλος and βραχιων, a fœtus without head or arms.

Acephalocar'dia, from ακεφαλος and καρδια, the heart. That species of agenesia characterised by absence of head and heart.

Acephalocar'dius, from ακεφαλος and καρδια, a fœtus without head or heart.

Acephalochi'rus, from ακεφαλος and χειρ, a hand. A fœtus born without head or hands.

Acephalocyst', Lat. *acephalocystis*, from ακεφαλος and κυστις, a bladder. The headless cyst: the name given by Laennec to the visceral hydatid of Linnæus.

Acephalogas'ter, from ακεφαλος and γαστηρ, the belly. A fœtus, defective of the head, chest, and superior parts of the belly.

Acephalogaste'ria, from ακεφαλος and γαστηρ, that species of agenesia which consists in a defective formation of the head and superior parts of the body.

Aceph'alous, applied, 1. to animals which belong to the class *acephala* (q. v.); 2. to a lusus naturæ born without head.

Acephalo'phora, from ακεφαλος and φερω, a class of mollusca in some systems.

Acephalopo'dia, from ακεφαλος and πους, a foot. That species of partial agenesia in which the head and feet are wanting or defective.

Acephalopo'dius, from ακεφαλος and πους, a fœtus born without head or feet.

Acephalora'chia, from ακεφαλος and ραχις, the spine. That species of agenesia in which the head and vertebral column are wanting.

Acephalos'tomus, from ακεφαλος and στομα, a mouth. An acephalous fœtus, having at its superior part an aperture resembling a mouth.

Acephalothora'cia, from ακεφαλος and θωραξ, the chest. That species of partial agenesia which consists in the absence of head and chest.

Acephalotho'rus, from ακεφαλος and θωραξ, a fœtus born without head and chest.

Aceph'alus, from ακεφαλος, headless. An obsolete name of the tænia or tapeworm, which was supposed to have no head. As an adjective, the Lat. form of *acephalous*, (q. v.) Also a verse defective in the beginning.

Acer, the generic name of the maple-tree; class *octandria*, order *monogynia*; name, from *acer*, sharp, sour; Celtic, *ac*, on account of the hardness of the wood, which was employed in fabricating spears, pikes, &c. There are 24 species, two of which are natives of Britain—the sycamore (*A. pseu'do-pla'tanus*), and the common maple (*A campestre*). The wood of sycamore is chiefly used in turnery.

Acer *virginianum odoratum*, an old name of the liquid amber.

Aceras, the generic name of the man-orchis; a hardy perennial belonging to Britain: class *gynandria*, order *monandria*. There is only one species, the *A. anthropophora*, which inhabits dry or clayey pastures. Name from α, without, and κερας, a horn; in allusion to the absence of the spur from the lip, which is found in the *orchis* proper.

A'cerate, in *chemistry*, a salt formed with the *aceric acid* and a base.

Acerb, Lat. *acerbus*, from *acer*, sharp. Taste combining acidity and astringency or roughness; e. g. that of an unripe sloe.

Aceric Acid is obtained from juice of the maple tree (*acer*).

ACERI'NÆ, a natural order of dicotyledonous plants; mostly trees of the temperate parts of the northern hemisphere. The *leaves* are generally simple and lobed; *flowers* often polygamous; *fruit* a double samara, each 1-celled, with one or two erect seeds; *style* 1, stigmas 2; *petals* about 8, inserted in the disk; *calyx* 4-5-9-partite. Typical genus *acer*.

ACERO'SE, or ACEROUS, Lat. *acerosus*, chaffy *lacus*, chaff. In *botany*, leaves which are linear, needle-shaped, everywhere of an equal breadth, mostly acute and rigid, e. g. the leaves of the fir-tree (*pinus sylvestris*).

ACER'RA, in *architecture*, vases representing those in which the ancients burned incense before a dead body until the period of its inhumation. The term is corrupted from *arcerra*, a private altar (*arce* and *ara*).

ACES'CENT, Lat. *acescens*, turning sour. That has a tendency to become sour by spontaneous decomposition. It sometimes means "slightly sour," but this is more correctly expressed by *acidulous*.

A'CESIS, a cure or remedy, from ακεσις. A name of the herb water-sage.

ACES'TA, from ακεστος, diseases which are easily cured.

ACESTE, a species of papilio or butterfly, with subdentated wings, found in India.

ACES'TIS, a factitious chrysocolla made of Cyprian verdigris, urine, and nitre.

ACETAB'ULUM, Lat. from *acetum*, vinegar. (Among the Romans the *acetabulum* was a cruse or saucer in which vinegar was held for table use. 1. In *anatomy*, a cavity of a bone formed for receiving the head of another bone, and thus named from its cup-like shape. It is used especially for the *os innominatum*, which receives the head of the thigh bone. 2. In *botany*, (1.) used in the sense of *cotyledon*, (q. v.) (2.) "The trivial name of a species of peziza, the cup peziza. (3.) A species of lichen."——3. The lobes or cotyledons of the placenta in ruminating animals, have been called *acetabula*.——4. The name has been given to the mouths of the uterine veins terminating in the placenta.

A'CETARY, Lat. *acetaria*, from *acetum*, vinegar. 1. A salad.——2. An acid pulp, found in some fruits, especially the pear, round the core.

A'CETATE, Lat. *acetas*, any salt formed by the union of acetic acid with a salifiable base, e. g. acetate of potash (called also *regenerated tartar, essential salt of wine*, &c.) The acetates are all characterised by their solubility in water; by the pungent smell of vinegar which they exhale on the affusion of sulphuric acid; by their yielding, on distillation, *pyroacetic spirit*.

ACE'TIC, from *acer*, sour. The *acetic acid* is vinegar (acetum), in a very dilute and impure state. It is the product of the acetous fermentation, and exists, with potash, in the juices of a great many plants, and is generated during the destructive distillation of most vegetable substances. It consists of three equivalents of water, and four equivalents of carbon.

ACETIFICA'TION, from *acetum*, vinegar, and *facio*, to make. The operation of making vinegar.

ACETIMETER, or ACETOMETER, from *acetum*, vinegar, and μετρον, a measure. An instrument to ascertain the strength of vinegar.

A'CETITE, a neutral salt formed by the *acetous acid*, with a salifiable base, e. g. *acetite of copper*, &c. *See* ACETOUS ACID.

ACETONE, the new chemical name of pyroacetic spirit.

ACETO'SA, the trivial name of the herb garden sorrel (*rumex acetosa*). It is a hardy native perennial. Name from *aceto*, to be sour.

ACETOSEL'LA, the trivial name of the herb sheep's sorrel (*rumex acetosella*). It is a hardy native perennial. Name from *acetosa*.

ACETOUS, of or pertaining to vinegar (*acetum*).

ACETOUS ACID, chemists formerly supposed that there was a difference between the *acetic* and the *acetous* acids; the salts of the former were therefore called *acetates*, and those of the latter *acetites*. The distinction is without foundation; the acids are one and the same.

ACHAN, from αχανης, large. In *medicine*, a species of herpes.

ACHA'NIA, a genus of West Indian shrubs, containing three species. Class *monadelphia*, order *polyandria*. Name from αχανια (from α priv. and χαινω), as the corolla does not open.

ACHARIS'TON, from αχαριστος, invaluable. A name of various antidotes and collyria.

ACHATES, the agate, so called from the river *Achates*, in which it was first found The word *agate* is a corruption of *achate* (αχατης).

ACHATINA, a genus of land shells, chiefly found in Africa, where the animals which inhabit them are used as food. They are the largest of land shells, and constitute the first and typical genus of *achatinæ*. The subgenera are the *achatina* (proper), *cochlicopa*, *chacrospira*, *leucostoma*, and *achatinella*.

ACHATINÆ, a subtypical group of *helicidæ*, or snails, representing in their own family the zoophagus tribe. Besides the *achatina*, which is the first and typical genus, there are other four genera of this group—the *bulimus*, *clausilia*, *helicina*, and *cyclostoma*.

ACHATINELLA, a subgenus of *achatina*.

These shells are very small, but remarkable for the beauty of their colours; they are all inhabitants of the Pacific Islands, where they are used as beadlike ornaments.

ACHER'NER, a star of the first magnitude in the southern extremity of the constellation Eridanus.

ACHERSET, an ancient measure of corn, supposed to be about eight bushels.

ACHI'COLUM, the *sudatorium* of the ancient baths.

ACHILLEA, millefoil, yarrow; a genus of plants of the class *syngenesia*, and order *polygamia superflua*. There are fifty-three species, all, with one exception, hardy perennials. Only three species are peculiar to Britain,—sneeze-wort (*A. ptarmica*), yarrow (*A. millefolium*), woolly millefoil or yarrow (*A. tomentosa*) in meadows and pastures, and waysides. Name from *Achilles*, who is said to have made his tents of it.

ACHILLE'ION, a sort of sponge used by the ancients to make tents for wounds.

ACHILLES. In *anatomy*, a strong tendon of the heel is called *tendo Achillis*. Fable says it was by this tendon that Thetis, the mother of *Achilles*, held him when she dipped him in the river Styx, to render him invulnerable.

ACHIOTE, a name of the annotta tree (*bixa orleana*).

ACHIRITE, "emerald malachite;" a mineral consisting of oxide of copper, carbonate of lime, silica, and water.

ACHI'ROPOETOUS, Gr. αχειροποιητος, not made with hands. Achiropoetous paintings were certain pictures of Christ said to have been painted in a miraculous manner.

ACH'LYS (αχλυς), darkness. Any opacity of the cornea of the eye.

ACH'MIT, a mineral of a brownish-black or reddish-brown colour. It is considered a bisilicate of soda.

ACHNODON'TON, a genus of plants of the class *triandria*, order *digynia*. There are three species, one of which belongs to Britain, the land A. (*A. arenarium*), a hardy annual.

ACHOLOUS, Lat. *acholus*, deficient in bile.

A'CHOR, Gr. αχωρ. 1. A species of scald-head; a disease which attacks the hairy scalp of the head, particularly of young children. It is called *achor* from the branny scales it throws off.——2. In *mythology*, the god of flies, said to have been worshipped by the Cyreneans, to avoid being vexed by them.

ACH'RAS, a genus of shrubaceous plants of the class *hexandria*, order *monogynia*. In this country they are stove plants. The sapota plum is the fruit of the West Indian species (*A. sapota*).

ACHROMA'TIC, from α, priv. and χρωμα, colour. " Without colour, a term applied to those telescopes formed by such a combination of lenses as separates the various coloured rays of light to equal angles of divergency, at different angles of refraction of the near ray, and thereby corrects in a great measure the optical aberration arising from the various colours of light.

ACHYRAN'THES, chaff flower (αχυρον), chaff, and ανθος, a flower. The descriptive name of a genus of hot-house plants. Class *pentandria*, order *monogynia*. There are seven species.

ACIC'ULAR, from *acicula*, in the shape of a needle. *Acicularly*, needle-like.

A'CID, Lat. *acidum* (Sax. *acȝd*, vinegar). In a popular sense, the word *acid* is synonymous with *sour*; but the term is applied in chemistry to several substances which are not so. The general characteristic properties of acids are these, 1. Their taste is *generally* sour, and in the stronger it is acrid and corrosive. ——2. They unite with water in almost any proportion, with a condensation of volume and evolution of heat.——3. They *generally* change the vegetable blues to a red.——4. They unite with the alkalies, earths, and metallic oxides in definite proportions, and form salts. This may be reckoned their indispensable property.

The salts produced by any acids which terminate in *ous*, have their termination in *ite*, e. g. the combination of *sulphurous* acid and potassa is a *sulphite* of potassa; and when an acid whose name terminates in *ic*, enters into combination, the salt produced has the termination *ate*, e. g. *sulphuric* acid and potassa produce *sulphate* of potassa. *Ic* generally indicates an acid with much oxygen, e. g. sulphuric acid: *ous* indicates a smaller quantity of oxygen, e. g. sulphurous acid. *Hypo* prefixed to the name indicates that the acid has a smaller quantity of oxygen than that to which the prefix is made, e. g. *hyposulphuric* acid, and *hyposulphurous* acid. *Sub* is occasionally employed to denote an intermediate degree of oxidation, e. g. *subsulphurous* acid, which contains less oxygen than sulphurous, and more than hyposulphurous acid. *Per* is used where acids have been found to contain more oxygen than those whose names terminate in *ic*, e. g. *perchloric* acid. *Hyper* where a still larger quantity is observed. Acids are usually divided into two classes,—*oxacids* and *hydracids*. The first class includes all those acids which contain oxygen, and the second those which contain hydrogen. There are acids, however, which belong to neither of these classes. The term *aqueous* is now used to designate definite combinations with water: the term

hydrate was formerly used in the same sense. We have also the composed terms *binaqueous*, *teraqueous*, &c.

Acidif'erous, from *acidum* and *fero*, containing acid.

Acid'ifiable, from *acidum* and *fio*, capable of being converted into an acid. Substances with this property are called *radicals*, or *acidifiable bases*.

Acidification, the formation of an acid.

Acidifying, that which combines with an acidifiable substance is called the *acidifying principle*, or acidifier.

Acidimeter, from *acid* and μετρον, measure. An instrument to show the strength of acids.

Acidimetry, the measurement of the strength of acids, by saturating a given weight of them with an alkaline base. The quantity necessary is the measure of their strength.

Acidulous, Lat. *acidulus*, somewhat acid; sub-acid. Applied to salts in which the base is combined with such an excess of acid that they manifestly exhibit acid properties.

Acilius, a genus of coleopterous insects of the tribe of *hydrocanthari* of Latreille. Name from *cilium*, in reference to the hairy elytra of the females.

Acinaciform, Lat. *acinaciformis*, from *acinaces*, a cimeter, and *forma*, form. Cimeter-shaped, applied to leaves, one edge of which is straight and thick, and the other curved and thin.

A'cini, plural of *acinus* Granulations; compound berries.

Acino'pus, a genus of insects belonging to the tribe of *carabici*, of Linnæus. Name from *acinus* and *pes*, which is in some measure descriptive.

A'cinos, the generic name of the common basil-thyme (*thymus acinos*.—Lin.) Class *didynamia*, order *gymnospermia*. "Name, ακινος, ab ακη, *acies*."

A'cinose, from *acinus*, granular. A variety of iron ore found in masses, and commonly lenticular. Col. generally brownish red; lust. metallic; text, granular; brittle.

A'cinus, Lat. from ακινος, a grape. Each part of a compound berry containing a seed, e. g. the blackberry has many *acini* united. The term is used in opposition to *baccæ*, or such berries as grow single. 2. A genus of plants of the class *didynamia*, and order *gymnospermia*.

A'cipenser, a genus of fishes of the order *sturiones* or *chondropterygii branchiis liberis* (i. e. with free branchiæ). The sturgeon, sterlet, and paddle-fish of the Mississippi, are examples. *Acipenser*, or *accipenser*, is the ancient name; *sturio* (whence *sturgeon*) is the modern.

Acitli, a name of the water-hare, or great crested grebe or diver.

Acknowledgment, confession. In *law*, a declaration or avowal of one's own act, to give it legal validity, e. g. the acknowledgment of a deed before a proper officer. *Acknowledgment-money*, in some parts of England, is a sum paid by tenants on the death of their landlords, as an *acknowledgment* of their new lords.

Acme, from ακμη, the top or highest point. In *medicine*, the height or crisis of a disease. Old medical writers divide the progress of disease into four stages:—1. αρχη, the beginning; 2. αναβασις, the increase; 3. ακμη, the height, or maturity; 4. παρακμη, the decline.

Acmel'la, a genus of plants of the class *syngenesia*, and order *polygamia superflua*. There are three species, all annuals; two natives of South America; one Mauritius (a stove plant).

Ac'mite, a mineral of a brownish-black colour, opaque, and brittle; fracture imperfect conchoidal. Its constituents are silica, 53·25; oxide of iron, 31·25; soda 10·4, with traces of oxide of manganese and lime. It resembles paratomous augite-spar in a remarkable degree. Locality, Eger, in Norway, where it is found imbedded in granite. Name from ακμη, a point, from the form of its crystals.

Ac'na, or Ac'ne, from ακνη. An eruption of hard, inflamed tubercles, on the face, which are sometimes permanent for a considerable time, and sometimes separate very slowly.

Acnes'tis (ακνηστις), that part of the spine, in quadrupeds, between the shoulder-blades and the loins.

Acni'da, Virginian or bastard hemp, a genus of plants of the class *dioecia*, and order *hexandria*. Locality, North America. There is only one species. A hardy annual.

Aco'logy, Lat. *acologia*, from ακος, a remedy, and λογος, doctrine. The doctrine of remedies; usually restricted to surgical remedies.

Acolu'thia (ακολουθια), the service in the Greek church, or the book which contains it.

Ac'olyte, or Acol'othist, from ακολουθος. In the *ancient* church, a subordinate officer who trimmed the lamps, prepared the elements for sacraments, waited on the bishops, &c. An officer of a similar kind is still employed in the Romish church.

Acon, an instrument, resembling the discus, used in ancient exercises; also the name of an ancient order of knighthood.

Aco'ndylous, or Acondylose, Lat. *acondylus*, without joint; applied to the stalks of plants which have no joints.

ACONITA, a poisonous vegetable principle extracted from *aconitum*.

ACONITE, the herb wolf's bane, particularly the species monk's-hood (*aconitum napellus*).

ACONITINE, the narcotic principle of the *aconite*. It is uncrystallisable, alkaline, inodorous, little soluble in water, but readily so in either alcohol or ether. It combines with the acids, and forms uncrystallisable salts. It may be obtained either in a granular white substance, or as a colourless transparent mass having a glassy lustre

ACONITUM, wolf's bane; a genus of hardy perennial plants, containing about forty-five species, most of which are poisonous. Class *polyandria*, order *trigynia*. Locality, all countries of Europe. Name, ακονιτον, from ακοναω, of ακων, a dart, because the ancients used its juice for the purpose of poisoning their darts.

ACON'TIAS (ακοντιας, from ακοντιον, a dart). 1. A species of African serpent called *dartsnake*, or *jaculum*, from its manner of darting on its prey.——2. A comet or meteor resembling the serpent.

ACO'PIC (ακοπικος), preventing or remedying weariness.

A'COR, Lat. from *aceo*, to be sour. Acidity; sourness in the stomach.

ACO'RIA, from ακορος, not satisfied. Canine appetite; a diseased desire for food or drink.

A'CORN, the fruit of the oak; an oval nut which grows in a rough permanent cup. Name, from Sax. *aec*, or *ac*, oak, and *corn*, a grain.——2. In *nautical language*, a small ornamental piece of wood of a conical shape, fixed on the point of the spindle above the vane, on the mast head, to keep the vane from being blown off.——3. In *conchology*, the lepas, a genus of shells of several species found on the British coasts. The shell is multivalvular, unequal, and fixed by a stem. It is always found fixed to some solid body.

A'CORUS, aromatic calamus, sweet flag or sweet rush or sedge. A genus of hardy perennial plants of three species, belonging to the class *hexandria*, and order *monogynia*. Name, ακορος, from κορη, the pupil of the eye, from its being supposed good for disorders of the eyes. There is only one British species, common in the middle and south-eastern counties of England, and watery places on the banks of rivers, &c.——2. In *natural history*, a blue coral found on the coasts of Africa. It grows in the form of a tree on a rocky bottom.

ACOTYLE'DON, from α, without, and κοτυλη̃δων. A plant whose seed is not furnished with lobes or cotyledons. In the natural system of Jussieu, the *acotyledones* form a class which corresponds with the cryptogamia of Linnæus.

ACOTYLE'DONOUS, not having *cotyledons*, or seed lobes.

ACOUMETER, from ακουω, to hear, and μετρον, a measure. An instrument for estimating the extent of the sense of hearing.

ACOUSMATICS, Ακουσματικοι. In *antiquities*, disciples of Pythagoras, who had not finished their five years of probation.

ACO'USTIC, from ακουστικος, (from ακουω, to hear). Relating to hearing. *Acoustic duct*, in *anatomy*, the meatus auditorius, or external passage of the ear. ——*Acoustic nerve*, the portio mollis, the immediate organ of hearing. An *acoustic medicine* is one used for disorders of the sense of hearing. *Acoustic instruments*, such as produce, convey, or concentrate sound, e. g. the speaking trumpet. *Acoustic vessels*, in ancient theatres, were brazen tubes or vessels shaped like a bell, to propel the voice of the actors, so as to render them audible at a great distance.

ACOUSTICS, the science which treats of the nature, phenomena, and laws of sound. The science is sometimes divided into *diacoustics*, which explains the properties of sounds coming immediately from the sonorous body to the ear: and *catacoustics*, which treats of reflected sounds.

Sound is the result of vibratory motions produced in bodies, and transmitted to the ear through the air (or any other body in contact with the ear). The intensity increases or diminishes as the elasticity of the air increases or diminishes. If the impulses from the sonorous body be repeated continuously, and at shorter intervals than the ear can attend to them individually, *tone* is produced, and this is *grave* or *sharp*, according as there are many or few in a given time. The sudden termination of the impulses produces *noise*. The shock which causes the sensation of sound spreads somewhat as a wave spreads in water, with a strength decreasing in the inverse ratio of the square of the distance. The velocity is usually estimated at 1142 feet per second, but the latest experiments make it 1120 feet. Sound is reflected from smooth surfaces, hence *echoes*, &c.

ACQUEST, Lat. *acquisitus*. In *law*, something acquired by purchase, in contradistinction to what is acquired by inheritance.

ACQUI'REMENT, from *acquire*, Lat. *acquiro*. Something attained, and which is in a degree permanent. It denotes especially personal attainments, in opposition to material or external things gained, which are more usually called

acquisitions. A mere temporary possession is not an *acquirement*, but something *gained*, *obtained*, or *procured*.

Acquit'tal, from Fr. *acquitter* (It. *quitare*, to remit, forgive, remove). A judicial deliverance from the charge of offence, as by verdict of a jury, or sentence of a court. The acquittal of a principal operates as an acquittal of accessories.

Acquittance, from *acquit*. 1. A discharge or release from a debt.——2. The writing which is evidence of a discharge, e. g. a receipt in full which bars a further demand.

Acræa, a genus of butterfly (*lepidoptera*) of the diurnous family.—*Fabricius*.

Acra'lea, from ακρος, extreme. Any extreme parts of the body, e. g. the legs, arms, &c.

Acrany, Lat. *acrania*, from κρανιον, defect of the cranium.

Acra'sy, Lat. *acrasia*, from ακρασια. 1. Predominancy of the quality above in mixture or in the human constitution. ——2. Intemperance of any kind.

Acre, pron. *ãker*. (Sax. *acer*, *acera*, or *acer*; Ger. *acker*; Dut. *akker*; Sw. *acker*; Dan. *ager*; Ir. *acra*; Gr. αγρος; Lat. *ager*. In these languages the word retains its primitive meaning, an open, ploughed, or sown field. In English it retained its original signification, that of any open field, until it was limited to a definite quantity by statutes 31 Ed. III., 5 Ed. I., 24 H. VIII.—*Cowel.*) 1. A measure of land containing four roods, each rood containing forty poles or perches, and each pole 272 sq. feet, and consequently each acre contains 43560 sq. feet, or 4840 sq. yards. The Scotch acre contains 6150 sq. yards, and is therefore equal to 1·261 imperial acres. The Irish acre contains 1 ac. 2 rd. 19 pol.; 30 Irish acres are therefore equal to 49 imperial acres. The French *arpent* is very nearly equal to the Scotch acre. The Roman *jugerum* was 3200 sq. yards. ——2. In the Mogul's dominions *acre* is the same as *lack* = 100,000 rupees = 12,500*l*. sterling.——3. *Acre-fight*, a sort of duel in the open field.——4. *Acre-tax* or *acre-shot*, a tax levied upon lands at a certain rate by the acre.——5. In *physiology*, the extremity of any part. In this sense the word is derived from ακρος, the top, e. g. of the nose.

Acrea, the same with *acralea*, (q. v.)

Acrifo'lium, Lat., any prickly-leaved plant.

Acrita, that division of mollusca which consists of polypes, corals, and other plant-like animals. "Our impression is, that the whole, or nearly so, of the true acrita, are compound zoophytes, or, in other words, plant-like animals."—*Swainson*.

Acri'sy, Lat. *acrisia*, from α, not, and κρινω, to judge. A condition of which no correct judgment can be formed.——2. That of which no choice is made.

Acroamat'ic, or Acroatic, from ακροαματικος, abstruse, applied to the secret doctrines of Aristotle. His lectures were of two kinds; *acroamatic*, *acroatic*, or *esoteric*, delivered to a class of select disciples, who had been previously instructed in the common branches of philosophy; and *exoteric*, delivered in public. The former consisted of speculations regarding being, God, and nature; the principal subjects of the latter were logic, rhetoric, and policy. The abstruse lectures were called *acroatics*, and those admitted to hear them were called *acroatici*.

Acrocera, a genus of dipterous insects of the family of *inflatæ*, of Latreille. Name ακρος, summit, and κερας, a horn.

Acrocerau'nian, from ακρος, summit, and κεραυνος, thunder. Mountains between Epirus and Illyricum, supposed to be especially subject to the effects of lightning.

Acrochor'don, Lat. *acrochordus*, from ακροχορδων, a wart. The wart-snake; a genus of snake the body and tail of which are completely covered with warts. The snake which gave rise to the institution of this genus is a native of Java. It is said to measure eight feet. There are three species.

Acrocinus, a genus of beetles (*coleoptera*) belonging to the tribe of *lamiariæ* of Latreille, and constituted of the *cerambyx longimanus*, of Linnæus. It is distinguished from all the longicornes by the thorax being provided with a moveable tubercle on each side, terminated by a spine, whence the name. It is called by the French colonists the *harlequin* of Cayenne, from the mixture of its colours, grey, red, and black. This genus includes the *prionus accentifer*, of Olivier.

Acroco'lia (ακροκωλια), the extremities of quadrupeds.

Acrogen, from ακρος and γινναω. In *botany*, a cylindrical plant, growing at its point only, and not augmenting in thickness.

Acromania (ακρομανια), incurable insanity.

Acro'mial, Lat. *acromialis*, appertaining to the acromion.

Acro'mion, from ακρος and ωμος, shoulder. In *anatomy*, the humeral extremity of the spinous process of the scapula or shoulder-blade.

Acromonogrammatic (ακρομονογραμματικος), a term applied to a kind of poem, in which every line or verse commences with the letter with which the one preceding ended.

Acrom'phalon (ακρομφαλον). In *anatomy*, the centre of the umbilicus, to which the umbilical cord is attached in the fœtus.

Acro'nic, or Acronical, from ακρος, extreme, and νυξ, night; applied to the rising of a star at sun-set, or its setting at sun-rise. The word is opposed to *cosmical*.

Acropa'thy, (ακροπαθια), disease of the extremities.

A'cropy (ακροτια), imperfect articulation.

Acrospire, the shoot or sprout of a seed, especially of the barley, developed by germination: called also the *pluma*, *plumule*, or *plumula*. In malting, when the barley has sprouted at both ends, it is said to be *acrospired*.

This word is usually derived from ακρος and σπειρα, a spiral line, but the more obvious etymology appears to be *acherspyre*, an old word of the same meaning, compounded of *æchir*, an ear of corn, and *spyre*, a point.

Acros'tic, from ακρος and στιχος, order or verse. A composition in verse in which the first letters of the lines, taken in order, make a word, name, or phrase, or some title or motto, which is the subject of the poem.

Acros'tichum (ακροστιχον), a genus of perennial plants of the class *cryptogamia*, and order *filices*. There are eleven species, mostly natives of warm climates.

Acroteleutic, from ακρος, extreme, and τελευτη, end. A term applied to something added to the end of a psalm, e. g. the *gloria patri*, or doxology.

A'croter, from ακροτης, a summit. In *architecture*, a small pedestal, usually without a base, placed in the middle of pediments or frontispieces, to support globes, statues, &c. Acroteria also denotes figures placed as ornaments or crownings on the tops of churches, and the sharp pinnacles that stand in ranges about flat buildings with rails and balusters.

Acroteria, the Latinised plural of *Acroter* (q. v.). Anciently this word signified the extremities of the body, eminences or bones, &c.

Acrothym'ion, from ακρος, extreme, and θυμος, thyme. A species of conical wart, resembling the flower of thyme.

Acrotic, Lat. *acroticus*, pertaining to the surface.

Acrot'ism, Lat. *acrotismus*, defect of pulse.

Acrydium, in *entomology*, a genus of orthoptera of the saltatoria family. This genus contains the noted insects called *locusts*, the scourge of Africa.

Mr. Barrow records, that, in the southern districts which he visited, the surface of an area of nearly 2000 square miles might literally be said to be covered by locusts. The water of a wide river was scarcely visible in consequence of the innumerable dead which floated on it, apparently drowned in their attempts to reach the reeds along its shores; except these reeds they had devoured every other green thing. Their destruction on a former occasion was sudden and singular. All the full-grown insects were driven into the sea by a tempest, and were afterwards cast upon the beach, where they formed a bank of three or four feet high, extending nearly fifty English miles. The Arabs, except those of Sinai, are in the habit of eating these insects. They are sold by measure in shops in almost every town. They are first boiled, and afterwards dried in the sun.—*Ency. Brit.*

Act, Lat. *actus*, from *ago*, to do. The exertion of power; the effect of which power exerted is the cause. 1. In *logic*, any operation of the human mind, e. g. to discover is an act of the understanding; to judge is an act of the will.——2. In *law*, an instrument or deed in writing, serving to prove the truth of some transaction, e. g. records, certificates, &c.——3. The final resolution, or the result of a public declaration of a legislative body, council, court of justice, or magistrate; or the book, record, or writing containing the same.

Acts of parliament are called *statutes*, of the Royal Society, &c. *transactions*, of the French Academy, *mémoirs*; of the Academy of Sciences of Petersburgh, *commentaries*; at Leipsig, *acta eruditorum*; those of the lords of session at Edinburgh are called *acts of sederunt*. The same name is given to those of the general assembly of the kirk of Scotland.

4. In *theatricals*, a part or division of a play to be performed without interruption, after which the action is suspended to give respite to the actors. *Acts* again are subdivided into smaller portions called *scenes*.——5. In the *English universities*, a thesis maintained in public by a candidate for a degree, to show proficiency.

Act of Faith (*auto da fé*), in Catholic countries a day set apart by the inquisition for burning heretics, and absolving persons found innocent of heresy; or it is the sentence of the inquisition.

Acts of the Apostles, the title of a book of the New Testament, containing a history of the transactions of the Apostles.

Acta Diurna, among the Romans, a sort of gazette resembling our newspapers.

Acta Populi, or Acta Publica, the Roman registers of assemblies, trials, executions, births, marriages, and deaths, &c.

Acta Senatus, minutes of what passed in the Roman senate; called also *commentarii*.

Actæa, herb christopher. A genus of hardy perennials, belonging to the class *polyandria*, and order *monogynia*. There are four species, two of which are peculiar to North America, and one, bane-berry (*A. spicata*), is found growing in mountain-forests in most parts of Europe. The root is strongly cathartic, and the berries are poisonous. Name, ακταια, ακτη, "quod in aussibus circa maris littus crescit."—*Pliny*, 27, c. 7. These are also Greek names of the elder-tree.

Ac'tian, relating to *Actium*, a town and promontory of Epirus, as *Actian games*, which were instituted by Augustus in honour of his naval victory over Antony, near that town, Sept. 2, B.C. 31. According to Strabo, they were held every fifth year, and were sacred to Apollo, thence called *Actius*. Actian years were reckoned from the battle of Actium.

Ac'tine (ακτινη), the earth-nut (*bunium bulbocastanum*).

Acti'nia, the sea-anemone; a genus of *polypi* of the order *carnosi*. The fleshy body of the actinia is frequently ornamented with bright colours, and exhibits numerous tentacula placed round the mouth in several ranges, like the petals of a double flower; and hence their popular name of *sea anemones*. Name from ακτινη, the sea.

Actinocar'pus, the generic name of the herb *star-fruit*. Class *hexandria*, order *hexagynia*. Name, ακτιν, a ray, and καρπος, a fruit; its curiously radiated fruit resembling a *star-fish*, found in ditches, pools, &c.

Actin'ocomax, from ακτιν and κομη. A genus of fossil shells resembling the belemnites.

Actin'ocrite, from ακτιν and κριθη. A fossil crinoidean, found in the carboniferous limestone near Bristol.

Actin'olite, from ακτιν, a ray, and λιθος, a stone. Ray-stone (the *strahlstein* of Werner), a mineral nearly allied to hornblende. There are three varieties,—the crystallised, the asbestose, and the glassy actinolite. Colour, green, varying in shade. Constituents: silica, 50; lime, 9·75; magnesia, 19·25; oxide of iron, 11; alumina, 1; with traces of the oxides of manganese and chromium. It is found chiefly in primitive districts: rarely in secondary rocks. *Actinolite schist* is a metamorphic rock, consisting chiefly of actinolite, with a mixture of mica, quartz, or felspar.

Actinome'ris, a genus of hardy American perennial plants, of five species. Class *syngenesia*, order *polygamia frustranea*.

Actinote, the *amphibole, actinote hexaëdre*, of Haüy, is the same with the green diallage of Jamieson, and the actinolite described above.

Actino'tus, a genus of plants containing only one species, a native of New Holland. It is a greenhouse perennial, resembling the sunflower (*helianthus*). Class *pentandria*, order *digynia*.

Action, Lat. *actio*, literally, a driving. Action is opposed to rest, and when exerted on one body by another, it is said to be *mechanical*; when produced by the will of a living being, it is said to be *spontaneous*, or *voluntary*.—*Webster*. 1. In *mechanics*, operation; effort of one body upon another, e. g. *action* of the wind upon a ship's sails; also the result of such effort. *Quantity of action* is the product of the mass of a body by the space passed through, and velocity.——2. In *physiology*, the motions or functions of the body, vital (*actiones vitales*), animal (*animales*), and natural (*naturales*). *Vital* and involuntary, e. g. action of the heart; *animal*, e. g. all voluntary muscular motions; *natural*, e. g. digestion and assimilation. *Morbid actions* are those derangements of the ordinary actions which constitute disease.——3. In *ethics*, the external signs or expression of the sentiments of a moral agent, e. g. conduct, behaviour, demeanour, that is, motion with respect to a rule of propriety.—*Webster*.——4. In *poetry*, the series of events which constitutes the subject of the fable.——5. In *oratory*, the gesticulation of the speaker, or the accommodation of his voice, attitude, gesture, and countenance, to the subject. "The *matter* is not so important as the manner."—*Cicero*.——6. In *painting* and *sculpture*, the attitude or position of the several parts of the body to exhibit passion, &c.——7. In *law*, an urging for right; the suit or process which is brought by which a demand is made for a right. The suit till judgment is properly called the action, but not after. Actions are *real* or *feudal*, *personal* or *mixed*. *Real actions* concern landed property only (for that was the only property accounted real by our ancestors), as when a title to an estate is claimed. *Personal actions* are brought to recover a debt, damages for trespass, &c. *Mixed actions* are in demand of real estate and damages for a wrong sustained. Actions are also *criminal* or *civil*; *criminal*, or *penal*, when brought to recover a penalty imposed by way of punishment; *civil*, when instituted solely in behalf of private persons to recover debts, damages, &c. The word is also used for a *right of action*, e. g. "the law gives an action for every claim."—*Blackstone*. *A chose in action* is a right to a thing in opposition to the possession, e. g. a bond is *a chose in action*, as it gives the

owner a right to prosecute his claim to the money, as he has an absolute property in a right as well as in a thing in possession.—*Chose*, Fr. a thing.——8. In *military language*, battle; engagement between troops, whether by land or water.——9. In *commerce*, a term used in some countries of Europe to denote a certain part or share in the capital stock of a company, or in the public funds. It is therefore equivalent to our term *share*.

In many cases *action* and *act* are synonymous; but *action* seems to have more relation to the power that acts, and its operation and mode of acting; *act* more relation to the effect or operation complete.

Ac'tionary, or Ac'tionist. In *commerce*, a proprietor of stock in a trading company; one who owns shares or *actions* of stock.—V. Action, def. 9.

Active, Lat. *activus*, that has the power or quality of acting, or contains the principle of action independent of any visible external force, e. g. attraction is an *active* power. It is opposed to *passive*.——2. Practical; producing real effects. Opposed to *speculative*.——3. *Active capital*, in mercantile language, is money, or property which may be readily converted into money.——4. *Active commerce* is that which a nation carries on with its own and foreign commodities in its own ships. Opposed to *passive commerce*, where the productions of one country are transported by the people of another, e. g. the commerce of Britain is *active*; that of China is *passive*.——5. *Active verbs* are those which not only signify action, but have a noun or name following them, denoting the object of the action. They are also called *transitive*, as implying the *passing* of the action expressed by the verb to the object.

Ac'tor, Lat. from *ago*. An active agent. In *theatricals*, a man who acts in a play. Among *civilians*, an advocate or proctor in civil courts or causes.

Actora, a genus of dipterous insects of the family of *muscides*. The A. æstivum has been taken in England: it is rare.

Actual, Lat. *actualis*, that exists truly and absolutely, e. g. *actual* heat opposed to that which is *virtual* or *potential*; *actual* cautery or burning with a red-hot iron, opposed to a cautery or caustic application that may produce the same effect upon the body by a different process. Existing in *act*; independent of *theory*; e. g. *actual* crime.

Ac'tuary, Lat. *actuarius*, a notary or clerk who writes down the preceedings of a court.

Actus, a Roman measure of length equal to 120 Roman feet. In *agriculture*, the length of one furrow. *Lat.*

Acui'tion, Lat. *acuitio* (from *acuo*, to sharpen), the augmentation of the strength of an acid or medicine by the addition of something which has similar powers in a greater degree.

Acu'leata, the second primary section of hymenopterous order of insects, according to Latreille. The *ant* belongs to this division, forming the family called *heterogyna*; name, *aculeus*, a sting; the ovipositor of the female being represented by a sting composed of three parts: it is concealed and retractile. It likewise exists in those individuals called *neuters*.

Aculeate, or Aculeated, Lat. *aculeatus*, having prickles (*aculeus*, a prickle). Applied to animals and vegetables which have prickles that separate with the epidermis or bark, e. g. the *echinus* or sea-urchin, and *rosa centifolia*.

Acu'lei, plural of *aculeus*. In *zoology* and *botany*, spines or prickles growing upon the skin or bark.

Ac'uler, in the *manege*, said of a horse, when, working upon volts, he does not go far enough forward after each motion, so that his shoulders take in too little ground, and his croup comes too near the centre of the volt.

Acu'leus, a spine or prickle, from *acus*, a needle; plural *aculei*, (q. v.) The *aculei* of plants are peculiar to the bark; *spinæ*, or thorns, proceed from the wood.

Ac'ulon (ακυλος), the acorn or fruit of the ilex or scarlet oak.

Acu'minate, Lat. *acuminatus*, terminated by a point (*acumen*) somewhat elongated. Applied by botanists to several parts of plants, as leaves, leaf-stalks, &c.

Acupunc'turation, improperly used for *acupuncture*, (q. v.)

Acupunc'ture, from *acus*, a needle, and *punctura*, a prickle. A surgical operation which consists in pricking the part affected with a needle. This process is sometimes called *acupuncturation*. It was introduced into Europe in 1679 from China, where it had long been practised.

Acus, a needle; Lat. from ακμη, a point. 1. In *surgery*, the pointed instrument having an eye at one end, used for making setons. It is sometimes called the seton-needle. *Acus canulata*, or *triquetra*, a trocar.——2. In *natural history*, (1.) The needle or gar-fish. (2.) The ammodyte, or sand eel. (3.) The oblong cimex.

Acu'sto, an alchemical name of nitre (*nitrate of potassa*).

Acutangular, Latinised, *acutangularis* or *us*, applied to parts of plants having acute angles.

Acute, Lat. *acutus*, sharp-pointed. Ending in a sharp point, opposed to *obtuse*, or *blunt*. An *acute angle* is one which is less than a right angle, or which subtends less than 90°. An *acute-angled triangle* is one whose three angles are all

acute, or less than 90° each. The *acute accent* is that which marks the elevation or sharpening of the voice (see *Accent*). An *acute disease* is one attended with violent symptoms, and comes speedily to a crisis: the opposite of a *chronic disease*. In *music*, the term *acute* is applied to a tone which is sharp or high—opposed to *grave*. In *botany*, *acute* is applied to parts of plants ending in acute angles, as leaves, &c. The term is figuratively applied to the *senses* and *intellect*, as an *acute* eyesight, *acute* reasoning.

ACUTENAC'ULUM, Lat. from *acus* and *tenaculum*, the handle of a chirurgical needle; also the name given by Heister to the *portaiguille*.

ACUTIA'TOR, from *acuo;* in the *middle ages*, a military officer whose business it was to see to the sharpening of the instruments of the soldiers.

ACY'ANOBLEPSY, Lat. *acyanoblepsia*, from κυανος, blue, and βλεπω, to see. A defect of vision, consisting in incapability of distinguishing the colour of blue.

ACYRO'LOGY, from ακυρος, empty, and λογος, discourse. Unmeaning discussion.

AD, a Latin preposition signifying *to*. In *composition*, the *d* is usually changed into the first letter of the word to which it is prefixed; e. g. *ac*cession for *ad*cession, *af*finity for *ad*finity, &c. The reason of this change is agreeableness of sound. *Ad hominem*, i. e. to the man, in logic, an argument adapted to touch the prejudices of the person addressed. *Ad inquirendum*, in law, a writ commanding inquiry to be made. *Ad valorem*, i. e. according to the value: applied to duties or charges laid upon goods at a certain rate per cent. upon their value, in opposition to a specific sum upon a given quantity. *Ad libitum*, i. e. at pleasure.

A.D., abbreviation of *Anno Domini*, i. e. in the year of our Lord.

ADA'GIO, Ital. from *ad* and *agio*, leisure. In *music*, (1.) A slow movement.——(2.) Leisurely and with grace. When repeated, *adagio adagio*, it directs the movement to be very slow.

ADAM, in *oriental languages*, means *man*. *Adam's needle*, the popular name of the *yacca*, (q. v.) *Adam's apple*, the popular name of a species of citron; also the protuberance in the forepart of the throat, vulgarly attributed to a piece of the forbidden apple having stuck in the throat of Adam! *Adami morsus os*, in *anatomy*, the thyroid cartilage.

AD'AMANT, Lat. *adamas*, from αδαμας, a name given to different stones of great hardness, e. g. the diamond. Chaucer uses adamant for the loadstone (*Romaunt of the Rose*, line 1782). In modern mineralogy the word has no technical signification.

ADAMA'NTINE, having the qualities of adamant. *Adamantine spar*, a variety of rhombohedral corundum, found in India, Ava, China, &c., both massive and crystallised. Colour usually reddish-brown; fracture foliated and sparry, and sometimes vitreous. It is brittle, and so hard as to cut rock crystal. Sp. gr. 3·7 to 4·2. The crystals brought from India are the most pure.

AD'AMIC, relating to Adam. *Adamic earth*, a name given to several kinds of clay or bole which are of a red colour, in consequence of a mistaken opinion that *Adam* means "red earth."

AD'AMITES, in *church history*, a sect of visionaries who pretended to establish a state of innocence, and, like Adam, went naked.

ADANSO'NIA, Ethiopian sour-gourd; monkeys' bread-tree; African calabash-tree: a genus of one species belonging to the class *monadelphia*, order *polyandria*. This huge tree is a native of Africa. It grows mostly on the western coast, from the Niger to the kingdom of Benin. Its height is rarely 18 feet, but its circumference is often upwards of 75 feet. The branches shoot out 60 or 70 feet, the ends bending to the ground. Its bark is mucilaginous, and promotes perspiration. It is considered a powerful antidote against the epidemic fevers of the country, and is used by the negroes, when dried and powdered, as pepper on their food. The fruit is oblong, pointed at both ends, ten inches in length, and covered with a greenish down, under which is a ligneous rind. It hangs to the tree by a pedicle two feet long, and contains a white spongy substance. The tree is named from M. Adanson, who first described it. The native name is *baobab*, or *bahobab*.

A'DAPIS, one of the extinct pachydermata, found in the gypsum quarries of Montmartre. Its form nearly resembles that of the hedgehog, but it was three times the size of that animal: it seems to have formed a link connecting the pachydermata with the insectivorous carnivora.

A'DAR, a Jewish month answering to the end of February and beginning of March: the twelfth of the sacred, and sixth of the civil year. Name, from *adar*, to become glorious, in respect to the exuberance of vegetation during that month in Egypt and Palestine.—*Parkhurst*.

ADAR'CA, ADAR'CE, or ADAR'CES, a saltish concretion found encrusting the reeds and grass in the marshes on the sea-coast of Galatia. It was formerly in repute as a medicine for freeing the skin from tetters, freckles, &c. Name, αδαρδιεχω, from α, priv. and διεχω, to see, "quod herbas qui occultet."

ADAR'CON, an old Jewish coin worth about 15*s*.

ADAR'ME, a Spanish weight, equal to the sixteenth of an ounce: Fr. *demi-gros.*

ADARTICULA'TION, Lat. *adarticulatio*, the same with *arthrodia* (q. v.).

ADA'TIS, a species of fine, clear cotton cloth, manufactured in India. The pieces are fifteen yards in length, and three quarters wide.

ADDE'CIMATE, from *ad* and *decimus*, tenth. To ascertain the value of tithes.

ADDEPH'AGY, Lat. *addepha'gia*, ἄδδην and φάγω, the disease of gluttony.

ADDER, a venomous serpent (*vipera*) of several species. Sax. *ætter*, a serpent or poison.

ADDER-FLY, a name of the dragon-fly (*libellula*) sometimes called *adder-bolt.*

ADDER'S-TONGUE, a popular name of the *ophioglossum* (q. v.); the seeds of which are produced on a spike resembling a serpent's tongue.

ADDER'S-WORT, bistort or snake-weed, a species of *polygonum* (q. v.) peculiar to Britain, and supposed to be a specific for the bite of a serpent.

ADDEX'TRATORES, from *ad* and *dextra*, the pope's mitre-bearers, who walk at his right hand when he rides to visit the churches.—*Ducange.*

ADDI'TAMENT, Lat. *additamentum*, something added. In *anatomy*, forming the same with *epithysis*, but now only applied to two portions of the lambdoidal and squamous sutures of the skull.

ADDITION, Lat. *additio*, augmentation; opposed to diminution. 1. In *arithmetic*, the uniting of two or more numbers into one sum. Addition is either *simple* or *compound:* the first relates to quantities which are all of the same denomination; and the second to quantities which are of different denominations. Addition forms the first of the four fundamental rules of arithmetic.——2. In *algebra*, the forming of two or more expressions into one, by connecting them together by means of their proper signs + or —: e. g. the sum of *a* and *b* is *a* — *b*, and the sum of *a* and — *b* is *a* — *b*, which, in an arithmetical sense is the difference of *a* and *b*.——3. In *law*, a title annexed to a man's name, to show his rank, occupation, or residence; e. g. James Roydd, *Esq. Surgeon, London.*—— 4. In *music*, a dot marked on the right of a note, to show that its sound is to be lengthened half as much more as it would have been without such mark.——5. In *heraldry*, something added to a coat of arms as a mark of honour: opposed to *abatement.* Among additions are reckoned bordures, quarters, cantons, gyrons, piles, &c.——6. In *distilling*, anything added to the wash, or liquor in a state of fermentation.

ADDITION OF RATIOS is the same with *composition of ratios*

AD'DITIVE. *Additive* quantities, in *algebra*, are such as have the sign + prefixed or understood.

ADDO'RSED, from *ad* and *dorsum.* In *heraldry*, having the backs turned to each other, e. g. animals so situated.

ADDRESS, from *ad* and *dirigo* (Fr. *adresser*, which corresponds with the Span. *enderexar*, and Ital. *dirizzare*). 1. As a *verb*, 1. To direct in writing, e. g. the letter was *addressed* to, &c. 2. To consign to the care of an agent or factor; e. g. he *addressed* the goods to, &c. 3. To present a petition or a testimony of respect; e. g. parliament *addressed* her majesty in, &c. 4. To direct discourse; e. g. he *addressed* the jury, &c.——2. As a *noun*, 1. A formal speech, as when introduced, e. g. he made a neat *address.* 2. Direction of a letter, including the name, title, and place of residence of the person for whom it is intended: the particulars constitute a man's *address.* 3. A formal or written application, petition, or congratulation; e. g. an *address* of thanks.

ADDU'CENT, Lat. *adducens*, performing the action of adduction: muscles of the body which draw together the parts of the body to which they are attached: opposed to *abducent.*

ADDUC'TION, Lat. *adductio*, the action by which a part is drawn towards some other more principal part; the action of the adducent muscles.

ADDUC'TOR, Lat. from *ad* and *duco*, to draw. A muscle which performs the adduction of the part into which it is inserted; e. g. *adductor oculi*, a muscle which turns the eye towards the nose; *adductor indicis pedis*, a muscle which pulls the fore-toe inwards from the rest of the small toes.

AD'EB, an Egyptian weight of 210 okes, each of three rotolos; the rotolo is about fourteen drams avoirdupois. At Rosetta the adeb is only 150 okes.

ADELA, the generic name of a beautiful little butterfly, *lepidoptera.* It occurs in woods, and is said to appear with the leafing of the oak. There are several species, all beautiful. Name, ἀδηλος, obscure: belongs to the *tincites* of Latreille.

ADELANTA'DO, Spanish, a governor or lieutenant-governor of a province.

ADE'LIA, ADELLA, a genus of shrubaceous plants, natives of Jamaica. Class *diœcia*, order *monadelphia.* Name, from α, not, and δηλος, obvious, in reference to the obscure nature of the fructification. There are three species.

ADELING, a title of honour given by our Saxon ancestors to the children of princes and young nobles. It is compounded of *adel*, or rather *æthel*, the Teutonic term for *noble* or *illustrious*, and *ling*, young.

Ad'elite, the Spanish name for one who predicted the fortunes of individuals by the flight and singing of birds, and other circumstances. The *Adelites* were also called *Almoganens.*

Adelium, a genus of coleopterous insects belonging to the *helopii* of Latreille.

Adel'phia, from αδελφος, a brother. Cognate. In *botany*, a collection of stamens into a bundle or brotherhood.

Adelphians, *adelphiani*, a sect of Christians, whose peculiar tenet was to fast on the sabbath.

Adem'ption, from *ad* and *emo*, to take. In the *civil law*, the revocation of a grant, &c.

Adenal'gia, from αδην, a gland, and αλγος, pain. A pain seated in a gland.

Adenanthe'ra, from αδην, a gland, and ανθος, a flower. Glandflower: a genus of stove shrubs, of three species; natives of the East Indies and Ceylon. Class, *decandria*, order, *monogynia*.

The *A. pavonina* is one of the largest and handsomest trees of India, and commonly lives 200 years. The seeds are very beautiful; and from their equality in weight (each = 4 grains) they are used by goldsmiths as weights.

Aden'iform, Lat. *adeniformis*, of a gland-like shape.

Adeni'tis, from αδην, a gland. Inflammation of a gland.

Adeno'graphy, from αδην, a gland, and γραφω, to describe. That which treats of the glands.

Ad'enoid, from αδην, a gland, and ειδος, form. Resembling a gland.

Adenol'ogy, from αδην, a gland, and λογος, discourse. The doctrine, nature, and use of the glands.

Adenopharyngi'tis, from αδην, a gland, and φαρυγγξ, the pharynx. Inflammation of the tonsils and pharynx.

Adenophtha'lmia, from αδην, a gland, and οφθαλμος, the eye. Inflammation of the Meibomian glands.

Ad'enos, a species of cotton from Aleppo: called also *marine cotton.*

Ad'enose, } Lat. *adenosus.* Glandiform:
Ad'enous, } having the shape of a kernel, or gland.

Adenosty'leæ, Gr. αδην, a gland, and στυλος, a style. A subdivision of composite plants; the branches of the style are covered with long glandular hair.

Adephagæ, the first primary and numerous division of coleopterous insects, all of which agree in being voracious; whence the name from αδηφαγος, *voracious.* The *adephaga* of Clairville, corresponds with *carnivora* of Cuvier.

Adeit, from *ad* and *auto.* A name assumed by alchymists, who had attained extraordinary skill in alchymical researches. The term is now used in a wider sense, to denote great proficiency, especially in some *art.*

Ad'eps, Lat. Fat; a concrete oily matter which is contained in the cells of the adipose tissue. It differs in its physical properties in different animals, and in the same animal at different ages: it is white and insipid in the young, and has a deeper colour and stronger taste in those of greater age. Excessive fatness constitutes a disease, called *polysarcia*; and it is questionable whether fat generally does not indicate disease.

Adessena'rians, from *adesse*, to be present. In *church history*, a sect who hold the real presence of Christ's body in the eucharist, but not by transubstantiation.

Adfect'ed, in *Algebra*, consisting of different forms of the unknown quantity, e. g. $x^2 + ax + b = o$, is an *adfected* quadratic equation: it contains both the first and second powers of x.

Adfilia'tion, from *ad* and *filius*, a son. A Gothic custom, whereby the children of a former marriage are put upon equality with those of the second marriage. This is otherwise called *unio prolium*, and is still retained in Germany under the name of *einkindschafft.*

Adhe'sion, Lat. *adhæsio.* In *physics*, the force with which two bodies of different kinds remain attached to each other, when they are brought into contact: distinct from *cohesion*, which is the force uniting together the particles of a homogeneous body. In *surgery*, the reunion of divided parts, by a kind of inflammation called the *adhesive.* In *pathology*, the morbid union of contiguous parts, by means of adhesive inflammation.

Adian'tum, maidenhair: a genus of thin-leaved ferns, consisting of about fifteen species, most of which belong to hot climates. The only native specimen is the *A. capillus veneris*, formerly employed in the manufacture of syrup of capillaire; a hardy perennial. Flowers from May to July; class *cryptogamia*, order *filices.* Name, αδιαντον, from α, not, and διαινω, to grow wet; the leaves not being easily wetted.

Adiaph'orists, } from αδιαφορος, indif-
Adiaph'orites, } ferent. Moderate Lutherans: the name given in the 16th century to the followers of Melancthon, who was more pacific than Luther.

Adiaph'oresis, } from α, not, and διαφορεω, to dissipate.
Adiaphro'sis, } In *medicine*, deficient perspiration.

Adiaph'orous, from αδιαφορος, indifferent. In *chemistry*, synonymous with neutral.

ADIAPNEU'STIA, from α, not, and διαπνεω, to perspire. In *medicine*, diminution or obstruction of perspiration.

ADIARRHŒ'A, from α, not, and διαῤῥεω, to flow through. In *medicine*, suppression of any of the natural evacuations.

AD INFINITUM, a Latin phrase, meaning indefinitely, or to infinity.

AD INQUIRENDUM, a writ to command inquiry concerning something connected with a cause in a court of law.

ADIPOCERATION, the process of being converted into adipocere.

ADIPOCE'RE, } from *adeps*, fat, and *cera*
AD'IPOCIRE, } (Fr. *cire*), wax. A peculiar substance, intermediate between fat and wax, and closely resembling spermaceti. It results from the spontaneous conversion of animal matter when exposed to running water, or more speedily by maceration in dilute nitric acid. It is produced also, but not so rapidly, by heaping together large masses of animal matter; as was exemplified, on an immense scale, on the removal of the bodies from the Cimetière des Innocens in Paris, in 1787. When the coffin-lids were taken off, the bodies were found flattened into irregular masses of soft, ductile, greyish-white matter, resembling common white cheese. All the soft parts were converted into this substance; the bones were frangible; and no trace of viscera remained: all were confused together, and blended in a common mass of adipocere.

ADIPOCERE-MINERAL, a fatty mineral matter, found in the argillaceous iron ore of Merthyr: inodorous when cold, but when heated it emits a slightly bituminous odour. Fuses at 160° Fah.

ADIPOSE, } Lat. *adiposus*, from *adeps*,
ADIPOUS, } fatty: e. g. the adipose membrane is the tissue containing the fat in its cells in the animal body: the adipose ducts contain the fat.

ADIP'SY, Gr. αδιψα. In *medicine*, absence of thirst; mostly symptomatic of brain diseases.

ADIP'SON, from α, not, and διψα, thirst. A medicine which allays thirst, e. g. liquorice.

ADIT, Lat. *aditus*, from *ad* and *eo*, to go. The horizontal entrance to a mine, sometimes called the *drift*. It is usually made in the side of a hill. The term is often used as synonymous with *air-shaft*.

ADJACENT-ANGLE, in *geometry*, an angle immediately contiguous to another, so that one side is connected to both angles.

AD'JECTIVE, Lat. *adjectivum* quasi *adjunctivum*. *Adjective colours*, in dyeing, are such as require to be fixed by some base or mordant.

ADJOURNMENT. 1. The closing of a session of a public or official body. 2. The time or interval during which a particular official body intermits its business. The close of a session of parliament is called a *prorogation*: the close of a parliament is a *dissolution*; an intermission of business for a definite time is an *adjournment*. Parliament has the privilege of adjourning itself, but its prorogation is the act of the sovereign.

ADJUDICA'TION, the act of trying and determining judicially. 1. The decision of a court.——2. In *Scotch law*, an action by which a creditor attaches the heritable estate of his debtor, or his debtor's heir, in security of the payment of the debt; or an action by which the holder of an heritable right, labouring under a defect of form, may supply that defect.——3. Transferring the property of a thing sold by auction to the highest bidder.

ADJUNCT, Lat. *adjunctus*, joined, from *adjungo*, to join to. 1. *Literally*, something added to another, but not essentially a part of it, e. g. water in a sponge is an adjunct to the sponge.——2. In *metaphysics*, a quantity of a body, or of the mind, whether natural or acquired, e. g. *colour*, *weight*, *form*, &c. in the body, and *thinking* in the mind, are adjuncts.——3. In *ethics*, adjuncts are what are otherwise called *circumstances*: these are reckoned seven, viz. *quis*, *quid*, *ubi*, *quibus*, *auxiliis*, *cur*, *quomodo*, *quando*.——4. In *grammar*, words added to other words to amplify the force of other words, e. g. the history of the *French revolution*. The words in italics are adjuncts to *history*.—*Webster*.——5. In *music*, the word is employed to denominate the relation between the principal mode, and the modes of its two-fifths.

In the Royal Academy of Sciences at Paris, there are twelve members called *adjuncts* attached to the study of some particular science. Geometry, astronomy, mechanics, chemistry, botany, and anatomy, have each two members. These appointments were instituted in 1716.

The Roman *adjunct* deities were inferior deities, added as assistants to the principal gods; e. g. *Bellona* to Mars; the *Cabiri* to Vulcan; the *Lares* to the Good Genius, and the *Lemures* to the Evil.

AD JURA REGIS. In *law*, a writ which lies for a clerk presented to a living by the sovereign, against those who endeavour to eject him to the prejudice of the sovereign's title.

ADJUST'MENT. The act of adjusting: settlement, e. g. of a loss incurred at sea, by the insured. In this case, it is usual for the insurer to indorse upon the policy, "Adjusted this loss at £— per cent. payable at —— days. M. N." This is considered as a note of hand, and, as such, is *primâ facie* evidence of the debt.

AD'JUTAGE, from *ad* and *jacio, jactus*, }
AJ'UTAGE, from Fr. *ajouter*, to join. }
The tube fitted to the mouth of a vessel, through which the water of a fountain is to be played. It is by its means that the water is directed into any desired figure, so that the diversity of fountains consists chiefly in the different structure of their adjutages.

AD'JUTANT, Lat. *adjutans*, aiding. In *military affairs*, an officer who assists the major by receiving and communicating orders, and therefore has sometimes been called the *aid-major*. Each battalion of foot and regiment of horse has an adjutant, who receives orders from the brigade-major, to communicate to the colonel and subalterns. He places guards, receives and distributes ammunition, assigns places of rendezvous, &c.

AD'JUTANT-GENERAL is the chief adjutant: he is to an army what the adjutant is to a regiment.

AD'JUTANTS-GENERAL, among the Jesuits, were a select body of fathers who resided with the general of the order, each of whom had a province or country assigned to his care. Their business was to keep up correspondence with such countries by means of their delegates and emissaries, and give information of state occurrences to the father-general.

ADJUTORIUM, Lat. from *ad* and *juvo*. In *anatomy*, a name given to the *humerus* from its usefulness in lifting the arm.

ADJUVANT, Lat. *adjuvans*, helping. Adjutant: applied to an ingredient introduced into a medical prescription, to aid the operation of the principal ingredient or basis.

ADLEGA'TION, Lat. *ad* and *legatio*, from *lego*, to send. In the *public laws of the German Empire*, a right claimed by the states, and by some princes, of joining their own ministers with those of the emperor in all negotiations where the interests of the empire are concerned.

ADMANUEN'SIS, from *ad* and *manus*, the hand. In *old law books*, a term denoting laymen, who sware by laying their hands on the bible; whereas the clergy were forbidden to swear so, their word being deemed equal to an oath.

ADMEA'SUREMENT, from *ad* and *measurement*. In *law*, the adjustment of shares of something to be divided; e. g. *Admeasurement of dower* takes place when the widow of the deceased claims more than belongs to her as dower: *Admeasurement of pasture* takes place when any one of the persons who have title to a common pasture, puts more cattle to feed upon it than he ought. These take place by writ of *admeasurement*, addressed to the sheriff.

ADMINICULA'TOR, Lat. from *adminiculor*, to give help. In *church history*, an officer, otherwise called the Advocate of the poor.

ADMINISTRA'TION, the act of *administering*; management or government of public affairs; the office of an *administrator*.——2. The executive part of a government, consisting in the exercise of the constitutional and legal powers, the general superintendence of national affairs and the enforcement of laws.——3. The persons collectively who are entrusted with the execution of the laws, and the superintendence of public affairs: the chief magistrate and his council, as in America; the council alone, as in Great Britain.——4. The management of the estate of an intestate person, a lunatic, &c., under a commission from the proper authority.——5. Among *ecclesiastics*, the power with which a parson is invested both as regards the temporalities and spiritualities of his cure.——6. In *commerce*, the name given by the Spaniards to the staple magazine at Calao, in Peru, where all ships loaded with European goods were required to unload and pay duties.

ADMINISTRA'TOR, Lat. from *ad* and *minister*. In *law*, the person to whom the goods, &c., of a person who died intestate are entrusted. He must give account of the same when required. The bishop of the diocese, when the person dies, is regularly to grant administration; but, if the deceased has goods in several dioceses, administration must be granted by the archbishop in the prerogative court. The persons to whom administration is granted, are first the next of kin to the deceased, and then to a creditor.——2. In *Scotch law*, a tutor, curator, or guardian, having the care of one who is incapable of acting for himself.—*Administrator* is used in several other senses, e. g. an advocate of a church; a person appointed to manage the revenues of an hospital, or other charitable institution; a prince who enjoys the revenues of a secularized bishoprick; the regent of a state during a minority, or a vacancy of the throne.

ADMINISTRA'TRIX, a female who administers upon the estate of an intestate person.

AD'MIRAL, an officer who commands the naval forces, and decides all maritime causes. According to Ducange, the Sicilians were the first, and the Genoese the next, who gave this name to the commanders of their fleets; deriving it from the Ar. *ēmir*, or *āmir*, a commander, a designation applicable to any commanding officer: hence low Lat. *amira, amiras, admiralis*, Sp. and Port. *admirante*, Fr. *amiral*: the termination *al*, is probably from ἁλς, the sea. The admiral has the same authority over the maritime forces, that a general has over the land forces. There are three ranks of admirals, the admiral, the vice-admiral, and rear-admiral, besides the *lord high admiral*,

who is the ninth great officer of state in England. He superintends all maritime affairs, and has the government of the navy; but this office is now executed by a certain number of commissioners, called *lords of the admiralty*. These have jurisdiction over all maritime causes, and commission naval officers. The office of lord high admiral was held by William IV., while duke of Clarence, in 1827, and following year. The *admiral of the fleet* is the highest officer under the admiralty: when he embarks on an expedition, the union flag is displayed at the main-top-gallant mast-head. The *vice-admiral* is an officer next in rank to the admiral: he has command of the second squadron, and carries his flag at the foretop-gallant mast-head. This name is given also to certain officers, who have power to hold courts of vice-admiralty in various parts of the British dominions: there are upwards of twenty such. Appeal lies from their sentence or award to the admiralty court in London. The *rear-admiral*, next in rank to the vice-admiral, has command of the third squadron, and carries his flag at the mizentop-gallant mast-head. Admirals on shore receive military honours, and rank with generals of the army. *Admiral* is also an appellation given to the most considerable ship of a fleet of merchantmen, or of fishing vessels.

Admiral, in *conchology*, the popular name of a sub-genus of magnificent shells of the volute genus (*voluta*). There are four species: the *grand-admiral*, the *orange-admiral*, the *vice-admiral*, and the *extra-admiral*. The first is of an elegant white enamel, variegated with bands of yellow, which represent in some measure the colours of the flag of a man-of-war. It is distinguished from the vice-admiral by a denticulated line, running along the middle of the largest yellow band. The orange-admiral has more yellow than any of the others, and the bands of the extra-admiral run into each other.——In *entomology*, a species of "butterfly, which lays her eggs in the nettle."

Ad'miralty, the office of the lord high admiral, which is discharged (usually) by seven commissioners, called *lords of the admiralty*.

Admiralty Court, or Court of Admiralty, is the supreme court for the trial of maritime causes, held before the lord high admiral, or lords of the admiralty. All crimes committed on the high seas, or in rivers beneath the bridge, next the sea, are cognisable only in this court: trial by judge and jury. Subordinate to this court, there is another of equity, called *court-merchant*, wherein all causes between merchants are decided, agreeable to the rules of the civil law. In the United States of America, there is no admiralty court distinct from the others; the district courts are invested with admiralty powers. The prize court, which decides causes relating to prizes in time of war, is a separate court from the court of admiralty, but is usually presided over by the same judge.

Admira'tion, in *grammar*, the character (!) used after a word, or at the close of a sentence, or a remarkable or emphatic nature, is called a *point*, or *note of admiration*.

Admis'sion, Lat. *admissio*, from *ad* and *mitto*, admittance. 1. Among *ecclesiastics*, the act of a bishop's admitting a clerk to be qualified for a cure: this is done after examination, by pronouncing the formula *admitto te habilem*. Any person presuming to be admitted without episcopal ordination forfeits 100*l*.——2. Among *logicians*, &c., grant of an argument or proposition not fully proved.

Admittendo Clerico, a writ granted to a person who has recovered his right of presentation in the common pleas: it directs the bishop or metropolitan to admit his clerk.

Admittendo in Socium, a writ associating certain notable persons of the county to the justices of the assize already appointed.

Admixtion, Lat. *admixtio*, of *ad* and *misceo*. The union of substances by mixing them. The admixed bodies retain their characteristic properties: they undergo no chemical change, as they do in *composition*.

Admoni'tion, Lat. *admonitio*, of *ad* and *moneo*. A part of church discipline, which consists principally in warning an offender of his irregularities. By the ancient canons, nine admonitions were necessary before excommunication.

Admortization, from *ad* and *mors*, death. The reduction of property in lands or tenements to *mortmain* (q. v.).

Adnas'cent, Lat. *adnascens*. Growing to some other thing.

Ad'nata, Lat. from *ad* and *nascor* to grow. 1. In *anatomy*, one of the coats of the eye, called also *albuginea*. It is that portion of the conjunctiva which covers the scelerotic coat.——2. Such parts of animal or vegetable bodies as are usual and natural, as hair, wool, horns; or accidental, as fungus, and the several epiſitical plants.——3. In *horticulture*, offsets of plants germinating underground, as from the lily, narcissus, hyacinth, and afterwards grow to the roots.

Ad'nate, Lat. *adnatus*, grown to. Applied to parts which appear to grow to other parts: e.g. in *botany*, when a leaf adheres to the branch or stem by the surface or disc itself; or when the stipules are fixed to the petioles.

Adolecera, a genus of coleopterous in-

sects. Name, from ἄδολος and κέρας, in reference to the form of the antennæ. Belongs to the *elaterides* of Latreille.

ADON'AI, a Hebrew, Chaldean, and Syrian name of the Supreme Being, meaning *Lord* or *Sustainer*.

ADO'NIA ancient festivals kept in honour of Adonis, by females, who spent two days in lamentations and the most infamous pleasures. These Adonia were celebrated by the Greeks, Egyptians, Syrians, Sicilians, &c.

ADO'NIC, } pertaining to Adonis, the
ADONE'AN, } favourite of Venus. *Adonic* is applied to a kind of short verse, consisting of a dactyl, and a spondee or trochee, e. g. *rārā jŭvĕntŭs*. It was originally used in bewailing the fate of Adonis.

ADO'NIS, pheasant's-eye, or bird's-eye. A genus of plants of the class *polyandria*, order *polygynia*. There are eight species, resembling the anemone in appearance, but smaller. The *A. autumnalis*, an annual common in our gardens, is the only British specimen. Name, ἀδωνις, the mythological youth, from whose blood it is fabled to have sprung.

ADO'NISTS, among *critics*, a party who maintained that the Hebrew points ordinarily annexed to the consonants of the word *Jehovah* are not the natural points belonging to that word, and that they do not express the true pronunciation of it.

ADOPT'ER, a two-necked chemical vessel, placed between a retort and receiver, to lengthen the neck of the retort, and thereby give more space to elastic vapours.

ADOPTIANS, a sect which held that, with regard to his human nature, Christ was not the *natural*, but the *adoptive* son of God.

ADOPTION, Lat. *adoptio*, from *ad* and *opto*, to choose. 1. The act whereby one man makes another his heir, giving him all the rights of a son. Adoption was common among the Greeks and Romans, who had many regulations concerning it. The Lacedemonian law required that it should be confirmed before their kings; at Athens, slaves, madmen, and persons under age were incapable of adopting; and at Rome, adoptions were confirmed before the prætor in an assembly of the people, or by a rescript from the emperor. The adopter, besides, was required to be at least eighteen years the senior of the adopted, and the natural father required to renounce all authority over his son, and consent to his translation into the family of the adopter. The various ceremonies of adoption have given rise to many kinds of it: e. g. *adoption by testament*, the appointment of a person to be heir by will, on condition of his taking the name, &c. of the adopter: *adoption by matrimony*, the taking the children by a former marriage into the condition of children of the second marriage: *adoption by baptism*, the spiritual affinity contracted by godfathers was supposed to entitle the godchild to a share of the godfather's estate: *adoption by hair* was performed by cutting off the hair of a person, and giving it to the adoptive father: *adoption by arms*, an ancient ceremony of presenting a suit of armour to one for his merit or valour, which laid the person under an obligation to defend the giver. Among the Turks, the ceremony of adoption is performed by obliging the person adopted to pass through the shirt of the adopter. In France, the adopter must have neither children nor other legitimate descendants.

ADOPTION is also used for many kinds of admission to a more intimate relation, as the admission into hospitals, particularly that of Lyons, and is, therefore, very nearly equivalent to *reception*.

ADORA'TION, Lat. *adoratio*. The act of worshipping; the worship paid to the Supreme Being. Among the Jews, adoration was performed by bowing, kneeling, and prostration. Among the Romans, the devotee, with his head veiled or covered, applied the right hand to his lips, the forefinger resting on the thumb, which was erect, and then bowing he turned round from left to right. The Gauls thought it more religious to turn from right to left: the Greeks to worship with their heads uncovered. The Christians copied the Grecian rather than the Roman mode, and universally uncover when they perform any act of adoration. In modern times adoration is paid to the pope by kissing his foot, and to a prince by kneeling and kissing his hand. The word has been sometimes used in the sense of *acclamation*, e. g. a pope is said to be elected by *adoration*, when he is elected by sudden acclamation, without scrutiny.

ADORIUM, a genus of coleopterous insects; the species are foreign. The adorium is included among the *isopodes* of Latreille.

ADOSCULA'TION, Lat. *adosculatio*, from *ad* and *osculum*, a kiss. A term used by naturalists to denote impregnation by mere external contact: this takes place in many birds and fishes. It is also used in botany for the impregnation of the plant by the falling of the farina on the pistils; and also for the insertion of one part of a plant into another.

ADOS'SED, English of *adossée*, part. of *adosser*, to place back to back; *dos*, the back. A heraldic term denoting two figures or bearings placed back to back.

ADO'XA, } Moschatel: a genus of a
ADO'XIA, } hardy perennial plant, peculiar to Britain; class *octandria*, order *tetragynia*. Name, ἀ, *without*, and δοξα,

glory, from the humble aspect of this little flower. There is only one species, the *A. moschatellina*, so called from its smelling like musk. It is also known by the name of *bastard fumitory;* grows in shady places.

AD PONDUS OMNIUM, literally, "to the weight of the whole." These words after the name of any ingredient, in a medical prescription, signify that the weight of such ingredients is equal to that of all the others put together.—*Lat.*

AD QUOD DAMNUM, literally, "to what damage." The name of a writ issued before certain liberties are granted, as, a fair, market, &c., ordering the sheriff to inquire what damage may be caused by such grant.—*Lat.*

ADPRES'SED, Lat. *adpressus*. Appressed: pressed close together; applied to branches or leaves, when they rise nearly parallel to the stem, and are close to it, e. g. the branches of the *Genista tinctoria* and leaves of the *Thlaspi campestris*.

ADRIFT, a nautical term denoting the condition of a vessel broken from her moorings. It is the participle of the Sax. verb *adriftan*, to drive.

ADROGA'TION, a species of adoption among the Romans, by which a person was admitted to the relationship of a son, derived from *ad* and *rogo*, to ask; in reference to the questions put to the parties.

ADSTRICTION, Lat. *adstrictio*, from *stringo*, to bind. In *medicine*, 1. The action of an astringent.——2. Constipation

ADULA'RIA, the moonstone of lapidaries: a transparent white-coloured variety of prismatic feldspar, with a silvery or pearly opalescence. The finest crystals are found at Adula, the summit of St. Gothard. The sunstone of the lapidaries is the Siberian variety of Adularia; it is of a yellowish colour, and numberless golden specks appear distributed throughout it.

ADULT, Lat. *adultus*, grown to maturity: *oleo*, to grow. Among *civilians*, a person upwards of 14 years of age. The term is also applied to animals and plants at a state of maturity.

ADULT'ERY, Lat. *adulterium*, from *ad* and *alter*, other. The crime of married persons, whether husband or wife, who violate their marriage vow by incontinence. In Europe and America, adultery is reckoned a private offence: none but the husband being allowed to intermeddle; and except in Scotland, though the husband be guilty of adultery, the wife is not allowed to prosecute him for the same. In England adultery is a spiritual offence, and therefore the injured party can have no other redress than to bring an action of damages against the adulterer, and to divorce and strip the adulteress of her dower.—*See* DIVORCE. In *scriptural language*, adultery is sometimes used for idolatry, and at other times for any species of unchastity. It is in this sense that divines interpret the seventh commandment.

ADULTERY, in *church affairs*, means the thrusting a person into a bishoprick during the life of the bishop.

ADUMBRA'TION, *umbra*. In *heraldry*, a figure painted of the same colour as the ground of the field, but darker.

ADUS'TION, Lat. *adustio*, from *ad* and *uro*, to burn. In *surgery*, the same with *cauterisation* (q. v.)

ADVA'NCE, from *ad* and *van*, the front. In *commerce*, 1. To supply beforehand, to furnish on credit.——2. Additional price or profit on the prime cost of goods.——3. Money paid before goods are delivered upon consignment. This is usually from a half to two-thirds of the value of the goods consigned.

ADVANCE-DITCH, } In *fortifications*, that
ADVANCE-MOAT, } drawn round the glacis or esplanade of a place.

ADVANCEMENT, in *law*, provision made by a parent for a child, by gift of property, during the parent's life, to which the child would be entitled, as heir, after the parent's death.

AD'VENT, Lat. *adventus*, from *ad* and *venio*, to come. A coming: appropriately the coming of the Saviour. It is intended as a season of devotion, with reference to the past and future coming of Christ, and includes four sabbaths before Christmas, beginning at St. Andrew's day, or on the sabbath next before or after it according to the day of the week on which the 25th of December falls.

ADVENTIT'IOUS, Lat. *adventitius*, extraordinary. Added extrinsically, e. g. among *civilians*, goods which are acquired accidentally, are said to be *adventitious*. The same is said of fossils, as shells, &c., which are found embodied in other fossils. Applied also to diseases which are not hereditary or congenital; and in *botany*, to anything which appears out of the ordinary course of nature. It is in speaking of natural things, what *abnormal* is in speaking of productions of art.

ADVEN'TURE, Fr. *aventure*. *See* ADVENT. 1. Among *sailors*, something which a seamen is permitted to carry aboard, with a view to sell for profit. Seamen usually call this *a venture*.——2. A *bill of adventure* is a writing signed by a person who takes goods on board of his ship, wholly at the risk of the owner.

ADVENTURER, one who adventures, e. g. *merchant-adventurers* constituted a company, formed for the purpose of exploring unknown regions, and opening up new channels of trade; called also the *society of adventurers*.

Ad'verb, Lat. *adverbium*, from *ad* and *verbum*. In *grammar*, a word used to modify the sense of a verb, participle, adjective, or attribute, and usually placed near it; e. g. he spoke *fluently*; the day is *extremely* cold, where the words *fluently* and *extremely* are adverbs. This part of speech may be called a *modifier*, as its use is always to qualify the sense of another word.

Adversa'ria, Lat. from *adversus*. Among the *ancients*, a book of accounts, not unlike our journals and day-books, and so named from the debt and credit being placed in opposition to each other. The word also imports, among literary persons, a species of commonplace-book, in which the notes are not digested under regular heads.

Advers'ative, Lat. *adversativus*. In *grammar*, a word denoting some difference or opposition between what goes before and what follows it; e. g. he has genius, *but* wants application. The word *but* is an *adversative* conjunction.

But is not, however, always an adversative conjunction; it often implies something superadded. It has therefore two senses: in the first it is a corruption of *bot*, the participle of the Saxon verb *butan*, to *be out*, and in the second it is the imperative of *botan*, or *bætan*, to make *better*, and is radically the same as *bet*, in the word *better*. "Bœtan" is the verb *to boot*.

Adversifo'liate, } Lat. *adversifolium*,
Adversifo'lious, } from *adversus* and *folium*, a leaf. Having opposite leaves: applied to plants where the leaves are so arranged on the stem.

Advice, from Fr. *avis*, opinion, whence the verb *aviser*, to advise. *Advice* is usually given by one merchant or banker to another, by letter, informing him of the bills or drafts drawn on him, with all particulars of date, &c., &c. For want of such *letter of advice*, it is allowable to refuse accepting a bill of exchange.

Advice-boat, a small vessel employed to carry despatches, &c.

Ad vitam aut culpam, an office to be held *quamdiu se bene gesserit*, that is, till the death or some delinquency of the holder.

Ad'vocate, Lat. *advocatus*, from *ad* and *voco*, to call. *Advocate*, in its primary sense, signifies one who pleads the cause of another in a court of civil law: hence it came to signify one who pleads the cause of another before any tribunal or judicial court. The fees are of a gratuitous character, and cannot be recovered at law. In *England* and *America*, advocates are the same as counsel or counsellors. In England they are of two degrees, *barristers* and *serjeants:* the former being apprentices or learners, cannot, by ancient custom, be admitted serjeants till of 16 years standing.—In *Scotland*, the *faculty of advocates* is a society of eminent lawyers who practise in the highest courts, and who are admitted members only on the severest examination at three different times. It consists of about 200 members, from whom vacancies on the bench are usually supplied.—The *lord-advocate* is the principal crown-lawyer. He pleads all the causes of the crown, and is the public prosecutor in criminal cases. In France, the *avocats* form a separate order, of which each member is attached to a particular local court.—*Advocates* have different titles, according to their particular duties.—At Rome, *consistorial advocates* appear before the consistory, in opposition to the disposal of benefices. Among the ancient Romans, the *fiscal advocate* defended causes in which the public revenue was concerned.—*Feudal advocates* were of a military kind: to attach them to the church, they had grants of land, with power to lead the vassals of the church to war.—*Juridical advocates* became judges, in consequence of their attending causes in the earl's court.—*Matricular advocates* defended the matricular or cathedral churches.—*Military advocates* were employed by the church, to defend it by arms, when force was the eloquence of Europe. There were besides, *elective advocates*, chosen by the chapter, bishop, abbot, &c.; *nominative advocates*, appointed by the emperor, pope, &c. In *France*, there are two kinds of advocates: those who plead, and those who only practise, like our chamber-counsellors. In *Germany*, an advocate is a magistrate appointed, in the emperor's name, to administer justice.

Advoca'tion, Lat. *ad* and *vocatio*. Among *civilians*, the act of calling another to assist in pleading some cause.—*A bill of advocation*, in Scotland, is a written application to a superior court, to call an action before them from an inferior court: the order granted, is called *a letter of advocation*.

Advocatione decimarum, is a writ for claiming a fourth part or upwards of tithes belonging to any church.

Advowee', he who has the right of *advowson*. 2. The advocate of a church, &c.

Advow'son, in *English law*, a right of presentation to a vacant benefice: the right of patronage. The word is derived from *advocatio*, because the right was first obtained by such as were founders, benefactors, or defenders, that is, *advocates* of the church; hence those who have this right are styled *patrons*.

Advowsons are either *appendant* or *in gross:* the first are such as are annexed to a manor or lands, and pass as appurtenances of the same; whereas advowson in gross, is a right of presentation subsisting by itself, and belonging to the patron, independent of lands. In

either case, advowsons are no less the property of the advowee than landed estates, and may be granted away by deed or will, and are assets in the hands of executors.

ADVOYER, Nor. Fr. *advoes*. A chief magistrate of a town or canton in Switzerland.

ADYNA'MIA, Gr. αδυναμια. A defect of vital power (δυναμις).

A'DYTUM, Gr. αδυτον. The most sacred place in the heathen temples, corresponding to the Jewish *Holy-of-Holies*. The term is derived from α, not, and δύω, to enter.

ADZ, or ADDICE, Sax. *adese*. A cutting tool of the axe kind; the blade is thin or arching, and set at right angles to the handle. It is chiefly used for paring away inequalities on boards, planks, &c.

ÆACEA, Grecian festivals in honour of *Æacus*, who, on account of his justice on earth, was supposed to be appointed one of the judges in hell.

ÆCHMALOTARCHA, the title given anciently to the principal governor of the Hebrew captives residing in Chaldea, Assyria, &c. The Jews called him *Rosch-Galuth*, or chief of the captivity. At present the æchmalotarch is only the head of the Jewish religion, like the *episcopus Judæorum* in England, the *altarch* at Alexandria, and the *ethnarch* at Antioch.

ÆDES, a temple of an inferior order among the Romans. From αιδης, dark, being originally dark buildings. The name latterly became synonymous with *templum*, or temple.

ÆDILE. In ancient Rome, an officer who had charge of the public buildings (*ædes*), and, indeed, buildings of all kinds, highways, aqueducts, public places, spectacles, &c. The ædiles were four in number, and of two classes—the plebeian and curule. Julius Cæsar afterwards added two other plebeian ædiles, called cereal: their business was to inspect weights and measures, public stores of provisions, &c.

ÆDŒOTOMY, from αιδοι and τεμνω. The anatomy of the organs of generation.

ÆDOPTOSIS, from αιδοιον and πτωσις. Genital prolapsus.

ÆGAGROPILE, Lat. *ægagropilus*, from αιγαγρος and πιλος. 1. A concretion found in the stomach of the chamois-goat (sometimes in that of deer, cows, &c.), consisting of hair which the animal has swallowed in licking itself. These balls were formerly called *bezoars*, and believed to possess the same virtues as the oriental bezoars.

ÆGICERAS, a genus of plants found in the Molucca Islands. Class *pentandria*, order *monogynia*. Name from αιξ, a goat, and κέρας, a horn, the pods having some resemblance to the horn of the goat.

ÆGILOPS, from αιξ, a goat, and ωψ, an eye. 1. A sore under the inner angle of the eye: now generally considered a stage of the fistula lachrymalis. Named from the supposition that goats are peculiarly liable to it.——2. Hard-grass: a genus of hardy European annuals, of the class *polygamia* and order *monœcia*. There are seven species.—Named from its supposed virtues in curing the disease called *ægilops*.

ÆGIS, in *mythology*, is particularly used for the shield or cuirass of Jupiter and Pallas. Named from αιγις, a goat's skin, with which shields were anciently covered.

ÆGO'CEROS, the same with *Ægiceras* (q. v.)

ÆGOPO'DIUM, goat-weed, gout-weed, or goat's-foot. A British genus of plants, of the class *pentandria* and order *trigynia*: named from αιξ, a goat, and πους, a foot, "the leaves being cleft something like the foot of that animal." There is only one species, *Æ. podagraria*, found in gardens and wet places. The root is pungent and aromatic.

ÆGYPTILES (Latinised *Ægyptilia*). A species of ornament in Egyptian architecture having a light-blue figure on a dark ground.

ÆLLOPODES, the name of a pedo-motive carriage lately exhibited in the metropolis by Mr. Revis, of Cambridge. It consists of two large driving wheels, urged round by cranks acted upon by treddles, on each of which the rider's weight is thrown alternately. The name, in which the only novelty consists, is from *Aëllo*, one of Actæon's dogs (Ov. Met. iii. 219), and πους, ποδος, a foot.

ÆLURUS, the Egyptian god-cat, sometimes represented in architectural decorations *in propriâ personâ*, and sometimes as a man with a cat's head!

ÆOLIC, pertaining to *Æolia* or *Æolis*. The *Æolic dialect* is one of the five dialects of the Greek tongue, agreeing in most things with the Doric dialect. The *Æolic verse* consists of an iambus or spondee, then of two anapests separated by a long syllable.

ÆOLIAN, pertaining to *Æolus* (q. v.)

ÆOLIAN-HARP, a musical instrument, so named from its producing its wild and often exquisite strains merely by the action of the wind. It is made thus: a box of thin deal is made of such a length as will suit the window into which it is to be fitted; a number of strings (catgut) are fixed upon the mouth of it, and tuned in unison. It is fitted into the window with the strings outwards.

AFFINITY, Lat. *affinitas*, from *affinis*, near. 1. Among *civilians*, the relation of one of the parties married to the kindred of the other. It is distinguished into three kinds: (*a*) *Direct affinity* is that subsisting between the husband and his wife's relations by blood, or between the wife and her husband's relations by blood. (*b*) *Secondary affinity* is that which subsists between the husband's and wife's relations by marriage. (*c*) *Collateral affinity* is that which subsists between the husband and the relations of the wife's relations. The degrees of affinity are always the same with those of consanguinity.——2. In *natural history*, a relation of animals to one another in the similarity of a greater proportion of their organisation: distinct from analogy, which denotes a resemblance of external form. Thus, anatomy shows that the porpoise has an affinity to man, and its appearance denotes a close analogy to a fish.——3. In *chemistry*, the tendency which dissimilar particles of matter have to combine together and form new compounds, and the power which causes them to continue in combination. It is otherwise called *chemical attraction*. This preference of uniting, which a given substance is found to exhibit with regard to other substances, is by an easy metaphor called *elective affinity*, and is of two kinds: (*a*) When a simple substance is presented to a substance compounded of two elements, and unites with one of them so as to exclude the other, the effect is said to be produced by *simple elective affinity:* it is called *simple*, because only one compound is decomposed,—*elective*, because the substance seems to choose one body to combine with rather than another. (*b*) When two compound substances, each consisting of two elements, are brought together, and a mutual exchange of an element takes place, by means of which two new substances are formed differing in their properties from the original compound, the effect is said to be produced by *double elective affinity*, by *complex affinity*, or by *double decomposition*.—It often happens, that bodies which have no tendency to unite are made to combine by means of a third, which is then called the *medium:* thus, water and the fat oils are made to unite by means of an alkali in forming soap. Some writers call this action the *affinity of intermedium*, others *disposing affinity*, others again *reciprocal affinity*.—Affinity agrees with sensible attraction in every point which it has been possible to determine. All the elementary substances yet known are 54: by the union of these with one another are formed the almost innumerable substances which are met with in nature, or which are only formed artificially. These substances have, besides, different degrees of affinity for one another.

AFFIRMA'TION, a solemn declaration, under the penalty of perjury, by those conscientiously objecting to an oath; in *law*, equivalent to testimony on oath. An indulgence to Quakers under Will. III., extended to all conscientious scruples under Will. IV.

AFFIR'MATIVE. In *algebra*, synonymous with *positive:* the term applied to quantities which have the sign + prefixed to them, in contradistinction to *negative* quantities, which have the sign — prefixed to them.——2. In *logic*, a term used to denote the quality of a proposition which asserts the agreement of the predicate with the subject. Example: "Man is an animal."

AFFLA'TUS, Lat. from *afflo*, to blow upon. A blast of wind. The word is also used for a species of erysipelas, which attacks suddenly, as if produced by some unwholesome wind blowing on the part.

AFFO'RCEMENT, from *ad* and *force*. In *old charters*, a fortress for defence.

AFFORESTA'TION, from *ad* and *forest*. The turning of ground into forest or wood land, as was done by the first Norman kings in England, for the purpose of affording them the pleasures of the chase.

AFFRAY, or AFFRAYMENT, from Fr. *effrayer*, to frighten. In *law*, the fighting of two or more persons in a public place, to the terror of others. A fighting in private is not an affray in the legal sense.

AFFRONTED (Fr. *affrontée*). In *heraldry*, front to front: applied to animals that face each other.

AFFRONTING. In *heraldry*, opposed face to face. *See* AFFRONTED.

AFFUSION, from Lat. *ad* and *fundo*, to pour out. Affusion with cold water is a mode of treatment in fever, brought into general notice by the late Dr. Currie, of Liverpool: it consists merely in placing the patient in a bathing tub, and pouring a pailful of cold water upon the body. This mode of treatment has been generally attended with success, when employed in the early stage of the disease.

AFORA, from Lat. *a*, and *fores*. A term applied to plants in which the seed-vessels are not furnished with valvules.

AFORE, from *a*, and *fore*. In *nautical language*, towards the head of the ship; further forward, or nearer the stern; e.g. "*afore* the windlass."——*Afore the mast* is applied to a common seaman, or one who does duty on the main-deck, or has no command or office aboard.

AFT. In *nautical language*, applied to what pertains to the stern of a ship, as, the *aft* part of the ship.——*Fore and aft* means the whole length of the ship.——*Right aft* means in a direct line with the stern. *See* ABAFT.

AFTER-BIRTH, the same with *placenta* (q. v.).

After-crop, the second crop from the same ground in the same year.

After-guard, the seaman stationed on the poop, or after part of a ship, to attend the after sails.

After-most. In *nautical language*, nearest the stern; opposed to *foremost*.

Afterpiece, in *theatricals*, a piece performed after a play; a farce or other light entertainment.

Aftersails, the sails of the mizen-mast, and stays between the main and the mizen-masts.

Afterswarm, any of the swarm of bees which leave a hive after the first.

Afzelia, a genus of shrubaceous plants of three species, natives of Sierra Leone. Class *decandria*, order *monogynia*.

Aga, Per. *aka*, lord or master. In the *Turkish dominions*, a commander or chief officer. The title is also given to great landholders, and to the eunuchs of the Sultan's seraglio. It is also a common title of respect in addressing a distinguished person.

Aga'llochor, } ἀγάλλοχου, aloes-wood
Aga'llochum, } (*lignum aloës*). The produce of a large forest tree, to be found in most countries between the 24° of north latitude and the equator. It seems to be the result of the diseased action of a small part of a few trees of the same kind, and the rest of the wood is without value. The kind most valued—and it was at one time reckoned nearly as valuable as gold—is so soft and resinous, that it may be modelled with the fingers. It is in high repute for fumigations and incense in all Hindoo, Mohammedan, and Catholic countries.

Agalma'tolite, *figure-stone* (ἄγαλμα and λίθος); a sub-species of mica of various colours. The best specimens are those of China.

Agape (pron. *ag'apy*). Among the primitive Christians, a love-feast held before or after communion. The meaning of the name (αγαπη, love,) was latterly taken in too literal a sense, and this feast became scandalous: it was finally suppressed.

Ag'aphite. *See* Turquoise.

Aga'ric, } the *mushroom*; a genus of
Aga'ricus, } plants of the class *cryptogamia*, and order *fungi*. The plants of this genus approach more nearly to animal matter than any other productions of the vegetable kingdom. Name, ἀγαρικόν, because primarily found near the river Agaros, in Sarmatia.

Agaric, mineral, a variety of soft carbonate of lime. It is found in the clefts of rocks, in pieces loosely cohering, and so light as nearly to swim on water. It takes its name from its resemblance to a fungus in colour and texture.

Agastrics, Gr. α, without, and γαστηρ, stomach. A name formerly given to certain animalcules, on the erroneous supposition that they were devoid of internal digestive organs. The name is still used to designate a family of medusæ.

Agate, a genus of semipellucid gems, the basis of which is calcedony, blended with variable proportions of jasper, amethyst, quartz, opal, heliotrope, and cornelian. When cut and polished, agates present an appearance of waving lines, sometimes accurately parallel, as *ribbon agate*, and sometimes containing a resemblance to mosses, ferns, &c., as in *Mocha* stone, and sometimes the parallel lines are zigzag, as in *fortification agate*. Name γαγατης, because found near the river of that name in Sicily, afterwards called *achates*, and finally *agate*.——2. An instrument used by gold wire-drawers; so called from the agate in the middle of it, through which the wire is drawn.

Agathidium, a genus of coleopterous insects belonging to the family of Clavipalpi. Name from αγαθις, a clue, in reference to the faculty possessed by the species, of rolling themselves into a ball, in which state "they feign death in the most imperturbable manner."

Agathodæmon, Gr. αγαθος, good, and δαιμων, demon. In *mythology*, a good spirit.

Agatized, having the coloured lines and figures of agate; e. g. *agatized wood*, a species of hornstone, apparently produced by the petrifaction of wood.

Aga've, the generic name of the *American aloe*. There are fourteen species, thirteen of which are beautiful shrubaceous plants, the other a perennial. Class *hexandria*, order *monogynia*. Name αγαυος, noble, in reference to the beautiful appearance of the great aloe, which rises upwards of twenty feet, and its branches form a pyramidal top. The genus is the type of a subdivision of the amaryllidaceous plants.

Agedoite. *See* Asparagin.

Age'ma, a body of soldiery in Macedonia, not unlike the Roman legion.

Agemoglans, such children as were obtained by a tax, levied every third year in the Turkish empire upon the Christians: the collectors usually took every third child, and the handsomest.

Agenda, from *ago*, to act. 1. In *theology*, what one is bound to perform, in contradistinction to *credenda*, what one is bound to believe.——2. A memorandum-book of things to be daily attended to.——3. A ritual or liturgy.

Agene'sia, from α, not, and γενεσις, generation. 1. Impotence.——2. Any

anomaly of organization, consisting in absence or imperfect development of the parts.

Ager, a Roman acre of land.

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for the support of the army. There were many laws relating to the distribution of the conquered lands, but that called *agregaria lex*, by way of eminence, originated with Spurius Cassius, in 486, B.C.

AGREE'MENT, In the *fine arts*, a certain degree of resemblance in style and character, whereby the parts seem to belong to each other.——2. In *law*, the consent of persons to anything done or to be done. "All agreements, to be valid, ought to be on a stamp, or at least duly stamped at the Stamp-office within 21 days after the date of the agreement. We derive this term immediately from the Fr. *agrément*.

AGRESTIS, Lat. from *ager*, a field. Pertaining to the field: the trivial name of many plants. The term is opposed to *hortis*.

AGRIA (*αγρία*). 1. The common holly (*Ilex aquifolium*).——2. A pustular disease of the skin, accompanied with redness and erosion.

AG'RICULTURE from Lat. *ager*, a field, and *cultura*, cultivation. In *a general sense*, the cultivation of the ground for the purpose of producing vegetables and fruits for the use of man and beast. In this sense, the word includes gardening or horticulture, and also the raising and feeding of cattle. But *appropriately*, the word is used to signify that species of cultivation which is intended to raise grain and other crops in large quantities. The word is thus synonymous with *husbandry*, and opposed to horticulture. The term is also sometimes considered to include every description of territorial improvement, as embanking, road-making, draining; planting, &c.

AGRIELÆA, the oleaster or wild olive; (*αγριος*, *wild*, and *ελαία*, the *olive-tree*).

AGRIFO'LIUM, the holly-tree, so named from *αγριος*, fierce, and *folium*, leaf, on account of its sharp prickles.

AG'RIMONIA, } a genus of plants. Class,
AG'RIMONY, } *dodecandria*, order *digynia*. The name *ἀργεμώνη* was given by the Greeks to a plant supposed to cure the cataract in the eye, called *αργημα*. There are seven species of this perennial, one of which, *A. eupatoria*, is common in Britain, in waste places, as road-sides.

AG'RIMONY, the popular name for *Agrimonia* (q. v.). Hemp agrimony is *Bidens tripartita*.

AGRIOCOCCI'MELA, the sloe-tree (*Prunus spinosa*), from *αγριος*, wild; *κοκκος*, a berry; and *μηλία*, an apple-tree.

AGRIONIDÆ, the name of a family of dragon-flies (*Libellula*, Lin.), of which the type is the blue dragon-fly (*Agrion puella*), found frequenting the sides of ditches in most parts of Britain.

AGRIP'ETIST, from Lat. *ager*, a field, and *peto*, to seek. One who claims a portion in the division of lands.

AGRIP'PA, a difficult birth. *Agrippæ*, children of difficult birth, *ab ægro partu*.

AGROM'YZA, a genus of *muscides* (q. v.). From *αγρις* and *μύζω*, a fly.

AGRO'NOMY, from *αγρος*, a field, and *νομος*, a rule. The art of cultivating the ground: sometimes used synonymously with agriculture.

AGROSTEM'MA, corn-cockle or rose-campion (*A. githago*). A genus of the class *decandria*, and order *pentagynia*. Name, *αγρου στεμμα*, garland of the field. The trivial name *githago* is from *gith*, the Celtic word for any peculiar black seed. There are, besides that mentioned, seven foreign species, most of which are perennials.

AGRO'STIS, bent-grass. A genus of the class *triandria*, and order *digynia*. Name, *αγρωστις*, given by the Greeks to grasses generally, from *αγρος*, a field. The genus contains about 24 species, five of which are British, mostly perennials.

AGROSTOL'OGY, from *αγρωστις*, grass, and *λογος*, discourse. The part of botany which relates to grasses. The term is commonly used as synonymous with agrostography

AGRYP'NIA, from *αγρυπνος*, sleepless. Agrypny, sleeplessness.

AGRYP'NOCOMA, from *αγρυπνος*, sleepless, and *κωμα*, lethargy. A lethargic state, common in bad cases of typhus fever. It is synonimous with *coma-vigil*.

AGUE, a disease consisting of febrile paroxysms, which completely subside and return at certain intervals. The febrile paroxysm is distinguished into three stages—the *cold*, the *hot*, and the *sweating*—and these follow in regular succession. The name is also applied to a sense of chilliness, attended with shaking, though in health. The word is Goth. *agis*, fear, which is one of the chief characteristics of the disease. *Ague-cake*, the popular name for a tumour, consisting of an enlarged spleen, which projects under the false ribs on the left side: it occurs in persons who have suffered from protracted ague. *Ague-drop*. The medicine sold under the name of Fowler's tasteless ague-drop is a solution of arseniate of potash in water (*liquor arsenicalis* of the Pharmacopœia).

AGUE-FREE, a name sometimes applied to sassafras, on account of its supposed febrifuge qualities.

AGUIL'LANEUF, a form of rejoicing among the ancient Franks on the first day of the year; it was derived from the druidical custom of cutting misleto, which was held sacred by the druids, who, on the first day of the year, consecrated it,

by crying *aguillaneuf*, "a new year to the misleto" (*a*, to, *gui*, misleto, and *l'an neuf*, the new year). This cry is said to be still observed in some parts of France, but for the purpose of extracting new-year-gifts.

AGYREAS, from αγυρις, a collection. An opacity of the crystalline lens of the eye.

AHA, a sunk fence, not visible without near approach.

AHEAD, in *nautical language*, denotes the situation of an object in advance of the ship: opposed to *astern*. The word is composed of *a*, for at, and *head*.

AHICCYATLI, a poisonous serpent of Mexico, somewhat resembling the rattlesnake, but destitute of rattles: its poison is as fatal as that of any known species.

AHRIMAN, } one of the chief deities of
ARIMAN, } the ancient Persians. Ahriman was the god of evil, opposed to Oromasdes.

AHULL, from Sax. *helan*, to cover. The situation of a ship when all her sails are furled on account of the violence of the wind, and when, having lashed her helm to the lee-side, she lies nearly with her side to the wind and sea, her head being somewhat inclined in the direction of the wind.

AHUITLA, a worm peculiar to the lake of Mexico, about four inches in length, as thick as a goose-quill, and having a hard and poisonous tail containing a sting.

AHUITZOTE, a small amphibious quadruped of tropical America: its body is a foot long, its snout long and sharp, its skin of a dark brown.

AI, the three-toed sloth (*Acheus tridactylus*, F. Cuvier). "A species in which sluggishness, and all the details of the organisation which produce it, are carried to the highest degree." The animal takes the name *Ai* from its peculiar cry, as it takes the name of *Sloth* from its tardy movements. It is of the size of a cat, and is the only mammiferous animal known which has nine cervical vertebræ.

AID, Fr. *aider*, to help. Assistance. 1. In *English law*, a subsidy granted by parliament, and making a part of the king's revenue. In *France*, aids are equivalent to customs or duties on exports and imports.——2. In *England*, a tax paid by the tenant to his lord; originally a gift: use and want converted it into a right demandable by the lord. The aids of this kind were chiefly three. (1). To ransom the lord when a prisoner. (2). To make the lord's eldest son a knight. (3). To marry the lord's eldest daughter.

AID PRIER, a petition made in court, to call in help from another person who has interest in the thing contested. Thus a tenant for life may pray in the aid of him in remainder or reversion, that is, he may pray or petition that he be joined in the suit to aid or help to maintain the title. The petition is otherwise called *aid prayer*.

AIDS, THE COURT OF, in *France*, is a court which has cognizance of causes respecting duties or customs.

AIDS, in the *manège*, cherishings used to avoid the necessary corrections. The *inner aids* are the inner heel, leg, rein, &c.; the *outer aids* are the outer heel, leg, rein, &c.

AID-DE-CAMP, in *military affairs*, an officer whose duty it is to receive and communicate the orders of a superior officer.—This word is French, *aide-de-camp*, but naturalized, and it would perhaps be well to naturalize its pronunciation also.

AIGUE MARINE, a variety of topaz of a bluish or pale green colour.

AIGUILLE, Fr. for *a needle*. An instrument used by engineers to pierce a rock for the lodgement of powder, in mining, &c. *Aiguille* is also taken to mean the needle-like points or tops of granite rocks.

AIGUISCE, } in *heraldry*, a cross with its
AIGUISSE, } four ends sharpened into obtuse angles. The term is French, from *aiguiser*, to sharpen. It is sometimes written *eguiscé*.

AILURUS, a genus of the plantigrade tribe of mammalia. There is only one species known, the *panda* of the north of India (the *A. refulgens* of Fred. Cuv.): size, that of a large cat; fur, soft and thick; above, of the most brilliant cinnamon red, behind, more fawn-coloured, beneath, deep black; the head is whitish, and the tail marked with brown rings.

AIR, Fr. *air*, Ital. *aira*, Sp. *ayre*, Gr. αηρ, Lat. *aër*, Ir. *aer*. The root is probably אוד, whence אויר, which means the vehicle of light. That fluid, transparent, impenetrable, ponderable, compressible, dilatable, perfectly elastic substance, which surrounds the earth, constituting what we otherwise call the *atmosphere*. Air is one of the four classical elements of antiquity; but modern chemistry shows, that of 1000 parts, 788 are *nitrogen*, 197 are *oxygen*, 14 are *vapour*, and 1 *carbonic acid*. 100 cubic ins. weigh 31 grains. The term *air*, though now restricted to atmospheric air, was formerly used to designate gases generally. Thus ammonia was called *alkaline air*; nitrogen or azote, *azotic air*; carbonic acid, *fixed air*; fluoric acid, *fluoric air*; carburetted hydrogen, *heavy inflammable air*; sulphuretted hydrogen, *hepatic air*; hydrogen, *inflammable air*; nitrogen, *nitrous air*, *phlogisticated air*, and *nitrous dephlogisticated air*; phosphuretted hydrogen, *phosphoric air*; sulphurous acid, *sulphureous air*; oxygen, *vital air* and *empyreal air*; and even hydrochloric or muriatic acid had the odd cognomen of *marine air*.——

2. In *music*, the term *air* signifies the melody or treble part of a musical composition; also the peculiar modulation of the notes which gives music its character. The common meaning is the leading part of a tune, as distinct from the bass, treble, and counter.——3. In *painting*, as the air is the medium in nature through which every object is viewed, it is to be transferred to the imitation on the canvas, and the effects which it produces, in regulating the sizes and colours of objects, constitute a large part of the artist's knowledge.

AIRA, the *hair-grass*, a genus of the class *triandria*, and order *digynia*. There are eleven species, seven of which are British, and all the order perennials. Named from αἴρω, to *destroy*. This name was anciently given to the bearded darnel (*Lolium temulentum*), on account of its injurious effects; and now to this genus of plants, which it was thought somewhat to resemble.

AIR-BALLOON. *See* BALLOON.

AIR-BLADDER, } the sound or swim of
AIR-BAG, } fishes: an organ situated in the abdomen, by altering the dimensions of which the fish regulates its depth in the water.

AIR-CELLS. 1. Of *plants:* cavities in the stems and leaves intended to render the part buoyant in water.——2. Of *birds:* membraneous receptacles which communicate with the lungs. These permeate throughout the whole body.

AIR-GUN, a pneumatic instrument resembling a musket, to discharge bullets by the elastic force of the air compressed into an iron or copper globe by means of a condenser. To produce an effect equal to that of gunpowder, 1000 atmospheres must be forced into the globe, that is, the air must be compressed into one thousandth of the bulk which it occupies at the common pressure of the atmosphere, taken at the earth's surface.

AIR-HOLDER, an instrument for holding air, for the purpose of counteracting the pressure of a decreasing column of mercury.

AIR-JACKET, a jacket made of leather in which are several receptacles for air, communicating with each other, and fitted to receive air by means of a brass tube. This jacket is used by persons who cannot swim, to support them in the water. A jacket, formed of corks strung together, serves equally well.

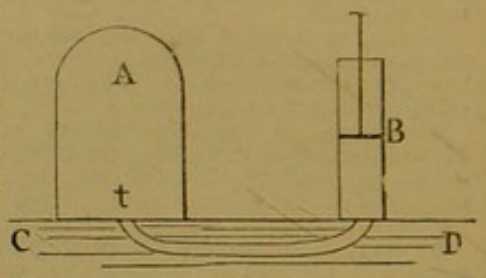
AIR-LAMP, another name for Doberennier's lamp.

AIR-PIPE, a pipe used to withdraw vitiated air from the hold of a vessel, &c. by means of communication with the furnace and the place to be cleared of noxious air. Through this pipe only, the fire is supplied with air; and as one end is placed in the hold, a perpetual current is thus kept up, the foul air being constantly withdrawn from the hold to the fire.

AIR-POISE, an instrument for ascertaining the weight of a given quantity of air.

AIR-PLANTS. *See* AERIAL and AERIDES.

AIR-PUMP, a pneumatic machine for exhausting the air of a proper vessel, A,



by means of a pump, B. The figure represents a section of the machine. C D supports the receiver, A, and the pump, B, is fitted air-tight to this sole. There is a communication-tube, *t*, through which the air passes from A on working the pump, just as water is drawn from a well by means of a common pump, from which this does not differ. *See* PUMP.

AIRS. In the *manège*, the artificial motions taught horses, as the demivolt, curvet, capriole.

AIR-SACS, certain receptacles of air in birds, or vesicles lodged in the fleshy parts, in the hollow bones, and in the abdomen: they all communicate with the lungs. These are supposed to be for the purpose of rendering the body specifically lighter, and to supply the place of a muscular diaphragm.

AIR-SHAFT, a passage for air into a mine, usually opened in a perpendicular direction, and meeting the adits or horizontal passages, to cause a free circulation of fresh air through the mine. It may be made to communicate with a furnace above.

AIR-THREAD, a name given to the spiders' webs which are often seen in autumn floating in long filaments in the air: they are attached to branches of trees and shrubs, and serve to support the spider when in search of prey.

AIR-TRAP, an opening for the escape of air from drains, or sewers, or pipes.

AIR-VESSELS, spiral ducts or canals in the leaves and other parts of plants, which are supposed to supply them with air, after the manner of lungs in animals.

AISLE (pron. *ile*), Fr. *aile*, from Lat. *ala*, a wing. When a church is divided in its breadth into three parts, the two extreme outward divisions are called *aisles*, and the centre division the *nave* or *middle aisle*, although the last seems im-

proper, and "side aisle" seems a tautology.

AIZOON, a genus of exotics, of which there are several species: three, shrubs of the Cape of Good Hope; one, an annual of the Canary Islands; and another, of Spain. Name αιζωον, from αει, always, and ζωον, alive; the old name for the house-leek (*sempervivum*).

AJARARATH, an old name for lead.

AJUGA, the *bugle*. A genus of plants, of ten species and some varieties. Class *didynamia*, and order *gymnospermia*. Four of the species are British, inhabiting pastures chiefly: they are hardy perennials. "Name altered from the *abiga* (*abigo*, to drive away) of the Latins, a medicinal plant allied to this."—*Hooker*.

AJURU-CATINGA, a species of American parrot: colour green, with eyes of fiery red, encircled with white.

AJURU-CURAU, a species of the American parrot: colour lively green, with a blue crown, the throat and sides of the head of a fine yellow.

AJURU-PARA, a small American parrot, of an elegant green: the beak, legs, and circulets of the eyes, white.

AJUTAGE, the same with *Adjutage* (q. v.).

AKERA, a genus of mollusca, of the order *tectibranchiata*.

AKIS, a genus of coleopterous insects, of the Melasoma family, and Pimeliariæ tribe. Named from ἄκις, a javelin, in reference to their form.

ALA, the wing of a bird, Lat. from αλεω, to enclose. 1. In *botany*: (*a*) The angles which the leaves or their stalks make with the stem or branches of the plant from which they arise are called *alæ* or *axillæ*. (*b*) The two lateral petals of papilionaceous flowers placed between the *vexillium* and the *carina* are called *alæ*. (*c*) The borders formed on the stem of a plant by decurrent leaves are called *alæ*. (*d*) An appendage of some seeds, consisting of a membranous prolongation from the side of the seed. According to the number of these appendages, seeds are distinguished into *monopterygia* (1-winged); *dipterygia* (2-winged); *tripterygia* (3-winged); *tetrapterygia* (4-winged); *polypterygia* (many-winged); and, from their form, *molendinacea* (windmill-winged).—*Hooper*.——2. In *anatomy*, the lobes of the liver, the lateral cartilages of the nostrils, the cartilaginous parts of the ears, are called *alæ*. The term is also applied in the same sense as *axilla*.

ALABASTER, Lat. from ἀλάβαστρον, compounded of α, without, and λαβον, a handle. *See* ALABASTRITES. This name is applied indifferently to two minerals: *calc-sinter*, which is a carbonate of lime, and *gypsum*, which is sulphate of lime. The latter is the alabaster of the ancients, used by them, as it is now, for the purposes of sculpture, as for making small statues, ornamental vases, perfume-boxes, bottles, &c.

ALABASTRI'TES, Lat. from ἀλαβαστρίτης, alabaster-stone: gypsum. Horace calls it *onyx*. Also, among the ancients, a vase without a handle, for holding perfumes; often seen as ornaments on tombstones. Pliny compares them to oblong pearls.

Alabastrites were often made of other materials than alabaster, as lead, gold, coloured glass, terra-cotta, and the common stones of the country.

ALÆ, plural of *ala* (q. v.). In the *ancient Roman architecture*, the *alæ* were recessses or alcoves for conversation or study, surrounded on three sides by seats: their thresholds were of mosaic work. In *malacology*, a species of shell-fish.

ALA'GAO, the local name of a shrub of the Philippine Islands, used by the natives for making cataplasms for diseases of the belly and head, for tumours, &c.

AL'AGAS-OS, a name of the sacrum and coccyx.

ALA'LIA, from αλαλεω, speechless. Defect of articulation.

ALA'LITE, a variety of augite, called also *diopside*; so named by Bonvoisin, from his finding a variety of it near the village of *Ala*, in Piedmont.

ALA-MIRE, in music, the lowest note but one in Guido Aretine's scale.

ALAMODE, Fr. *à la mode*, after the fashion. In *commerce*, a thin, glossy silk, for scarfs, &c. It is often called simply *mode*.

ALANGIA'CEÆ, a natural order of plants closely allied to the myrtaceæ: the typical and only genus is *alangium* (q. v.)

ALANGIUM, a genus of showy Indian trees of two species. Class *polyandria*, and order *monogynia*. Named from *alangi*, the Malabar name of the first known species. The other species is called *angolam* by the natives.

ALA'RIS, Lat. from *ala*. Formed like, or pertaining to, a wing. *Alaris externus*, the external pterygoid muscle, which takes its rise from the wing-like process of the spheroid bone.

ALARM. *Alarm-bell*, a bell rung to give notice of danger, as of fire.——*Alarm-gun*, a gun fired to give notice of an enemy.——*Alarm-post*, a rendezvous appointed in case of defeat, in time of war.——*Alarm-clocks* sometimes have *alarms*, absurdly called *alarums*: they can be so adjusted as to give notice of the hour at any time wanted.

ALARMWATCH, a watch that strikes the hours.

ALASMODON, a genus of shells of the fa-

mily unionidæ, having two cardinal and no lateral teeth.

Alasmodo'ntinæ, a sub-family of unionidæ; the typical genus is the *alasmodon*.

Alate, Lat. *alatus*, winged: having dilations like wings. Applied: 1. In *botany*, to stems and leaf-stalks when the edges and angles are longitudinally expanded into leaf-like borders.——2. In *conchology*, to shells having an expanded lip, or when any portion of them is much expanded.

Alau'da, the generic name of the lark: a granivorous bird which builds on the ground, and generally sleeps there. There are several species: the sky-lark (*A. arvensis*), is universally known by its perpendicular mode of soaring, and powerful song; and the crested lark (*A. cristata*), is well known for the power it has of erecting the feathers on the top of the head into a tuft. Name, from *ad*, and *laudo*, to praise. It is classed among the *conirostres* by Cuvier, in the order *passerinæ*.

Alba, } Lat. *albus*, white. A vestment
Albe, } worn by priests of the Roman Catholic church. It differs from the surplice in fitting more closely to the body, and being tied with a girdle.

Alba-Firma, anciently a rent paid in silver, and not in coin, which was called *black-mail*.

Al'batross, the most massive of all aquatic birds, called sometimes the *great gull*, and *diomedea*, by Lin. The *D. exulans* is the species best known to navigators, who, on account of its size, white plumage, and black wings, and because it is particularly common beyond the tropic of Capricorn, call it the *Cape sheep*. To English sailors, however, it is best known by the name of the *man-of-war-bird*. It is classed in the family of *longipennes*, and order *palmipedes*, by Cuvier. Named from *alcatros* or *alcatross*, by which the early Portuguese navigators designated all oceanic birds.

Albertus, a gold coin of the time of Albertus, archduke of Austria.

Albicore, a marine fish, noted for following ships: named from Port. *albacor*, the little pig.

Albige'nses, } A party of reformers
Albige'nois, } who separated from the Church of Rome in the 12th century. They take their name from *Albigenois*, a small territory in France, where they resided. They are sometimes confounded with the *Waldenses*, but they were prior to them in time, and different from them in some of their tenets, and resided in a different part of France. The Catholics made war upon them, and they gradually dwindled till the Reformation, when the remains of them fell in with the followers of Zwinglius and the Genevan Protestants.

Albinism, the anomaly of organisation, which distinguishes the *albino*. It is regarded as a disease.

Al'bino, (from *albus*, white). A white descendant of black parents, or a white person belonging to a black race. The name was originally given by the Portuguese to negroes who were born mottled with white spots, or whose entire skin was white.

> The whiteness of the albino is not similar to that of the fair European: it is pallid and death-like, communicating a peculiar and very unpleasant appearance to the individual. The hair is white on every part of the body, the iris is of a pale rose colour, the eye cannot bear a strong light, and vision is very imperfect during the day-time. For this reason, the albinos of Africa sleep during the day and go abroad during night, when they see with great accuracy.

Albion, an old name of England still used in poetry: supposed to be given on account of its white chalk cliffs, (*albus*, white.)

Albite, a name of tetarto-prismatic felspar: a variety of felspar in which the alkali is soda instead of potash. It is sometimes gray, green, or red; but generally white, whence its name from *albus*, white.

Albora, a disease of the skin terminating without ulceration, but with fetid evacuations from the mouth and nose: it is described as a complication of morphew, serpigo, and leprosy.

Albuca, *bastard star of Bethlehem*. A genus of shrubaceous plants of 15 species, all natives of the Cape of Good Hope. *Hexandria—monogynia*. Name, from *albucum*, the daffodil.

Albugi'nea, Lat. from *albugo*, the white of the eye. The outer coat or tegument of the eye is called *tunica albuginea oculi* by anatomists, on account of its whiteness. It is otherwise called the *conjunctiva*.

Albugineous, Lat. *albugineus*, pertaining to, or resembling the white of the eye, or of an egg; e. g. albugineous humour is the aqueous humour of the eye.

Albu'go, the white of the eye, from *albus*, white. Technically, a white spot on the corner of the eye, which causes blindness; otherwise called *Leucoma*.

Albula, a genus of fishes of the truttaceous kind. An Indian species (*A. indica*) is called by the Dutch "wit-fish." Another species (*A. nobilis*) is very plentiful in the German lakes.

Album, (*Latin*). Literally anything white. 1. Among the *Romans*, a white table, board, or register, on which the names of public officers and public transactions were written.——2. The term is

new generally used to designate a book originally blank, kept at places of resort, wherein visitors insert their names. Also a book much in fashion, especially among ladies, wherein friends and visitants are *compelled* to insert verses, mottos, &c. Some illustrated annual publications, designed for light reading, are likewise so called, in reference to their similarity to the albums of young ladies.

ALBU'MEN, the white of egg, (from *albus*, white).——1. *Animal albumen.* This substance is one of the chief constituents of all animal solids. The white of egg is almost pure albumen, being combined only with a little water, soda, and saline matter. It abounds in the serum of the blood, the humours of the eye and the fluid of dropsy. From its coagulability, albumen is much used for clarifying liquids; and as it forms precipitates with the solutions of almost all the metallic salts, it is a ready antidote against some of the metallic poisons.—— 2. *Vegetable albumen.* This vegetable principle bears a close resemblance to animal albumen, and, like it, is coagulable by heat. It is procured from gluten, of which it is a constituent. It is never deleterious, however poisonous the plant may be which affords it.

ALBUM GRÆCUM, the white excrement of dogs, sometimes used to soften leather in the process of dressing it, after the depilatory action of lime. It principally consists of phosphate of lime.

ALBURN, the small fish otherwise called *bleak*. It belongs to the order of abdominals, and genus cyprinus: is deemed delicious food, and artificial pearls are sometimes made of its scales. Named from *alburnus*, whitish.

ALBU'RNUM, Lat. *albus*, white. The soft white substance which, in trees, is found between the inner bark and the wood. In process of time it acquires solidity, and becomes itself wood. It is popularly called *sap-wood*.

ALCA, a genus of birds including the *auk* and *puffin*. These birds inhabit the northern seas: their wings are too small to support them in flying, which they, therefore, do not attempt; but live on the ocean and breed on the rocks. They belong to the brachypterous family of palmipedes. Twelve species are enumerated. The name *alca* is latinised from *aik* or *auk*, the name of these birds in the Feroe Islands and the north of Scotland.

ALCABA'LA, } a tax formerly imposed in
ALCAVA'LA, } Spain and her colonies, consisting originally of 10, and subsequently of 14 per cent., ad valorem, on all property sold as often as it changed hands.

ALCAIC, in *ancient poetry*, a term applied to several kinds of verse, from *Alcæus*, their inventor. The following are specimens:

1. Eheu! | fuga | ces, | Postume, | Postume,
   Labun | tur an | ni! | nec pie | tas moram.
2. Afferet | indom | tæque | morti.
3. Cur timet fla | vum Tiberim | tangere,
   cur | olivum?

ALCAID, } in the polity of Spain and
ALCALDE, } Portugal, a magistrate answering nearly to our justice of the peace: the Moors have an officer of the same name, but he is invested with supreme jurisdiction both in civil and criminal cases. The title is written in Spain *alcayde;* in Portugal *alcaide;* the common root of which is Ar. *kaidon*, governor, with the prefix *al*, the; hence also the *cadi* of the Turks.

ALCALIMETER, a graduated glass to be employed in determining the quantity of alkali in the potash and soda of commerce.

ALCAMPHORA, a Brazilian herb, the *croton perdicipes* of botanists. The leaves are used in decoction against syphilis, and as a diuretic.

ALCANNA, the Arabic name of three plants. (1.) The *Lawsonia inermis.* (2.) A species of *filaria.* (3.) The *anchusa tinctoria.* It is also the name of a powder prepared from the Egyptian privet, used by the Turkish females to give a golden colour to the nails and hair.—Infused in water it gives a yellow, in vinegar a red, colour.

ALCANTARA, the name of a town in Spain, from which the military order of the knights of Alcantara took its name, otherwise called the knights of the pear-tree.

ALCARAZZAS, a species of porous earthen ware, made in Spain, for cooling liquids by promoting evaporation of the transuded water upon the external surface.

ALCAVALA, in *Spain*, a tax on the transfer of every kind of property, real or personal. To this tax, which has been as high as 14 per cent., and which is levied on the same property at every transfer, is perhaps to be traced the real cause of the ruin of Spanish manufacturers.

ALCE, the elk. Name from ἀλκὴ, strength.

ALCEA, the hollyhock: a genus of plants. Class *monodelphia*, order *polyandria*. Name ἀλκέα, given by Pliny to a species of mallow.

ALCEDO, the king-fisher: a genus of tenuirostres of the order *passerinæ*. There are numerous species of this genus, with one or other of which almost every part of the world is furnished. They frequent rivers, feed on fish, which they capture by precipitating themselves into the water, and nestle in holes on the

banks. Blue is the predominating colour; the wings and tail are short, the beak long, straight, angular, and pointed.

The bird known to the ancients by this name, is described as little bigger than a sparrow; feathers purple, mixed with white, neck long and slender, bill green, and proportioned in length to the neck. During her incubation, which was in the sands of the sea-shore, the sea remained perfectly calm: these days, forty in number, were thence called *Alcydonidæ*, or *Halcyonei dies*, that is "halcyon days." *See* HALCYON.

ALCHEMIL'LA, the generic name of *ladies'-mantle*, of which there are seven species, and three of these British. Class *tetrandria*, order *monogynia*. Named from Arabic, *alkemelyeh*, on account of its supposed alchemical virtues.

ALCHEMY, a pseudo-science, which had for its object the transmutation of the baser metals into gold and silver—the discovery of an alkahest or universal menstruum—a panacea or universal remedy—a universal ferment, and many other things equally ridiculous. It was much cultivated in Europe during the 16th and 17th centuries, and, notwithstanding the chimerical nature of its objects, we are indebted to its followers for many important discoveries in chemistry and medicine. The earliest notice that we find of alchemy, is in an edict of the Roman emperor Diocletian, commanding all books which treat of the art of making gold and silver to be burned. The term is composed of the Arabic *al*, the, and *kēmya*, secret, from *kamay*, to hide.

ALCIOPA, a genus of articulata, of the order *dorsibranchiata*, of Cuvier.

ALCMANIAN, pertaining to Alcman, a lyric poet of the 27th Olympiad, celebrated for his amorous verses.—*Alcmanian verse* consists of two dactyls and two trochees.

AL'CO, an American quadruped nearly resembling the dog, but mute and melancholy. This circumstance has given rise to the fable, that dogs transported to America become mute. The animal was used as food by the native tribes and the first Spanish settlers, but it is said now to be extinct. It is known also by the name of *zechichi*.

ALCOATES, } definite compounds of
ALCOHOLATES, } alcohol and various saline substances: discovered by Professor Graham. The alcohol seems simply to replace the water of crystallization.

AL'COHOL, a word compounded of Arabic, *al*, the, and *kŏhol*, a paint for the eyebrows. Sulphuret of antimony reduced to a very fine powder is used for this purpose by eastern ladies, and is called *al kŏhol*; *alcohol* came ultimately to signify anything raised to the highest degree of fineness and purity, and (in Europe) now designates the purely spirituous part of liquors which have undergone the vinous fermentation. It is light, transparent, colourless, of a sharp, penetrating smell, and a warm stimulating taste. It cannot be frozen by any known degree of cold, and boils at 174° Fah., sp. gr. ·792, but the strongest spirit obtained by mere distillation is ·820; and alcohol can rarely be had from the shops less than ·835. Its constituents are 2 atoms of carbon, 3 of hydrogen, and 1 of oxygen. When distilled with sulphuric acid, ether is produced. Alcohol burns with a pale flame, producing carbonic acid and water. It gives no smoke.

ALCOHOLIZA'TION. 1. Conversion into alcohol. 2. Rectification of spirit till wholly dephlegmated. 3. Reduction of a substance to an impalpable powder.

ALCOHOL'OMETER, } an instrument for
ALCOHOL'IMETER, } ascertaining the amount of absolute alcohol in a given quantity of alcoholic fluid. Sike's hydrometer is generally used in England for this purpose.

AL'COR, a small star adjoining to the large bright one in the middle of the tail of ursa major. The word is Arabic.

AL'CORAN, *see* ALKORAN.

ALCO'VE, a part of a room, separated by an estrade or partition of columns, or by other corresponding ornaments, in which is placed a bed of state, and sometimes seats for company. The use of alcoves, as well as the word, which we have altered from *alcoba*, seems to have been derived from the Spanish builders, and by them from their Arabian conquerors. They have fallen into disuse.

The Sp. word is from Ar. *al kubbeh*, a place for the bed, the root of which is *khaub*, sleep.

AL'CYON, a trivial name of the kingfisher. *See* ALCEDO.

ALCY'ONITES, spongiform flint fossils common in the chalk formation.

ALCY'ONIUM, a genus of polypi, placed in the family corticati, by Cuvier. The animal grows in the form of a plant: the stem or root is fixed, fleshy, gelatinous, spongy, or coriaceous, with a cellular epidermis penetrated with stellated pores, and shooting out tentaculated oviparous hydræ. The best known species is that popularly called "Dead Man's Hand," *A. digitatum*, Lin.

ALDEBA'RAN, a star of the first magnitude in the constellation Taurus, called also the Bull's eye. Term, from Ar. *al*, the, and *dĕbrân*, a leader.

ALDEHYDE, a newly-discovered, colourless, inflammable liquid, having a peculiar ethereal smell; sp. gr. ·79; boils at 71° Fah. It is named from the first syllables of *al*cohol and *dehy*drogenatus, and may

be prepared by distillation from 1 part of water, 1 part of alcohol, 1½ binoxide of manganese, and 1½ of aqueous sulphuric acid. Symbol. OC^3H^3.

ALDEHYDIC acid is prepared from aldehyde, and is composed of oxygen, hydrogen, and carbon.

AL'DER, a tree which usually grows in moist or boggy places: it is the *Betula alnus* of the botanist, and is a native of Europe, from Lapland to Gibraltar; and of Asia, from the White Sea to Mount Caucasus.

ALDERMAN, from Sax. ald, old, aldeft, older, and man. 1. Among our *Saxon ancestors*, the second order of nobility: it answered to our title of *earl*, it was inferior to *atheling*, but superior to *thane*. The title was also used in the time of Edgar for a justice or judge.——2. In *present usage*, a magistrate or officer of a town corporate, next in rank below the mayor. In London there are 26 aldermen, each having one of the wards of the city committed to his care. The office is for life. They are, by their office, justices of the peace, and, with the mayor, constitute the court of corporation. In other boroughs, the aldermen are, by 5 & 6 W. 4, c. 76, to be in number one-third of the councillors, one part to be elected triennially from among the councillors.

ALDINE EDITIONS, in *bibliography*, those editions of the Greek and Roman classics which proceeded from the press of the family of Aldus Manutius, first established at Venice, not long after the year 1490. The impress is an anchor and dolphin engraved on the last page.

ALE, a fermented liquor made from malt and hops, and chiefly distinguished from beer, made of the same ingredients, by a smaller quantity of hops being used in its preparation, which renders it less bitter, and less fitted to keep than beer. The word is altered from Sax. *eale*. *See* BEER.

ALEATO'RIUM, in the old Roman architecture, an apartment appropriated to the use of players with dice (*aleæ*).

ALE-CONNER, an officer in London, whose business it is to inspect the measures used in ale-houses, &c. The situation is now a sinecure. *Conner*, from Sax. *con*, to see, examine.

ALECTOR, the generic name of the *Hocco*. "The *hoccos* are large gallinaceæ of America, which resemble turkeys, with a brown, round tail, formed of large stiff quills. They live in woods, feed on buds and fruits, build on trees, and are very social and easily domesticated." Name, ἀλεκτωρ, the cock, for what reason uncertain.

ALECTO'RIA, the *alectorius lapis* or *cock-stone* (ἀλεκτωρ, a cock): a peculiar stone, said to be got in the stomach of the cock, and fabled to possess great medicinal virtues.

ALECTORIDES, a tribe of gallinaceous birds, including the curassow, and analogous species. Typical genus Alector (q.v.).

ALEE. In *nautical language*, when the helm is moved over to the lee-side, it is said to be *alee* or *hard alee*.

ALEHOOF, a name of a species of *ground-ivy*; the *Glechoma hederacea* of Lin. The leaves are used in clarifying ale. The name is Dutch, *eiloof*.

ALEMBIC, from Ar. *al*, the, and *umbeq*, a kind of cup. A chemical vessel used in distilling, called also a *Moorshead*. It is made of glass, metal, or earthenware; consists of a bottom part, called the *cucurbit* or boiler, to which is adapted a head, called the *capital*. The head is of a conical figure, and has its external circumference or base depressed lower than its neck, so that the vapours which rise, and are condensed against its sides, run down into the circular channel formed by the depressed part, from whence they are conveyed by a tube into a receiver.

ALEM'BROTH, salt of wisdom. The alchemists gave this name to a preparation made by dissolving equal parts of corrosive sublimate and sal ammoniac in distilled water, and adding carbonate of soda as long as any precipitate was formed. This precipitate is the *sal alembroth*: a hydrochlorate of mercury and ammonia, and the same with the *hydrargyrum præcipitatum album*, or white precipitate of mercury of the present London pharmacopœia. The word is Arabic, and signifies the *key of art*.

ALEPIDOTE, any fish whose skin is not covered with scales (ἀλεπις, without scales).

ALE-SILVER, a duty paid to the Lord Mayor of London by sellers of ale within the city.

ALE-TASTER, an officer appointed in every court-leet, and sworn to inspect ale, beer, and bread; and examine the quality and quantity within the precincts of the lordship.

ALETRIS, a genus of exotic perennials, of eight species, belonging to the class *hexandria*, and order *monogynia*.

ALEURITES, the generic name of a South Sea shrub, which belongs to the class *monœcia*, and order *monodelphia*. Name, from ἀλευρον, flour.

ALEXANDRIAN SCHOOL, an academy of learning of all kinds, founded at Alexandria, by Ptolemy, son of Lagus, and supported by his successors. The grammarians and mathematicians of this school were particularly celebrated. Among the first may be mentioned Aristarchus and Aristophanes; and among the latter Ptolemy and Euclid.

ALEXAN'DRINA, the bay-tree or laurel of Alexandria: is so called from the place of its growth.

ALEXAN'DRINE, } An epithet applied to
ALEXAN'DRIAN, } a kind of verse, consisting of 12 and 13 syllables alternately; so called from a poem, in French, on the life of Alexander the Great. The French tragedies are generally composed of Alexandrines.

ALEXIPHAR'MIC, from αλεξω, to expel, and φαρμακον, poison. Antidotal: that has the power of expelling poison or infection by fortifying the system against it.

ALGA, a sea-weed. *Algæ* (plural of *alga*) is the name of one of the seven *families*, or natural tribes, into which the whole vegetable kingdom is divided by Linnæus, who defines them as plants, the roots, leaves, and stems of which are all in one. Under this description are comprehended all the *sea-weeds* (plants which grow in salt-water), and such fresh-water plants (CONFERVÆ) as vegetate exclusively under water. The *algæ* form the third order, the class *cryptogamia*.

ALGARO'BA, the name of a tree found in the southern parts of Europe and in some parts of Asia, especially Palestine. Its pods are filled with a sweetish powder, which is supposed to have been the locusts on which St. John fed in the wilderness. Name, from Arabic, *al*, the, and *garoba*, a bean-tree.

AL'GAROTH. When chloride of antimony (butter of antimony) is poured into water, the metallic oxide is precipitated in the form of a white powder, which is *powder of Algaroth:* it is, therefore, a subchloride of antimony. It acts as a violent emetic, and takes its name from Victor Algarotti, a physician of Verona.

ALGEBRA, the science of quantity in general or universal arithmetic: it treats of the method of representing magnitudes and their relations to one another in general terms, by means of symbols and signs respectively; and by such method of representation, it comprises all particular cases of quantities, and their connection with each other, in general language, dependent upon the nature of the questions in which they are involved. The symbols employed are the letters of the alphabet, and the signs are, + for addition; −, for subtraction; =, for equality, and >, for inequality; ×, is sometimes used for multiplication; and ÷, for division: but the use of these signs is generally evaded by more concise modes of denoting the operations for which they stand.

"*Algebra* is the European corruption of an Arabic phrase, which may be thus written—*al jebre al makabalah*, meaning *restoration and reduction*. The earliest work on the subject is that of Diophantus, a Greek of Alexandria, who lived between A.D. 100 and A.D. 400, but when cannot be well settled, nor whether he invented the science himself or borrowed it from some eastern work. It was brought among the Mahometans by Mohammed ben Musa (Mahomet, the son of Moses), between A.D. 800 and A.D. 850; and was certainly derived by him from the Hindoos. The earliest work which has been found among the latter nation, is called the *Vija Genita*, written in the Sanscrit language, about A.D. 1150. It was introduced into Italy, from the Arabic work of Mohammed, just mentioned, about the beginning of the 13th century, by Leonardo Ronacci, called Leonard of Pisa; and into England by a physician, named Robert Recorde, in a book called the *Whetstone of Witte*, published in the reign of Queen Mary, in 1557."—*Augustus De Morgan.*

ALGEBRA'IC, } Pertaining to algebra;
ALGEBRA'ICAL, } containing an operation of algebra, or deduced from such an operation. Thus an algebraic curve is one of which the relation between the abscissa and ordinates is expressed by an equation which contains only algebraic quantities: in contradistinction to a *transcedental curve*, in which the relation is expressed in infinite series. *See* also EQUATION and QUANTITY.

AL'GENEB, a star of the second magnitude, on the right shoulder of Perseus.

AL'GOL, a star of the third magnitude, called Medusa's head, in Perseus.

AL'GORAB, a star of the third magnitude on the right wing of Corvus.

AL'GUAZIL, an officer in Spain, corresponding to the bailiff in England.

ALHA'GEÆ, a tribe of plants in the natural system; type *alhagi*.

ALHA'GI, the prickly hedysarum; a shrub of the Levant. Name altered from the Arabic name *Algul* or *Aghul*.

ALIAS the Latin word for *otherwise:* a term used in judicial proceedings to connect the different names by which a person is called, who has assumed fictitious ones.——*Alias* is also the name of a second writ, issued when the first has failed to enforce the judgment, as an alias capias, &c.

ALIBI, the Latin word for *elsewhere;* a law term used where a person charged with an offence, pleads that he could not have committed it, because he was at the time *elsewhere*. The part of a plea which avers the party to have been elsewhere, is also called an *alibi*.

ALICO'NEDA, a large tree found in Congo, from the bark of which a kind of flax is manufactured.

AL'IDADE, an Arabic name for the index

which moves about the centre of an astrolabe or quadrant, carrying the sights of the telescope, and showing the number of degrees and minutes of altitude on the quadrated limb of the instrument.

A'LIEN, from Lat. *alius*, another. In *law*, a foreigner: one not within the allegiance of the sovereign; opposed to *denizen*.

In France, a child born of residents who are not citizens is an *alien*. In Britain, the children of aliens born in that country are natural-born subjects; and the children of British-born subjects, owing allegiance to the crown of England, though born in other countries, are naturalised subjects, and entitled to the privileges of resident citizens.

ALIENA'TE, Lat. *alienatus*. Applied to leaves of plants, when the first leaves give way to others totally different from them.

ALIENA'TION, in *law*, denotes the act of making over a man's property in lands, tenements, &c. to another person.

To *alien* or *alienate in fee*, is to sell or convey the fee-simple of lands, &c.

ALIEN-DUTY, a tax upon goods imported by aliens, beyond the duty upon like goods imported by citizens; a discriminating duty on the tonnage of ships belonging to aliens; or any extra duties imposed by law on aliens.

ALIENATION-OFFICE, an office to which all writs of covenant and entry, on which fines are levied and recoveries suffered, are carried, to have fines for alienation set and paid thereon.

AL'IMENT, from Lat. *alimentum*, nourishment. In *Scotch law*, the natural obligation of parents to provide for children, is termed the *obligation of aliment*.

ALIMENTARY-CANAL, } a name given to
ALIMENTARY-DUCT, } the whole conduit through which the food passes from the mouth to the anus. The presence of this duct may be said to form the true characteristic of the animal. The thoracic duct is sometimes so called.

ALIMENTARY-LAW, among the *Romans*, a law that obliged children to support their parents, when they were unable to provide for their own sustenance.

ALIMONY, Lat. *alimonia*, from *alo*, to feed. An allowance made to a woman legally separated from her husband, when she is neither charged with elopement nor adultery. The sum is fixed by the proper judge, and granted out of the husband's estate.

ALIPED, wing-footed, from *ala*, a wing, and *pes*, a foot. *Substantively*, an animal whose toes are connected by a membrane, and which serve for wings, e.g. the bat is an aliped.

ALIQUANT, from Lat. *aliquantum*, a little. In *arithmetic*, an aliquant number is one which does not measure another exactly, e.g. 6 is an *aliquant* part of 20, for 6 does not divide 20 without leaving a remainder.

ALIQUOT, from Lat. *aliquoties*, sometimes. In *arithmetic*, an aliquot part of a number is one which measures it a certain number of times; e.g. 7 measures 21, and is therefore called an *aliquot part* of 21. *See* MEASURE.

ALIS'MA, the *water-plantain*; a genus of plants of the class *hexandria*, and order *polygynia*. There are five British species, all hardy perennials, inhabiting the margins of lakes, rivers, ditches, &c., whence the name, from Celtic *alis*, water.

ALISMA'CEÆ, an order of aquatic plants in the natural system; typical genus *alisma*.

ALI-TRUNCK, } in entomology, the pos-
ALITRUNCUS, } terior segment of the thorax to which the abdomen of the insect is affixed, and which carries the legs, properly so called, and the wings.

ALIZA'RINE, a substance extracted from madder, and believed by some to be the dyeing principle of the root. It is, however, to be observed, that the richer madders of Avignon afford little or no alizarine; and that the *purpurine*, from which the alizarine is immediately procured, is a richer dye than the *pure* substance itself. The term is derived from *ali-zari*, the commercial name of madder in the Levant.

ALKAHEST, a term used by Paracelsus to signify a liquid capable of removing every kind of obstruction; and by Van Helmont, to designate a universal solvent, capable of reducing every substance in nature to a state of purity. The preparation of this wonderful fluid was one of the chief objects of alchemy. *Query.*—If it dissolves all substances, in what vessels could it be contained?

The term is usually derived from the Arabic, but others maintain that Paracelsus compounded it of the German words *all* and *geist*, spirit; others, again, assert, that it is nothing more than a corruption of *alkali est*, so that the etymology appears as difficult as the preparation of the wonderful fluid of which it is the name.

ALKALI, } from Arabic *kali*, with the
ALCALI, } common prefix *al*, the plant called glasswort (from its use in the manufacture of glass), or rather the salt obtained from the ashes of the plant. A general name in *chemistry* for all bodies which combine with acid, so as to neutralise or impair the activity of the latter, and produce certain saline substances, differing in their properties from either. The name was formerly confined to the three substances *potash*, *soda*, and *ammonia*, but it is now extended to nu-

merous other substances, and these are become the representatives of three classes of alkalies, the *vegetable*, *mineral*, and *animal*. The first two are called *fixed alkalies*, and the third is called *volatile alkali*. They have these properties in common: they change the vegetable purples and blues to green, the reds to purple, and the yellows to brown, both before and after being saturated with carbonic acid; they are powerful solvents of animal matter, with which, as with fat of oil, they combine, and form soap.

Al'kalimeter, an instrument for ascertaining the amount of absolute alkali in commercial potash and soda by the quantity of acid of a known strength which a given weight of it will neutralise.

Al'kaloid, from alkali, and εἶδος, like. A substance possessing some of the properties of an alkali. The name is applied to a large class of vegetable substances possessed of alkaline properties, and which are more commonly designated *vegetable alkalies*. These generally consist of carbon, oxygen, hydrogen, and nitrogen, and possess great medicinal activity.

Al'kanet, the plant bugloss (*Anchusa tinctoria*), the root of which yields a fine red colour to alcohol, oil, wax, and all unctuous substances. The colouring matter is confined to the bark: it is named by chemists *alcannine* or *anchusic acid*. The name is altered from *alkenna* (q. v.).

Alkeken'gi, the Arabic name of the winter cherry (*Physalis alkekengi*). The berry is medicinal.

Alken'na, the *Egyptian privet*, (a species of Lawsonia), the pulverised leaves of which are much used in eastern countries for staining the nails of the fingers yellow. The powder being wetted forms a paste which, bound on the nails for a night, gives colour enough to last for several weeks. The name is Arabic, *al*, the, and *kénny*, a dye.

Alker'mes, an Arabic name of a celebrated remedy in the form of a confection, of which *kermes* (q. v.) forms the basis.

Alkoo'hl, Alkoo'l, a preparation of antimony (black sulphuret), used by oriental ladies to tinge their eyelids, eyelashes, and eyebrows of a black colour.

Al'koran, (from Ar. *al*, the, and *koran*, book, that is, *the book*, by way of eminence, as we say *the bible*. The book which contains the Mohammedan doctrines of faith and practice. It was written by Mohammed in the dialect of the Koreish, which is the purest Arabic; but the languages of Arabia have suffered such changes since it was written, that the book is no longer intelligible to the Arabians themselves, without being studied like any other book written in a dead language. The great doctrine of the koran is the unity of God; that there never was, and never can be more than one orthodox religion; that the ceremonies of worship are only temporary, and may be altered by divine direction, yet the substance being eternal truth continues immutable; and that whenever religion became corrupted in essentials God in his goodness re-informed mankind by his several prophets, of whom Moses and Jesus Christ were the most distinguished, till Mohammed, who is their seal, and no other is to be expected after him.

Alkor'anist, one who adheres strictly to the letter of the koran, rejecting all comments. The Persians are alkoranists. The Arabs, Turks, and Tartars admit many traditions.

All, the whole. *All in the wind* is a phrase which expresses the state of a ship's sails when they are parallel to the direction of the wind.——*All hands ahoay!* the phrase by which a ship's company are summoned on deck.

Allagite, a mineral of a brown or green colour; massive, semi-opaque, fracture conchoidal; it is a carbo-silicate of manganese.

Allah, the Arabic name of God, compounded of the particle *al* and *elah*, adorable, i. e. the Adorable.

Alla Breve, *Italian*, according to the breve. In *music*, the name of a movement whose bars consist of the note called a breve. It is denoted at the beginning of a staff by a C with a vertical line through it.

Allaman'da, the generic name of a shrub of Guiana, the leaves of which are used at Surinam as a specific for colic. *Pentandria—Monogynia.*

Alla Capella, *Italian*, literally, according to the chapel. In *music*, the same as Alla breve (q. v.), this time being principally employed in movements used in the church or chapel.

Al'lanite, a mineral named in honour of Mr. Thomas Allan of Edinburgh. It is a siliceous oxide of cerium, and is found in Greenland.

Allanto'ic, pertaining to the *allantois*. The *allantoic acid* is obtained from the fluid of the allentois. The same acid was formerly called the *amniotic acid*, being supposed to exist in the *liquor amnii* of the cow.

Allanto'id. The allantois is also called the *allantoid membrane*.

Allanto'is, from αλλα, a sausage, and εἶδος, likeness. A thin membrane which exists in most of the *mammalia*, situated between the chorion and amnion, and communicating with the bladder of the canal called the *urachus*: it contains the urine of the fœtus.

Allantox'icon, from αλλας, a sausage,

and τοξικον, poison. A poison developed in putrid sausages made of blood and liver.

ALLEGA'TION, in *ecclesiastical courts*, a formal complaint or declaration of charges. In *law*, the production of instruments or deeds to justify something.

ALLEGIANCE, the duty or fidelity of a subject to his sovereign or government.—The *oath of allegiance* is that taken in acknowledgment of the temporal authority of the sovereign, as the *oath of supremacy* acknowledges the sovereign to be the supreme head of the church. The term is old Fr. from Lat. *alligo*, of *ad* and *ligo*, to bind.

AL'LEGORY, from αλληγορια, of αλλος, other, and αγορευω, to speak. A figurative sentence or discourse, wherein something else is signified than the words in their literal meaning express. The principal subject is thus kept out of view, and is described by another subject, which is represented so as to bear some resemblance to it in properties and circumstances. The reader or hearer is thus left to collect the meaning from the resemblance which he can find between the secondary and the primary subject.

ALLEGRE'TTO, in *music*, denotes a movement of time quicker than *andante*, but not so quick as *allegro*. *See* ALLEGRO.

ALLEGRISSIMO, in *music*, means very lively. *See* ALLEGRO.

ALLEGRO, Ital. from *leggiere*, to be merry. In *music*, a word denoting a brisk movement; a sprightly part or strain. There are two other degrees of the same: *allegrissimo*, very lively; *allegretto*, or *poco allegro*, a little lively. The word *più*, more, is sometimes prefixed to strengthen the meaning.

ALLELU'IAH (in Heb. הללד-יה, praise to Jah). Praise to Jehovah: a word used to denote pious joy and exultation, chiefly in hymns and anthems. The Greeks retained the word in their Ελελευ Ιη, praise to Io; probably a corruption of *Jah*. The Romans retained the latter word in their *Io* triumphe.

ALLELUIAH, a name given to wood sorrel (*oxalis acetosa*). It was so called, because the alleluiah was sung in the church at the time when its leaves first appeared above ground.

AL'LEMAND (French). In *music*, a slow air in common time, or grave, solemn music with a slow movement. Also the name of a brisk dance common in Germany and Switzerland.

ALLE'RION, in *heraldry*, an eagle without beak or feet, with expanded wings, denoting imperialists vanquished and disarmed. The word is also written *alerion*.

ALL-FOURS, a game at cards played by two or four persons; so called from possession of the four honours by one person, who is then said to have *all fours*.

ALL-HALLOWS, all-saints'-day: the first day of November, dedicated to all the saints in general.

ALL-HEAL, a popular name of several plants; e. g. a species of hedge nettle (*stachys palustris*), is called "clown's all-heal;" and a species of St. John's wort (*hypericum androsæmum*), has the name of all-heal, besides several others.

ALLIA'CEOUS, pertaining to garlic (*allium*): having the properties of garlic.

ALLIANCE. 1. In *civil* and *canon law*, the relation contracted between two persons or two families by marriage.——2. In *politics* and *international law*, a treaty entered into by sovereigns or states, for their mutual safety and defence, or for the purpose of attacking some other state, or for both; sometimes also the instrument of confederacy.—The term is Fr. *alliance*, the root of which is *lier*, to unite.

ALLIGATION, Lat. *alligatio*, of *ad* and *ligo*, to bind. A rule in arithmetic to find the value of compounds, consisting of ingredients of different values. It is divided into two kinds. 1. *Alligation medial* is when the price and quantities of several simples, which are to be mixed, are given to find the mean price of the mixture.——2. *Alligation alternate* is when the prices of several things are given to find the quantities which must be taken of them to make a mixture of a given mean price.

AL'LIGATOR, a species or rather subgenus of the crocodile family of reptiles; to which belongs the *crocodilus lucius* of Cuvier. The animal belongs to the lizard order (*sauria*, Cuv.), has a long naked body, four feet, five toes on each fore foot, and four on each hind one, armed with claws, and a serrated tail. The mouth is very large and furnished with sharp teeth; the skin is brown, tough, and on the sides covered with tubercles. The larger of these animals grow to the length of 17 or 18 feet; they live in and about the rivers of the southern parts of North America; eat fish, catch hogs on the shore, or dogs when swimming. In winter they burrow in the mud, and remain torpid till spring. Name altered from *allagarto*, from Sp. and Port. *lagarto*, a lizard.

ALLIGATOR-PEAR, a West Indian fruit, resembling a pear in shape. It is the fruit of the *Laurus Persea* of Linnæus.

ALLIN'EMENT, from Fr. *alignement*, a squaring, a row, from *ligne*, a line.

ALLIOTH, a star in the tail of the Great Bear (*ursa major*), much employed in finding the latitude at sea.

The Arabs gave the name of *Aliioth* or *Alliuth*, meaning "the horse," to each of the three stars in the tail of the Great Bear, on account of their appear-

ing like three horses, ranged for drawing the waggon represented by the four stars called Charles' Wain.

Al'lium, garlic; a genus of plants of the class *hexandria*, and order *monogynia*. There are upwards of 60 species, almost all of which are hardy perennials. Eight species are British. The *A. porrum*, or leek, and the *A. cepa*, or onion, are perhaps among the most useful of the species; and the *A. Canadense*, or Canada onion-tree, which bears excellent eatable onions on the top of the stalk, is perhaps the most remarkable. Name latinized from Celtic *all*, acrid.

Alloca'tion, from Lat. *ad* and *loco*, to place. The admission of an article of an account, or the allowance of an account, in the English Exchequer. The certificate of allowance of cost of taxation, granted by the master or other officer of court, is in practice termed an *allocatur*. The writ *de allocatione facienda* is directed to the Lord Treasurer or Barons of the Exchequer, commanding them to allow an accountant such sums as he shall lawfully expend in the execution of his office.

Allochroite, a variety of the dodecahedral garnet. It is found massive, of a green, brown, gray, or yellowish colour; lustre, glimmering. Name, from αλλος, other, and χροια, colour, expressive of the changes of colour it undergoes before the blow-pipe, by the action of which it is finally converted into a fine black enamel.

Allodial, pertaining to *allodium* (q. v.), and opposed to *feudal*.

Allodium, freehold estate: land which is the absolute property of the owner: real estate held in absolute independence, without being subject to any rent, service, or acknowledgment to a superior: opposed to *feud*. In England there is no allodial land, all land being held of the sovereign: in the United States of America, most lands are allodial. The word is probably latinised from Celtic *allod*, that is, *all*, complete, and *od*, possession.

Allonge, from Fr. *allonger*, to lengthen, to thrust.——1. A pass with a sword made by stepping forward and extending the arm.——2. A long rein when a horse is trotting in hand.

Allo'pathy, Lat. *allopathia* of αλλος, other, and παθος, disorder. The effect of a medicine which cures a diseased action by inducing another: opposed to *homœopathy*.

Allophane, a mineral of a blue, green, or brown colour; occurs massive, or in imitative shapes. It is hard and brittle, and gelatinizes in acids. Name, from αλλος, other, and φαινω, to appear.

Allotment of Lands. Any piece of land set apart for a special purpose is called an allotment. Thus, when a cottage has more land than suffices for a garden, it is commonly called a cottage allotment.

Allotriophagy, from αλλοτριος, extraneous (things), and φαγω, I eat. A desire to eat what is improper for food, depraved appetite: symptomatic of disease.

Allowances. In selling goods, or in paying duties upon them, certain deductions are made from their weights, depending on the nature of the packages in which they are inclosed, and which are regulated in most instances by the custom of merchants, and the rules laid down by public offices. These deductions are termed *allowances*; and are further distinguished by the epithets *Draft*, *Tare*, *Tret*, and *Cloff*, which see in their places.

Alloy', from Fr. *alloyer*, to mix one metal with another, perhaps from *à la loi*, the proportions being regulated by law; but more probably from *allier*, to unite. To *alloy* is to mix one metal with another by fusing them together: the compound formed is called an *alloy*. Formerly the term was restricted to compounds formed of gold and silver, with other metals of inferior value, but it is now extended to any compound of any two or more metals whatever, except when one of the constituents is mercury: the term *amalgam* is then used to denote the compound. Brass, bronze, and type metal are familiar instances of alloys. When a metal of inferior value is used to deteriorate another metal, as gold, the inferior metal is sometimes distinguished as the *alloy*. Thus, when gold is alloyed with copper, the copper is called the *alloy*, although strictly the term is referable to the compound. Thus our gold coin is an alloy, consisting of 11 parts pure gold and one part copper; and our silver coin is likewise an alloy, consisting of 11·1 silver and 0·9 copper. The silver alloy used for plate is the same as that used for coin, and the purity is guaranteed by the assay stamp of the Goldsmiths' Company. To produce an alloy of two metals, they must be fused together. *Alloy* is sometimes written *allay*.

All-saints, the first day of November, called also *All-hallows*.

All-souls, the second day of November, which is set apart by the Romish church, to supplicate for the souls of the faithful deceased.

Allspice, a popular name of the Myrtus pimenta, or more particularly the dried berry of that tree, which has a spicy, pungent, but agreeable aromatic taste. It is a native of Jamaica, and is thence called Jamaica pepper: similarly, the *Chimonanthus fragrans* of Japan is called the Japan allspice.

Allu'med, Fr. *allumée*, lighted. In he

raldry, applied to the eyes of beasts, when they are drawn sparkling and red.

ALLU'VIAL, composed of alluvion.

ALLU'VION, } Lat. *alluvio*, of *ad* and *luo*,
ALLU'VIUM, } to wash. Detritus, consisting of earth, sand, gravel, stones, or other transported matter, which has been washed away and deposited by water upon land, not permanently submerged beneath the waters of lakes and seas. Alluvion is distinguished by geologists into ancient and modern: the first is characterised by the fossil remains of large extinct mammalia and carnivora; and the second, by the remains of man and contemporaneous animals and plants.

ALMA. 1. An alchemical name for water.——2. In *Egyptian customs*. *See* ALME

ALMADIC. 1. A bark canoe used on some parts of the coast of Africa.——2. A long boat used at Calicut, in India, 80 feet in length, and 6 or 7 broad; called also *cathuri*.

ALMAGES'T, the name of a celebrated book drawn up by Ptolemy; being a collection of the problems of the ancients relative to geometry and astrology. Its original Greek title was Συνταξις Μεγιστη (the *Great Computation*). The Arabians translated it in the ninth century, and prefixed their article *al*, the, to the word Μεγιστη, which, when the work was retranslated into Latin, was corrupted into *Almagestum*; whence English *Almagest*. The best modern edition is that published at Paris in 1813-15, in 2 vols., 4to. It contains the Greek and a French translation, by M. Halma.

ALMA MATER, fostering mother. The name sometimes given to a university by those who have taken their degrees in it.

AL'MANAC, } A small book containing
AL'MANACK, } a calendar of days and months; the rising and setting of the sun; the age, changes, &c., of the moon, eclipses, tides, church festivals, &c., for the ensuing year. The *Nautical Almanac* and *Astronomical ephimeris* is a kind of national almanac, published for every year, by anticipation, under the direction of the Commissioners of longitude: the astronomical calculations are adapted to the meridian of Greenwich. The term is compounded of Arabic *al* and *mânâch*, reckoning, perhaps from μανασος, a lunar circle.

ALMAN'DINE, Fr. *almandine*, It. *alabandina*. A beautiful mineral of a red colour, of various shades: commonly translucent, often transparent. It is usually termed *precious garnet*: the finest crystals are those of Ceylon and Pegu, where they occur in the sand of the rivers.

AL'ME. In *Egyptian customs*, the alme are girls, whose occupation is to amuse company with singing and dancing. They derive their name from having received a superior education to other women.

AL'MEHRALES. In *Mohammedan mosques*, a niche pointing out the direction of the *kebla*, or temple of Mecca, towards which the faithful look during prayer.

ALMOND, the seed or kernel of the nut or fruit of the almond-tree (*amygdalus communis*), which grows spontaneously in warm countries, particularly in Barbary: it nearly resembles the peach. There are sweet and bitter almonds, but they are only distinguishable by the taste and by chemical analysis. Sweet almonds contain 54 per cent. of a fixed oil; bitter almonds contain less of this oil, but they yield instead a bitter poisonous principle, known in chemistry as *amygdaline*.——2. The tonsils, two glands near the basis of the tongue, are called *almonds of the throat*, from their resemblance to that fruit; and the external glands of the neck, situated near the ears, are called *almonds of the ears*.——3. Among *lapidaries*, almonds signify pieces of rock crystal, used in adorning branch candlesticks: they are so called in reference to their form.——4. A measure, by which the Portuguese sell their oil, is called an *almond* (written *almude*): 26 almudes = 1 pipe.

ALMOND-FURNACE, a furnace used by refiners to reduce to lead the slags of litharge, used in refining silver, by the aid of charcoal.

ALMOND-PASTE, a paste made of blanched bitter almonds, white of egg, spirit of wine, &c. It is a cosmetic for softening the skin and preventing chaps.

ALMOND-TREE. *See* AMYGDALUS.

ALMONER, a distributor of alms. By the ancient canons, every monastery was to dispose of a tenth of its income in alms to the poor, and all bishops were obliged to keep an *almoner*. This title is sometimes given to a chaplain, as an *almoner* of a ship or regiment. The *lord almoner*, or *lord high almoner of England*, is an ecclesiastical officer, usually a bishop, who has the forfeiture of all deodands, and the goods which accrue from felo de se, which he is required by his office to distribute among the poor.—The *grand almoner of France* is the first ecclesiastical dignitary, and has the superintendence of hospitals and other charities.

ALMONRY, the residence of the almoner, or the place where the alms are distributed. Hence the words *ambry*, *aumbry*, and Scotch, *aumery*.

ALMS, whatever is given out of charity to the poor. *Tenure by free alms*, or frank-almoign, was that by which the possessor was bound to pray for the soul of the donor, whether dead or alive. By this tenure most of the ancient monasteries and religious houses in England held their

lands, as do the parochial clergy, and many ecclesiastical and eleemosynary establishments at the present day.

ALMUCAN'TAR, the Arabic name of each of a series of circles of the celestial sphere, which are conceived to pass through the centre of the sun or of a star parallel to the horizon. The almucantars are the same, with respect to the azimuths and horizon, which the parallels of latitude are with respect to the meridians and equator.

ALMUCANTAR-STAFF, an instrument of box or pear-tree, having an arch of 15 degrees: formerly used at sea for observing the sun's amplitude at rising or setting, and the variations of the compass.

AL'MUDE, a wine measure in Portugal, of which 26 make a pipe; written also *almond*, (q. v.).

AL'MUG, the Scriptural name of a tree or wood, which the Vulgate translates *lignia thynia;* the Septuagint, *wrought-wood*, and which some consider to be *ebony*. The Rabbins render the word *coral*, but the more common opinion is that it means gummy or resinous wood in general, and perhaps especially the shittim. *See* 1 Kings x. 11.

ALNUDE. *See* ALMUDE.

AL'NUS, the generic name of the alder-tree, of which there are 15 species besides many varieties. Class *monœcia*, order *tetrandria*. The common alder (*A. glutinosa*), is frequent in Britain; inhabits wet meadows and moist grounds. The bark and leaves are employed in dyeing and tanning leather; wood valuable for piles of bridges, &c. Name Latinized of Celtic *al*, near, and *lan*, the river bank "where the alder dank delights to dwell."

ALOE, the name of a genus of plants comprehending upwards of 100 species, some of which are arborescent, others shrubaceous, and some perennials; all natives of warm climates, and most of them of the south of Africa. Class *hexandria*, order *monogynia*. Name aloë, Gr. ἀλόη, of uncertain origin, but perhaps from the Arabic name *alloch*.

> A series of trials has been made within these few years, at Paris, to ascertain the comparative strength of cables made of hemp and of the aloë from Algiers. Of those of equal size, that made of aloë raised a weight of 2000 kilogrammes (about two tons); that made of hemp a weight only of 400 kilogrammes.

A'LOES, the inspissated juice obtained from the leaves of some species of the aloë. It is bitter, gummy, and resinous, and extensively used in medicine. There are four sorts. 1. The *Socotrine aloes*, imported from the island of Socotra, in the Indian ocean: it is obtained from *Aloë spicata*.——2. The *Hepatic aloes* takes its name from its liver colour: it is obtained from the *Aloë vulgaris*, or true aloë, according to Sibthorp, but others believe that it is the produce of the *Aloë perfoliata*. ——3. The *Cabaline* (Horse) *aloes* is merely the coarsest species of the Barbadoes or hepatic aloes. It is extensively used in veterinary medicine.——4. The *Cape aloes* is obtained from the same species of the plant as the Socotrine, but it is of a coarser quality. The use of aloes in medicine is to stimulate the large intestines.

ALOE'TIC, pertaining to the *aloë*, or to *aloes:* containing aloes, e.g. an *aloetic medicine*. Braconnot has given the name of *aloic* or *aloetic acid* to a substance obtained by treating aloes with sulphuric acid; but Chevreuil regards it as an artificial tannin.

ALOFT, in *nautical language*, in the top, at the mast-head, or on the higher yards or rigging.

ALO'GIANS, a sect of ancient heretics, who denied Jesus Christ to be the Λογος, or Word, and, consequently, rejected the gospel of St. John.

ALOGOTRO'PHY, Lat. *alogotrophia*, from αλογος, disproportionate, and τροφη, nutrition. An unequal nutrition of different parts of the body, especially of the bones, in the disease called *rachitis*.

ALOOF, in *nautical language*, the command to the man at the helm to keep the ship near the wind when sailing upon a quarter-wind.

ALOPE'CES, from αλωπηξ, a fox. The psoas muscles are sometimes so called, probably because they are peculiarly strong in the fox.

ALO'PECY, Lat. *alopecia*, of αλωπηξ, a fox, the urine of which is said to occasion baldness. Fox-evil: a disease which is also called scurf: it consists in a falling-off of the hair, from any or every part of the body. The term is now nearly synonymous with *baldness*.

ALOPECU'RUS, the generic name of the *fox-tail grass*. Class *triandria*, order *digynia*. There are 12 species, 6 of which are British, mostly perennial. Name, from αλοπηξ, a fox, and ουρα, a tail; the flowers being arranged in tail-like stalks.

ALO'SA, a fish called the shad (*A. vulgaris*). It is a sub-genus of the clupeæ or herring family, but is much larger and thicker than the *clupea* or herring.

ALPAG'NA, the *Damalus paco* of Lin. and the *Pacos* of Pennant: it is used as a beast of burden in Peru.

ALPHA, the name of the first letter of the Greek alphabet, and *omega*, the name of the last; whence the metaphorical expression, *alpha* and *omega*, meaning the first and the last.

ALPHABET, αλφα and βητα, that is, A and B. The ordinary series of letters or syllables (in syllabic alphabets) of a language. The number of letters differ in

different languages: The Hebrew contains 22 letters; as also the Chaldee, Samaritan, Syriac, Persian, and Æthiopic. The Irish, which is the same as the Pelasgian or Scythian, has only 17; the Greek alphabet, which was brought by Cadmus into Greece from Phœnicia, and was also Pelasgian in its origin, consisted of 16, to which 8 were afterwards added. The ancient Arabic alphabet consisted of 24 letters, but 4 were added, making 28. The Sanscrit (Devanagaree) alphabet contains 100 letters. The Coptic consists of 32, the Turkish of 33, the Georgian of 36, the Russian of 39, the Spanish of 27, the Italian of 20, the Latin of 22, the French of 22 (strictly 28), and the English of 26. The Chinese have no proper alphabet.

ALPHO'NSIN, a surgical instrument for extracting balls from gun-shot wounds; so called from its inventor, Alphonso Ferrius, a Neapolitan physician.

ALPHO'NSINE TABLES, the name given to a set of astronomical tables compiled by order of Alphonsus, king of Arragon, in the first year of his reign (A.D. 1252).

AL'PHUS, from *αλφος*, white. The species of leprosy called vitiligo, in which the skin is rough, with white spots.

ALPIA, AL'PIST. The seed of the fox-tail grass; used for feeding birds.

ALPIN'IA, a genus of exotic perennials, of 15 species, of the class *monandria*, and order *monogynia*. Name, from *alpinus*, elevated, in reference to their favourite situations.

Alpine plants are such low plants as grow naturally in mountainous situations, where they are covered with snow during some part of the year.

ALPIN'IACEÆ, one of the names of the natural order of plants called Zingiberaceæ.

AL'QUIER, a Portuguese measure of capacity, equal to about two gallons; called also a *cantar*. It contains half an almude.

ALQUIFOU, } names of a lead ore found
ALQUIFORE, } in Cornwall, and used by potters to give a green varnish to their wares; hence called *potters' ore*.

ALRU'NÆ, small images carved out of the roots of trees, and held in great veneration formerly among the northern nations. They had the same rank as the penates of the ancient Italians.

AL SEGNO, a direction in written music to return to a former part, where the character 𝄋 appears.

ALSINACEÆ, an order of weedy plants, of which the genus *Alsini* is the type.

ALSINI, the generic name of the *chickweed*, according to Linnæus; but the *A. media*, or common chickweed, is now referred to the genus *Stellaria*. The name is from *αλσος*, a shady place, and *φιλω*, to love.

ALSTO'NIA, the generic name of two species of Indian shrubs, class *pentandria*, order *monogynia*; the one resembles the tea-plant, the other is poisonous. Named in honour of Professor Alston, who first established the genus.

ALSTROEME'RIA, a genus of American perennials, of the class *hexandria*, and order *monogynia*. There are thirteen species.

ALT, } from Lat. *altus*, high. A term
ALTO, } applied in music to that part of the great scale of sounds which lies between F above the treble cleff and G in altissimo.

A'LTAR, Lat. *alta*, *ara*. *See* ARA. 1. An elevated place upon which sacrifices were formerly offered to some deity. Altars were originally of turf, latterly of marble, wood, or horn, and those of the Jews of shittim-wood, and covered with gold or brass. Some altars were round, others square, others triangular; but all faced the east, and there is no doubt but that they are as ancient as the practice of sacrificing.——2. In *modern churches*, the communion-table, or table for the distribution of the eucharist, &c.

A'LTARAGE the profits arising to priests on account of the altar; also altars, erected before the reformation, in virtue of donations, within parochial churches, for the purpose of performing mass, &c. for deceased friends.

A'LTARIST, } In *old law-books*, the
A'LTAR-THANE, } priest or parson to whom the altarage of a church belonged; also a chaplain.

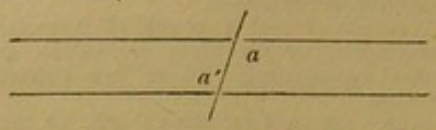
ALTERATIVE, Lat. *alteratus*, causing alteration. Substantively, a medicine which establishes the healthy functions of the body, without sensible evacuation by perspiration, purging, or vomiting.

ALTERN, Lat. *alternus*, of *alter*, other. Alternate: reciprocal. In *crystallography*, exhibiting on an upper and a lower part faces which alternate among themselves, but which, when the two parts are compared, correspond with each other.

ALTERN-BASE, in *trigonometry*, is a term used in contradistinction to the true-base; e. g. in oblique triangles, the true-base is either the sum of the sides, and then the difference is the altern-base; or the true-base is the difference of the sides, and then the sum of the sides is the altern-base.

ALTER'NATE, Lat. *alternatus*, being by turns: one following the other in succession of time or place. 1. In *botany*, applied to branches and leaves, when they stand singly on each side, in such a manner that between every two on any side, there is but one on the opposite side. ——2. In *heraldry*, applied to denote the situation of the quarters. Thus the first and fourth quarters, and the second and third, are usually of the same nature, and

are called *alternate quarters*.——3. In *geometry*, applied to the internal angles made by a line cutting two parallels, and lying on opposite sides of the bisecting line. Thus,—



a and *a'* are *alternate angles*, and if the two straight lines be parallel they are equal. The *alternate terms* of a proportion are the first and third, and the second and fourth; and the terms of the proportion are said to be taken alternately or by alternation, when the second and third are made to change places; thus,— *a* : *b* :: *c* : *d*, by alternation, becomes *a* : *c* :: *b* : *d*.

ALTERNA'TION, Lat. *alternatio*. In *arithmetic*, the alternation of numbers is called *permutation*. *See* ALTERNATE.

ALTHÆ'A, the generic name of the *marsh-mallow*, of which there are 12 species, two of which are British. Class *monadelphia*, order *polyandria*. Name from αλθω, to cure, in reference to its supposed healing virtues.

AL'TICA, a genus of tetramerous coleoptera, of the family cyclica. Name from αλτιζος, a leaper, in reference to their lively movements. The insect is known familiarly by the name of the *garden flea*.

ALTIM'ETER, from Lat. *altus*, high, and μετρον, measure. An instrument for measuring altitudes on geometrical principles; e. g. a quadrant.

AL'TIN, a money of account in Russia, value three copecks.

ALTIN'CAR, a species of factitious salt used in the fusion and purification of metals: it is crude borax, and now usually called *tincal*.

ALTIS'SIMO, Italian, highest: applied in music.

AL'TITUDE, Lat. *altitudo*, of *altus*, high. 1. Height: the elevation of the vertex of an object above its foundation, as the elevation of a column: the elevation of an object above the surface on which we stand, or other surface to which we refer it, as the *elevation* of a meteor.——2. In *mensuration*, altitudes are divided into *accessible* and *inaccessible*, according as the base is approachable or inapproachable. ——3. In *astronomy*, the elevation of the sun, a star, or other object above the horizon, is called its altitude; and this is true or apparent altitude, according as it is taken from the true or apparent horizon. *See* HORIZON.——4. The *altitude of the eye*, in perspective, is its perpendicular height above the geometrical plane.—— 5. *Meridian altitude*, in *astronomy*, is an arc of the meridian, between the horizon and any star or point on the meridian. The difference between the true and apparent place of the star, caused by refraction, is called the *parallax of altitude*. ——6. *Altitude of motion* is its measure estimated in the line of direction of the moving force.—*Dr. Wallis*.——7. *Determinative altitude* is that whence a heavy body falling acquires a certain velocity, by its natural accelerations.

AL'TO (Ital. from Lat. *altus*), high. In *music*, the counter and tenor part; the part immediately below the treble or highest. The term is also used to denote the tenor violin.

ALTO AND BASSO (high and low), in *old law*, signified a submission of all differences of every kind to arbitration.

ALTO-OCTAVO (Ital.), an octave higher.

AL'TO-RELIE'VO (Ital. for high relief). The name given to that species of sculpture in which the figures project half or more, without being wholly detached from the ground. *See* RELIEVO.

ALTO-RIPIEN'O (Ital.), in *music*, a name given to the tenor of the great chorus, which sings or plays only in particular places.

ALTO-TENORE (Ital.), that part of the great vocal scale between the mezzo soprano and the tenor.

ALTO-VIOLA, } (Ital.), a small tenor
ALTO-VIOLINO, } violin. *Alto* is sometimes used in the same sense.

ALU'DEL, Lat. *a*, and *lutum*, lute. A spear-shaped vessel open at both ends, used in sublimation. A series of them are placed above one another, and fitted exactly together, with a pot at the bottom, containing the matter to be sublimed; and a receiver at the top to collect the volatile matter. They are now rarely used except in Spain for distilling mercury.

ALU'LA, Lat. *ala*, a wing. In *ornithology*, the group of ill-feathers attached to the carpus, and sometimes called the bastard wings (*ala spuria*).

ALUM, Lat. *alumen*, Germ. *alaun*. A triple sulphate of alumina and potash, or ammonia: it is both native and factitious. It is usually obtained by roasting and lixiviating certain clays containing pyrites, and to the leys adding a certain quantity of potash; the salt is then obtained by crystallization. In *medicine* it is used as an astringent; in *dyeing*, to fix colours; in *tanning*, to restore the cohesion of skins; in *candle-making*, to harden the tallow. The crystals are octahedrous; the taste acerb and subacid: the solution reddens the vegetable blues. It dissolves in about five parts of water at 60° Fah.

ALUM-EARTH, a massive mineral of a blackish-brown colour. It is nearly allied to the clay-slate, but contains a considerable quantity of bituminous matter

ALU'MINA, } one of the primitive
ALU'MINE, } earths, which, as constituting the plastic principle of all clays, loams and boles, was called *argil*, or the *argillaceous earth*, but now being obtained in greatest purity from alum, it is called *alumina*. In its mixed state it is one of the most abundant substances in nature, but pure and unmixed it is one of the rarest. The sapphire and ruby are perhaps the purest native specimens of it: these gems are simply the clay crystallized and combined with small portions of colouring matter. To obtain it pure, it must be precipitated from alum by means of ammonia. Thus obtained, it is destitute of smell or taste, insoluble in water, but mixes with it readily: may be made into a ductile paste, and kneaded into regular forms. Alumina was deemed an elementary substance, till Sir H. Davy's electro-chemical researches led to the knowledge that it is a metallic oxide, the metallic basis of which is called *aluminum*, (q. v.). It consists of 52·94 aluminum, and 47·06 oxygen.

ALU'MINITE, a mineral of a snow-white colour, dull, opaque, and having a fine earthy fracture. It is a native subsulphate of alumina, and occurs chiefly in the alluvial strata round Halle, in Saxony.

ALU'MINUM, the metallic basis of alumina. It somewhat "resembles platinum in powder." Sp. gr. 13·7. The experiments of Sir H. Davy first led to the belief that alumina is a metallic oxide, but it was Woehler who first succeeded in separating the metallic substance.

ALUM-SLATE, } a bluish or greenish
ALUM-SCHIST, } black mineral, containing more or less iron pyrites mixed with coaly or bituminous matter. It occurs in the strata of brown coal, where the upper layers lie immediately under clay-beds. From this schist the greater portion of the alum manufactured in Britain is made. Minerologists distinguish between *common* and *glossy* alum-slate.

ALUM-STONE, } Alum-stone is a mineral
ALUM-ROCK. } of a white colour, sometimes inclined to grey. It occurs in beds of a hard substance, characterised by numerous cavities, containing drusy crystallizations of basic alum. The beds in which the alum-stone occurs, is called *alum-rock*. Hungary yields large quantities. The alum-stone contains all the constituents of alum, being a siliceous subsulphate of alumina and potash: the alum-schists contain only two of them. Clay and sulphur, convertible into sulphate of alumina: the alkali must be added.

ALUTA (Lat. for *tanned leather*). Leather-stone; a soft, pliable mineral, not laminated.

ALVE'ARY, Lat. *alvearium*, of *alveare*, a bee-hive. The *meatus auditorius externus*, the hollow of the external ear, or bottom of the concha, where the wax is contained.

ALVE'OLAR, Lat. *alveolaris*. Appertaining to the alveoli or sockets of the teeth.

ALVE'OLATE, Lat. *alveolatus*. Having small cavities, so as to resemble a honey-comb.

ALVE'OLE, Lat. *alveolus*. A little cavity. Technically: 1. A cell in a honey-comb, in a fossil, &c.——2. A socket in which a tooth is placed.——3. A marine fossil, of a conical figure, composed of a number of cells like a honey-comb, joined by a tube of communication.

ALVE'OLITE, a marine fossil composed of numerous concentric beds, each formed by the union of hemispherical cells: the body itself is usually of a hemispherical shape. From *alveolus*, and λίθος. Only one species is known, and it occurs in the Portland stone.

AL'VINE, Lat. *alvinus*. Appertaining to the belly (*alvus*): usually applied in relation to the intestinal excretions.

AL'VUS (Lat.), the belly: used in *anatomy*.

ALY'PON, the *Globularia alypum* of Lin. It is a drastic purgative. Name, from α, not, and λυπη, pain.

ALY'SM, Lat. *alysmus*, of αλυω, to be anxious. The inquietude which a patient exhibits under disease.

ALYS'SUM, the generic name of the plant *madwort*, supposed to be a specific in cases of hydrophobia. Class *tetradidynamia*, order *siliculosa*. There are ten species, all foreign. Name, from α, not, and λυσσα, hydrophobia.

A.M. stand for *artium magister*, master of arts, the second degree given by universities and colleges, and called in some countries doctor of philosophy. Also for *anno mundi*, in the year of the world; and *ante meridiem*, before noon.

A'MA, from Dan. *aam*, a vessel. Written also *Hama*. 1. In *church affairs*, a vessel to contain the wine for the Eucharist.——2. A wine measure of indefinite size, as a cask, a pipe.

AMABY'R, an old British word, signifying "the price of virginity," and expressing a barbarous custom which formerly prevailed in England and Wales, being a sum of money paid to the lord when a maid was married within his lordship.

AMACRA'TIC, } A lens photographically
AMASTHE'NIC. } perfect, or which unites all the chemical rays into one focus, may be called *amacratic* (αμα, together, and κρατος, power), or *amasthenic* (σθενος, force). If this nomenclature be adopted, a *diacratic* or *diasthenic* medium will be one which transmits the chemical power

or force: *diacratescence* that quality in virtue of which it does so, &c.—*Sir J. Herschel, Phil. Trans.* 1840.

Am'adou, } A species of *boletus*, or agaric,
Am'adow. } found in the trunks of old trees, especially in Germany, where it is called *nunderschwamm*. According to some, it is *B. ignarius*; according to others, the *B. fomentarius*. Boiled in water, dried, beaten with a mallet, and finally impregnated with a solution of nitre and dried, it constitutes *spunk, pyrotechnic spunge*, or *German tinder*—names significant of its inflammability. *Black amadou* is the same material impregnated with gunpowder: this is *black-match*; the common amadou is *red-match*. It is used on the Continent extensively instead of tinder.

Amai'n (Sax. a, and mæȝn, force). A nautical term, signifying to yield or let go suddenly. Thus, *to let go amain*, is to let fall or lower at once; and to *strike amain*, is to let fall the topsails in token of surrender. To *wave amain*, is to make a signal to a vessel to strike its topsails.

Amal'gam, a compound produced by mixing a metal, in a state of fusion, with mercury: any metallic alloy, of which mercury forms an essential constituent. The term is usually derived from ἅμα, together, and γαμέω, to marry; but Webster, with more probability, supposes it to be from μάλαγμα, of μαλάσσω, to soften, as medallists commonly apply the term to soft alloys.

Amalgama'tion, a process by which an amalgam is formed.

Amalgamation is extensively employed in extracting gold and silver from certain of their ores, founded on the property which mercury has of readily dissolving these metals as disseminated in the minerals, and thus to separate them from the earthy matters. The mercury is afterwards driven off from the amalgam by heat.

Amalthæ'a. In *mythology*, a goat of Crete alleged to have suckled Jupiter. The horn of this goat was the magic *Cornu Copia*, or horn of plenty.

Amani'ta, a genus of fungi, some species of which are edible, others poisonous.

Am'aranth. 1. The *Amaranthus* (q. v.). ——2. A colour inclined to purple.

Amarantha'ceæ, an order of plants in the Natural System of Jussieu: typical genus, *Amaranthus*. The order comprehends some other dry-flowered genera.

Amaran'thine. 1. Resembling the amaranth.——2. Purplish.

Amaran'thus, the *Amaranth*, or *Flower-Gentle:* a genus of annuals, of about fifty species, only one of which (and that a bad specimen) is a native of England. Class *monœcia*, order *pentandria*. Name, from α, not, and μαραίνω, to fade; or flowers which do not fade, commonly called "Everlasting Flowers." Love-lies-bleeding, Prince's-feather, &c. are well known in our gardens.

Ama'rine, a name given by some to the bitter principle of vegetables, from *amarus*, bitter.

Amaryllida'ceæ, a natural order of beautiful endogenous plants, named from its typical genus *amaryllis*. The greater part of its species are bulbous plants, inhabiting the Cape of Good Hope and the tropical parts of both hemispheres. The snow-drop is the most northern example.

Amaryl'lis, the *lily-daffodil*; a genus of liliaceous perennials, of about forty species, much cultivated in flower-gardens. Class *hexandria*, order *monogynia*. Named from *Amaryllis*, a peasant girl, celebrated by Theocritus and Virgil for her beauty.

Ama'tia, a subgenus of polypi, belonging to the Sertularia of Linnæus; it is the name given by Lamouroux to the Sertularia of Lamarck.

Amatory, from *amo*, to love.——2. In *anatomy*, the oblique muscles of the eye have been called *musculi amatorii*, that is, *amatory muscles*, from their use in ogling. —*Hooper*.

Amauro'sis, Αμαύρωσις, from αμαυρός, obscure. A diminution or total loss of sight, arising from a paralysis of the retina or optic nerve, and which may exist independently of any visible lesion of the structure of the eye, or complicated with cataract or other affection. The disease is usually characterised by dilatation of the pupil and immobility of the iris, but these are not constant symptoms. It is also called *gutta serena*, the "drop serene" of Milton.

Am'azon, from α, without, and μαζος, breast. The Amazons are said to have been a race of female warriors, who founded an empire on the river Thermodon, in Asia Minor, on the coast of the Euxine, and that they cut off their right breast that it might not incommode them in shooting and throwing the javelin. The name was latterly conferred on some American females, who joined their husbands in attacking the Spaniards who first visited the country. This occurred on the banks of the Marañon; and trivial as the circumstance is, it gave the name *Amazon* to that mighty river, and *Amazonia* to the country on its banks.

Amazone-stone, } a beautiful variety
Amazo'nian-stone, } of prismatic felspar of a bluish green colour, found in rolled masses near the river Amazon.

Ambarva'lia, religious fêtes among the Romans, to propitiate Ceres, and so called from *ambire arva*, to go round the fields, the victim being carried round the fields

at the proper season (the end of May), and a blessing invoked of the goddess on the coming harvest.

AMBAS'SADOR, a minister of the highest rank, employed by one sovereign or state, at the court of another, to manage the public concerns of his own government, and representing the power and dignity of his sovereign. Ambassadors are *ordinary* when they reside permanently at a foreign court, and *extraordinary* when sent on a special mission. Ambassadors are also called *ministers;* but *envoys* are of lower rank, and only employed on special occasions.—Webster pleads the authority of good authors for spelling the word *embassador*, more especially as the orthography of *embassy* is established.—The etymology of the word is doubtful. We have in Sax. ambýhtpecza, *a message-sayer;* from Goth. *andbahts*, a servant; but in the laws of Burgundy we find *ambascia*, service, and *ambasciator*, a servant, whence probably Ital. *ambasciadore*, Fr. *ambassadeur*, and Ang. *ambassador*. Spelman derives the word from Germ. *ambact*, which Cesar calls *ambactus*, a retainer, whence Norm. *ambaxeur*.

AMBE, } from αμβη, the rim or margin
AMBI, } of anything. A surgical instrument for reducing dislocations of the shoulders; so called, because its extremity is rounded to fit into the axilla. It is not now used.

AM'BER, a mineral solid of a yellow colour of various shades; usually nearly transparent; brittle and inodorous except when pounded or heated; it then emits a fragrant odour. It has considerable lustre; becomes negatively and powerfully electrical by friction; is found in nodules varying from the size of coarse sand to balls of several pounds weight. Sp. gr. 1·07 to 1·08. Constituents, carbon 70·68, oxygen 7·77, and hydrogen 11·62, which is so nearly the composition of vegetable resin, that it is now regarded as fossil resin by chemists generally. It often contains the remains of certain families of insects, as hymenoptera, diptera, coleoptera, and sometimes, though rarely, lepidoptera. When distilled, it yields an empyreumatic oil and an acid sublimate, which has received the name of succinic acid. The name is from Sp. *ambar*, from Ar. *ambaron*. Most of the amber imported into this country is brought from the Baltic. Amber is chiefly used for ornamental purposes; it is cut, for instance, into beads for necklaces; it is also used in the manufacture of varnish. The substance called fossil copal, which closely resembles amber, contains no succinic acid, and is much less soluble in alcohol.

AM'BERGRIS, Fr. *ambre* and *gris*, that is, *gray amber*. A solid opaque ash-coloured fatty inflammable substance, variegated like marble; remarkably light, rugged on its surface, and when heated, it has a fragrant odour. It breaks easily, but cannot be reduced to powder; melts like wax, does not effervesce with acids, is soluble in ether and the volatile oils, and, assisted by heat, in alcohol, ammonia, and the fixed oils. It is found generally in small, but sometimes in large masses of 250 lb. floating on the sea, near the coasts of India, Africa, and Brazil. There has been much diversity of opinion regarding its origin—some supposing it to be a vegetable, others a mineral production, but it is now known to be a concretion discharged from the intestines of the spermaceti whale (*physeter macrocephalus*), in which it is found abundantly on opening the animal. It is probably a product of disease. It is chiefly used in perfumery, the odour being exceedingly diffusive. The name is sometimes corruptly written *ambergrease*.

AMBIDEX'TER, Lat. from *ambo*, both, and *dexter*, the right hand. In *law*, a juror who takes money from both parties for giving his verdict.

AMBI'GENAL, from Lat. *ambi*, about, and *geno*, a produce. In *geometry*, a term applied to one of the triple hyperbolas of the second order, having one of its infinite legs falling within an angle formed by the asymptotes, and the other without.

AMBI'GU, Fr., from Lat. *ambiguus*, doubtful. A feast or entertainment consisting of a medley of dishes.

AMBIT, Lat. *ambitus*, a circuit. In *geometry*, the perimeter of a figure; the periphery or circumference of a circular body.

AM'BITUS, Lat. from *ambio*, to encompass. 1. In *conchology*, the outline of the valves of a shell.——2. In *politics*, a term used by the ancient Romans to designate canvassing for office, by soliciting the suffrages of electors.

AM'BLE, Fr. from *ambler*, to walk. In the *manège*, the pace of a horse when his two legs on one side move at the same time.

AMBLI'GON, } from αμβλυς, obtuse, and
AMBLY'GON, } γωνια, an angle. An obtuse angled triangle; a triangle with one angle more than 90°.

AMBLIG'ONITE, } a massive, crystallised,
AMBLYG'ONITE, } greenish coloured mineral, which frequently occurs in granite alone, with green topaz and tourmaline, near Penig, in Saxony. Name from αμβλυγωνιος, obtuse-angled, in reference to the form of its crystals, which are oblique, four-sided prisms.

AMBLO'TIC, Gr. αμβλωσις, abortive. Having the power to cause abortion.

AMBLYO'PY, Lat. *amblyopia*, from αμβλ-

βλωπια of αμβλυς, dull, and ωψ, the eye. Incipient amaurosis; defect of sight, without apparent defect of the organs of vision.

AMBLYRHYN'CHUS, Gr. αμβλυς, obtuse, and ρυγχος, snout. A genus of marine lizard. The *A. cristatus* is the only marine lizard now known. It is found on the shores of the Galapagos Islands.

AMBLYTE'RES, a genus of *phyllophagii* (leaf-eating insects).

AMBLYTE'RUS, Gr. αμβλυς, obtuse, and πτερον, a fin. A genus of fossil fishes, which occur in the strata of the carboniferous order. Their teeth are small and numerous, and set closely together, like a brush. They are besides characterised by rounded pectoral and ventral fins, from which they take their generic name.

AM'BON, αμβων, a boss or knob. In *anatomy*, the margin of a socket in which the head of a bone is lodged.

AM'BREADA, a sort of factitious amber which the Europeans sell to the Africans.

AM'BREATE, a salt formed by the combination of the ambreic acid with a base.

AM'BREIC ACID. *Ambreic acid* is a product obtained by heating ambreine with nitric acid.

AM'BREINE, a fragrant substance extracted from ambergris, by digestion with alcohol. It is obtained in white tufts, which fuse at 100°.

AMBRO'SIA, Αμβροσια, immortality. In *mythology*, the food of the gods: hence whatever is pleasant to the taste or smell. The name has been given to many alexipharmic preparations, and to several plants, as tansy, botrys, &c. It is also the name of an American genus of plants of the class *monœcia*, and order *pentandria*. They are chiefly valued for their flosculous flowers.

AMBRO'SIAN, pertaining to St. Ambrose. The Ambrosian ritual is a formula of worship in the church of Milan, instituted by St. Ambrose in the fourth century. The Ambrosian chant was also composed for that church by St. Ambrose; it is distinguished from the Gregorian chant by monotony and want of beauty in its melody.

AMBRO'SIN, a coin of the middle ages, struck by the Dukes of Milan; on which St. Ambrose was represented on horseback, with a whip in his right hand.

AMBULA'CRA, Lat. *ambulacrum*, an alley. The narrow longitudinal portions of the shell of the sea-urchin (*echinus*), which give passage through their perforations to the tentacular suckers.

AMBULANT, Lat. *ambulans*, wandering. Ambulant brokers, at Amsterdam, are certain exchange-brokers, or agents, who are not sworn, and whose evidence is not received in courts of justice.

AMBULA'TION, Lat. *ambulo*, to walk. In *surgery*, the spreading of a gangrene.

AMBULA'TOR, in *entomology*, a species of *Lamia*.

AMBULATO'RES, Lat. plural of *ambulator*, a wanderer. The name given by Illiger to an order of birds nearly corresponding to the Passeres of Linnæus.

AMBULATORY, not stationary; e. g. an *ambulatory court*, which exercises its jurisdiction in different places; an *ambulatory will*, which may be revoked at pleasure, before the person's death.—2. Formed for walking, e. g. the term is applied to the feet of birds, when the toes are placed three before and one behind, as in the lark.

AM'BURY, } in *farriery*, a tumour, wart,
AN'BURY, } or swelling on a horse: it is soft to the touch, and full of blood.

AME'DIANS, a religious sect who styled themselves the *amati Deo*, the beloved of God. The name is compounded of *amo*, to love, and *Deus*, God.

AM'EL, the old word for *enamel*, (q. v.).

AMELAN'CHIER, a genus of shrubaceous plants, class *icosandria*, order *pentagynia*. There is one European species and three American.

AMEL'LUS, the *starwort*; a genus of plants, class *syngenesia*, order *pol. superflua*. Named from the *flos amellus* of Virgil, but it is not the same. There are three species, natives of the Cape of Good Hope and America.

A'MEN. This word, with slight differences of orthography, is in all the dialects of the Assyrian stock. As a *verb*, it signifies to confirm or establish, to trust or give confidence; as a *noun*, truth, firmness, trust, confidence. In *English*, after the oriental manner, it is used at the beginning, but more generally at the end of declarations and prayers, in the sense—*be it firm, be it established.*

AMEN'D, } In *France*, the *amende ho-*
AMEN'DE. } *norable* is an infamous punishment (imposed for any false prosecution or groundless appeal), inflicted on traitors, parricides, and sacrilegious persons. The culprit is delivered into the hands of the executioner, who strips him to the shirt, puts a rope about his neck, and a taper into his hand: he is then led into the court, and begs pardon of God, the king, the court, and the country. For smaller offences, this is the amount of the punishment, but in some cases it is a prelude to banishment to the galleys, or even to death. The simple amende honorable consists merely in an acknowledgment and recantation in open court, bareheaded and kneeling, of the offence committed.

AMEN'DMENT, Lat. *emendo*, of *menda*, a

fault. In *law*, the correction of an error in a writ or process. In *parliament*, a word, clause, or paragraph added to, or proposed to be added to, a bill.

AMENOR'RHŒA, from α, neg. μην, a month, and ῥεω, to flow. Morbid irregularity of the menstrual discharge, a disease of which there are two species, *emansio mensium*, and *suppressio mensium*.

AMENT, Lat. *amentum*, a thong. In *botany*, a catkin; a species of inflorescence consisting of a simple peduncle, covered with numerous chaffy scales, under which are the flowers or parts of fructification, exemplified in the poplar, birch, willow, beech, &c.

AMENTA'CEÆ, amentaceous plants; a natural order, comprehending all such as have catkins or amenta. As this order was found to comprise plants of different kinds of structure, it has been broken up into several others.

AMENTA'CEOUS, having an ament or catkin; belonging to the order *amentaceæ*: growing in an ament.

AMENTIA, Lat. *amens*, deprived of mind. Idiotism.

AMEN'TUM, Latin of *ament*, (q.v.); called also *julus*, *nucamentum*, *catulus*; also a name of the alumen scissum.

AMER'CEMENT, } Fr. *merci*. A pecu-
AMER'CEAMENT, } niary punishment inflicted on an offender, at the discretion (mercy) of the court. It differs from a fine, which is a fixed sum prescribed by statute, whereas the amercement is arbitrary. It has now, however, become common to enact that the offender shall be *fined* at the discretion of the court, and thus the *fine* being rendered indefinite, the word has in a measure superseded *amercement* (written in old law-books *amerciament*).—*Amercement-royal* is a penalty imposed upon an officer for a misdemeanour in his office.

AMERIM'NUM, a genus of shrubaceous plants of two species. Class *diadelphia*, order *decandria*. Natives of the West Indies and South America.

AMETABO'LIA, ametabolians. A division of insects which do not undergo any metamorphosis. Hence the name, from α, without, and μεταβολη, change.

AM'ETHYST, Gr. ἀμέθυστος, from α, priv. and μεθύσκω, to be inebriated. 1. In *mineralogy*, a subspecies of rhombohedral quartz: it is merely coloured rock crystal. Its colour resembles that of the violet, and when perfect it is considered a gem of exquisite beauty; but the colour is sometimes confined to one part of the stone, while the other is left almost colourless. This is the amethyst proper: it is called by lapidaries the *occidental amethyst*, in distinction to the *oriental amethyst*, a variety of rhombohedral corundum of the most perfect violet colour and extraordinary brilliancy and beauty.—The ancients supposed that wine drank out of an amethystine cup did not produce intoxication.——2. In *heraldry*, a purple colour. It is the same in a nobleman's escutcheon, as *purpure* in a gentleman's, and *mercury* in that of a prince.

AMIAN'TH, } Gr. αμιαντος, undefiled.
AMIAN'THUS, } Mountain-flax or earth-flax: a mineral of which there are several varieties, all more or less fibrous, flexile, and elastic. The colour is usually grayish or greenish white, not unlike flax or unspun silk. It is incombustible, and anciently was woven into cloth, which when soiled was put into the fire, which cleaned it better than washing. Pliny states that its principal use was to wrap the bodies of the dead, previous to their being exposed on the funeral pile, that the ashes of the corpse might not be mixed with those of the wood. Amianthine cloth, however, was very scarce, and was sold at an enormous price. Amianth includes the finer varieties of asbestos (q.v.) It is found in great profusion in Corsica, and many other places, especially in Germany.

AMIAN'THINITE, an amorphous variety of actinolite, having an amianthine or fibrous fracture.

AMIANTHOIDE, from *amianth* and ειδος, form. A mineral, in long capillary filaments of an olive-green, found at Osians in France.

AMIAN'TUS, the same with amianthus or amianth (q.v.) Amiantus is the correct, but not the received, orthography.

AMICE, Lat. *amictus*, clothed. The square piece of linen cloth which the Catholic priest ties about his neck, hanging down under the alb, when he officiates at mass.

AMID, from a and midd, the middle. *Amid-ships* is a nautical phrase signifying the middle of a ship with regard to her length and breadth.

A'MIDINE, the soluble basis of starch. Fr. *amidon*, starch. When starch has been gelatinized in water, it is converted into amidine, which is soluble in cold water; but, according to Raspail, starch consists of a vesicle which he terms *amidine*, and of a soluble matter contained within the vesicle, which he terms *amidin*.

AMIRANTE, in *Spain*, a high officer answering to our lord high-admiral.

AM'MA, Αμμα. In *surgery*, a girdle or truss used in ruptures: written also *Hamma*.

AM'MAN, } in the *German* and *Belgic*
AM'MANT, } *polity*, a judge who has cognizance in civil cases. In *France*, a notary public. Germ. *amtmann*, the root of which is *ampt*, office, charge.

Am'mi, *Bishop's-weed*, a genus of umbelliferous plants of four species. Class *pentandria*, order *digynia*. Warm climates. Name, from αμμος, sand, in reference to the appearance of its seeds, which are used extensively as an ingredient of theriaca.

Ammite, from αμμος, sand, and λιθος, stone, sand-stone; the roe-stone or oolite of recent authors. Written also *Hammite*.

Ammo'bates, a genus of honey-making bees (*apiariæ*). They belong to the *Cuculinæ* of Latreille.

Ammochry'se, αμμοχρυσος. A yellow soft stone found in Germany. In the time of Pliny it was used, when ground to powder, to strew over writing like black sand with us. It is probably a micaceous sulphuret.

Am'modyte, the sand-eel. The *ammodytes* belong to the order malacopterygii apodes of Cuvier. The name is also common to a small African serpent of the viper tribe, and to a large venomous serpent of Ceylon.

Am'mon, the title under which Jupiter was worshipped in Libya. "Ammon was originally a Libyan deity adopted by the Greeks." The name seems derived from αμμος, sand, and the situation of the celebrated temple, in an oasis surrounded by desert, further justifies this etymology.

Ammonacea, according to the arrangement of De Blainville, a family of the order polythalamacea: it embraces the genera discerbis, scaphites, ammonites, and simplegas. In the Lamarckian system, the ammonacea is a family of the order polythalamous cephalopoda, embracing the genera of ammonites, ammonoceras, baculites, and turrilites.

Ammo'nia, a chemical compound, otherwise called the *volatile alkali*, and which, in an uncombined state, and under ordinary atmospheric pressure, exists in the state of a highly pungent gas, possessing all the mechanical properties of air, but very condensable in water, with which it forms the *water of ammonia*, *aqua-ammonia*, or *spirit of hartshorn* of the shops. It is called *ammonia* from its being chiefly obtained from sal ammoniac; *volatile alkali*, from its being an alkaline gas; *hartshorn*, from its having been originally obtained by distillation from the horn of the hart. Its constituents are three vols. hydrogen, and one vol. of nitrogen, condensed into two vols. By strong compression it becomes a liquid of sp. gr. 76.

Ammo'niac, gum-resin, the inspissated juice of an umbelliferous plant (the *dorema armeniacum*) which grows in Persia. It possesses a fetid smell and bitterish taste. It is imported in large masses, composed of small whitish tears. It is used in medicine, and in making the substance called *diamond cement*. It is called also *gum-ammoniac*, and is latinised *ammoniacum*. Pliny says that it takes its name from its being produced in the vicinity of the temple of Jupiter Ammon in Africa.

Am'monite, *snake-stone*, or *serpent-stone*, or *cornu-Ammonis*. The Ammonites constitute an extensive genus of fossil shells, allied to the Nautili, which inhabit chambered shells curved like a coiled snake. They are very abundant in the strata of the secondary mountains, varying from the size of a lentil to that of a coach-wheel. M. Brochant enumerates 270 species. They appear to have been almost universally distributed in the ancient world. They are found at an elevation of 16,000 feet on the Himalaya Mountains, and are so plentiful in some parts of Germany as to be broken for mending roads. They belong to the cephalopodous order of Mollusca, and take their name from their resemblance to the horns on the statues of Jupiter Ammon.

Ammoni'tidæ, a family of Cephalopods, with chambered syphoniferous shells, and distinguished from the other Ammonites by the septa being sinuous.

Ammo'nium. Sir H. Davy gave this name to what he believed to be the metallic basis of ammonia. According to the hypothesis of Berzelius, ammonium consists of 1 vol. of nitrogen and 4 vols. of hydrogen.

Ammo'niuret, a compound of ammonia and any substance not acid, as a metallic oxide.

Ammonoce'ras, Ammonoce'ratites. } From *Ammon*, and κερας, a horn. Ammon's-horn, a genus of fossil shells resembling the Ammonites in their internal structure; but they are simply curved, instead of being spirally convolute.

Ammo'phila, *sea-reed*, *marum*, or *mat-weed*. A genus of the class *triandria*, and order *digynia*. Named from αμμος, sand, and φιλος, a lover; in allusion to its being generally found on sandy sea-shores; in consequence of which habit, it is extensively employed in Norfolk and Holland for preserving the banks of sand which protect those countries from the inroads of the sea.

Am'nion, Am'nios. The membrane of the ovum, which immediately surrounds the fœtus: it lines the chorion, covers the placenta, and is reflected on the umbilical cord, which it invests as far as the umbilicum, where it terminates. From αμνιον, which primarily meant a vessel for receiving the blood of the victims at sacrifices, and came afterwards to mean the membrane described.

Am'nios. In *botany*, a thin, semitransparent, gelatinous membrane, in which the embryo of a seed is suspended when

it first appears. It seems to afford nourishment to the embryo in its earlier stages. The term is commonly derived from αμνιος, a lamb, in reference to the softness of the membrane.

Amniotic Acid, an acid formerly supposed to be peculiar to the liquor amnii of the cow, but now known to belong to the liquor allantois. *See* Allantoic.

Amo'mum, a genus of perennials, of 13 species, one of which (*A. Granum Paradisii*), produces the Grains of Paradise or Great Cardamom seeds; and the root of another (*A. Zingiber*) is the ginger of commerce. Class *monandria*, order *monogynia*. Hot climates—Africa and Asia. Name, αμωμον, from Ar. *hamaama*, of *hamma*, to warm, in reference to the pungent aromatic qualities of the plants.

Amo'rphia, *false* or *bastard indigo*. A genus of American shrubaceous plants, of ten species, from some of which a coarse kind of indigo is made. Class *diadelphia*, order *decandria*. Name, from α, without, and μορφη, form, in reference to its irregular stems.

Amor'phous, shapeless, from αμορφος of α, without, and μορφη, form. Applied to bodies which have no determinate form, or whose forms cannot easily be defined.

Amortiza'tion, } Lat. *ad*, and *mors*,
Amo'rtizement, } death. The act or right of alienating property to corporations, which was formerly regarded as transferring them to *dead hands*, as such alienations were mostly made to religious houses for superstitious purposes.

Amortise, } Lat. *ad*, and *mors*, death.
Amortize, } To alienate in Mortmain. *See* Amortization *and* Mortmain.

Am'pac, an East Indian tree which affords an odoriferous resin.

Ampeli'deæ. In *botany*, another name of the natural order Vitaceæ. From αμπελος, a vine.

Am'pelite, a mineral of which there are two varieties, the *aluminous* and *graphic*. The first is the *alum-slate*, and the latter the *graphic-slate*. The name is sometimes applied to the species of slaty coal which in England is called *cannel-coal*, and in Scotland *parrot-coal*. The term is from αμπελος, a vine, being anciently the name of a bituminous matter with which husbandmen anointed their vines to destroy worms.

Ampelosag'ria, the wild vine (*Bryonia alba*), from αμπελος, a vine, and αγριος, wild.

Amphiarthro'sis, from αμφι, both, and αρθρωσις, arthrosis. A mixed kind of articulation, which partakes of the nature both of diarthrosis and synarthrosis: the articular surfaces of the bones are united by an intermediate substance, in a manner which admits of a small degree of motion.

Amphibia, from ἀμφὶ, both, and βίος, life. In *the system of Linnæus*, the third class of animals. The lungs differ essentially from those of animals of the classes mammalia and aves. Their heart has but one ventricle; their blood is red and cold, and they can for a considerable time suspend respiration, so as to live under water. Their body is covered with a shell, with scales, or is quite naked. They have neither hair, mammæ, feathers, nor radiated fins. They are divided into reptiles and serpents, and are either oviparous, or viviparous. In *the system of Cuvier*, the third tribe of carnivorous mammalia. Their feet are so short and so enveloped in the skin, that the only service they can render them on land is to enable them to crawl; but as the intervals of the fingers are occupied by membranes, they are excellent oars; and, in fact, these animals pass the greater portion of their time in the water, never landing, except for the purpose of basking in the sun, and suckling their young. Their elongated body; their very moveable spine, which is provided with muscles that very strongly flex it; their narrow pelvis, their short hair that adheres closely to their skin,—all unite to render them good swimmers, and all the details of their anatomy confirm these indiciæ. We have as yet distinguished two genera only, *phoca* (the seal), and *trichechus* (the morse).

Amphibious, ἀμφίβιος, capable of two modes of life. This term is variously applied. 1. To animals which, at one period of their existence, live entirely in water, breathing by means of gills, and at another respire air, and are frequently on land; e. g. frogs.——2. To animals which respire air, but are capable of remaining under water for a length of time; e. g. seals.——3. To animals of the class (Lin.) or tribe (Cuv.) amphibia (q. v.).——4. To plants which grow indifferently on dry land or in the water; e. g. Polygonum amphibium.

Am'phibole, ἀμφίβολος, the name given by Haüy to the Hemi-prismatic Augite-spar of Mohs. The varieties are Hornblende, Actinolite, and Tremolite. The name is more particularly referable to the first.

Amphibolite, a general name for all trap rocks, which have amphibole for their bases.

Amphibra'ch, Lat. *amphibrachus*, from αμφι, both, and βραχὺς, short. In *poetry*, a foot of three syllables, the middle one long, and the first and third short, as in the word *hăbĕrĕ*.

Amphico'ma, a genus of *anthobii*, from αμ , around, and κομη, hair, in refer-

ence to the frequent covering with which the species are invested.

Amphico'me, a kind of figure-stone, anciently used in divination, and called *crotylos*, on account of its supposed power of exciting love. Name αμφι, both, and κομη, hair.

Amphic'tyons, council of. In *history*, an assembly of deputies from the different states of Greece, which met sometimes at Thermopylæ but generally at Delphi; so named because established by king Amphictyon.

Amphid'eon, Αμφιδειον, from αμφιδεω, to bind round. In *anatomy*, a name of the os uteri.

Amphides'ma, a genus of bivalve shells belonging to the Tellininæ of Swainson. Name from αμφι and δεσμα, of δεω, to bind.

Amphidiarthro'sis, from αμφι, both, and διαρθρωσις, diarthrosis. A name given to the articulation of the lower jaw with the os temporis, because it partakes both of the nature of ginglymus and arthrodia.

Amphigamous Plants, the most imperfect of all plants—having no trace whatever of sexual organs: hence the name from αμφι, doubtful, and γαμος, marriage.

Amphi'gene, Gr. αμφι and γενος. Trapezoidal zeolite, or leucite, called also Vesuvian. This mineral occurs in imbedded grains or crystals in the more ancient lavas.

Am'phihexahe'dral from αμφι and hexahedral. A term applied to crystals which have two hexahedral outlines, when counted in two directions.

Amphima'cer, from αμφιμακρος, long on each side. In *poetry*, a foot of three syllables, the middle one short, and the other two long; e. g. *glūtēnāre*.

Amphi'pneusts, the name given by Merrem to a tribe of reptiles, comprehending such as have both lungs and gills; from αμφις, on both sides, and πνεω, to breathe. The tribe comprehends the true amphibia, or perennibranchiate amphipods; the third order of crustacea in Latreille's arrangement, comprehending such as have subcaudal natatory feet, with sessile eyes. Name from αμφις, on both sides, and πους, a foot.

Amphipro'style, from αμφι, double, προ, before, and στυλος, a column. A temple, or house, having four columns in front and four behind, or two fronts; but without columns at the sides.

Amphisbæ'na, } from αμφις, both ways,
Amphisbe'na, } and βαινω, to go. A genus of opidian reptiles of South America. They feed on insects, and are often found in ant-hills, which has given rise to the notion that the large ants are their purveyors. There are two species, both oviparous, and *not* poisonous. They have the power of moving with either head or tail foremost: hence the name.

Amphi'scii, } from αμφι, on both
Amphiscians, } sides and σκια, a shadow. In *geography*, the inhabitants of the torrid zone, whose shadows at one part of the year fall on the north, and at another on the south, according as the sun at noon is south or north of their zenith.

Amphithe'atre, from αμφι, a round, and θεατρον, a theatre. 1. An elliptical building among the ancients, having seats entirely round, and an arena in the middle where spectacles were exhibited. Some amphitheatres, as the Coliseum at Rome, could accommodate from 50,000 to 80,000 persons.——2. In *gardening*, a disposition of shrubs, &c. in the form of an amphitheatre on a declivity, or forming such by placing them in the order of their growth.

Amphitri'te, αμφιτριτη. A genus of *Tubicola*, of the class *annulata*, easily recognised by the golden-coloured setæ, arranged like a crown. Hence named Αμφιτριτη, or the goddess of the sea. The *A. auricoma* inhabits the south coast of England; its tube is conical, and two inches long; formed of grains of sand agglutinated together by a sort of mucus which exudes through the skin.

Ampho'ra. The Roman *amphora* contained 8 congios or 48 sextarii = 7½ imp. gallons. The Grecian αμφορευς was equal to 28½ gallons. The Venetian *amphoro* contained 14 quarts. The capacity of the old *ambra* of England is not known. The measure takes its name from having two handles; αμφι, on both sides, and φερω, to carry, αμφορειος, two-handled. ——2. The amphora is frequently represented in architectural decoration. It is represented as a vase with two handles.

Amplex'icaul, Lat. *amplexicaulis*. Clasping (*amplexus*), the stem (*caulis*): applied to leaves, the bases of which project on each side, so as to clasp the stem with their lobes.

Amplex'us, Lat. for embracing, from *amplecto*, to embrace. In *natural history*, a fossil resembling a coral, found in the Dublin limestone. It is nearly cylindrical, divided into chambers by numerous transverse septa, which embrace each other with reflected margins.

Amplia'tion, Lat. *ampliatio*, enlargement. In *Roman law*, postponement of a decision, to obtain further evidence.

Am'plitude, Lat. *amplitudo*, to enlarge, largeness. In *astronomy*, an arc intercepted between the east and west points

of the horizon, and the point of the same circle on which the centre of the sun or star appears in rising or setting, on any particular day, is called the *amplitude* of the sun or star for that day, and so is either eastern or western, or *technically*, *ortive* at rising, and *occiduous* or *occasive* at setting. The distances of the points of rising or setting from east and west, as shown by the compass, is called the *magnetic amplitude*, and the difference between this and the true amplitude is the variation of the compass, or the *amplitude of azimuth*, and is found by the azimuth-compass. The *amplitude of the range of a projectile* is the horizontal line subtending the path of the body, or the line which measures the distance it has moved.

Ampul'la, literally, a large-bellied bottle. 1. In *chemistry*, any bellied vessel, as a bolt-head, receiver, cucurbit.——2. In *anatomy*, the dilated part of the membranaceous semicircular canals of the ear. ——3. In *botany*, a small membranaceous bag, attached to the roots and the immersed leaves of some aquatic plants, rendering them buoyant.——4. In *pathology*, the same with *Bulla* (q. v.).

Ampullace'ra, from *ampulla*, a bellied bottle; the name given by M. Quoy to a genus of Turbidæ, to which Swainson gives the name *Thallicera*.

Ampullaria, from *ampulla*, a bellied bottle, a river shell of warm climates, called the *apple-snail*, from the form of the shell. It belongs to the trochoid family of Cuvier, but Swainson places it among the Turbidæ or marine snails.

Ampullari'næ, from *ampulla* a bellied bottle; a sub-family of Turbidæ, "most like the garden-snails; they are generally globose, the spire is very short, and the body whorl enormous." Their typical genus is the *ampullaria*.

Am'ulet, Lat. *amuletum*, from *amolior*, to repel. A gem, stone, piece of metal, paper, or other substance, usually inscribed with mystical characters, words, sentences, numbers, or other devices, commonly worn suspended from the neck, or carried about the person, from a belief that it had the power of averting evil, as witchcraft, poverty, &c.; or of conferring some particular gift, as strength, courage, eloquence, &c. Amulets are distinct from *prophilactics*, which were supposed to prevent disease.

Amygdala, αμυγδαλη. 1. The fruit of the almond-tree (*Amygdalus communis*). ——2. The tonsils are called *amygdalæ*, from their shape.

Amygda'leæ, in *botany*, a tribe of the natural family Rosaceæ, of which the genus *amygdalus* is the type. The peach, plum, and apricot are examples.

Amygdalo'id, from αμυγδάλια, an almond, and εἶδος, likeness. 1. As a name, toadstone: a volcanic or igneous rock, of any composition, containing nodules of other minerals embedded plentifully in it: "cellular volcanic rock, having its cells occupied with nodules of a dissimilar substance."——2. As an adjective, almond-shaped.

Amyg'dalus, the generic name of the almond-tree, of which there are eight species, mostly natives of Asia. Class *icosandria*, order *monogynia*. Name αμυγδαλον, an almond.

Amyla'ceous, pertaining to, or possessing the properties of, starch (*amylum*).

Amy'lic, amylaceous. *Amylic acid* is obtained from starch by distillation with peroxide of manganese.

Amyli'ne, a substance between gum and starch, called also *amidine*.

Amyraldism, the doctrine of universal grace, as explained by Amyraldus or Amyrault, of France, in the 17th century.

Amy'ris, the generic name of the balsam-tree, of which there are several species, all natives of the hotter climates. Class *octandria*, order *monogynia*. Named from αμυρον, odorous ointment, in the composition of which it is much used. Gum-elemi is obtained from an American species (*A. elemifera*), and the balm of Gilead from the *A. Gileadensis*, which grows in Abyssinia and Arabia.

Ana. 1. In *medical prescriptions* means "of each." *See* A.——2. As an affix to names of celebrated persons, *ana* denotes a collection of their memorable sayings, anecdotes of them, extracts from their works, &c.

Anabap'tists, a sect who hold the doctrine of the validity of infant baptism, and the necessity of rebaptization at an adult age; and who maintain that baptism ought to be performed by immersion.

An'abas, the *paneiri* or *tree-climber*; a peculiar acanthopterygious fish common in India, which, it is asserted, not only leaves the water, but climbs trees on the banks of rivers: hence its name from αναβαινω, to ascend.

An'ableps, a genus of malacopterygious fishes which inhabit the coast of Surinam. They are characterized by a remarkable projection of the eyes, and a still more singular structure of the cornea and iris, from which there results two pupils, and the eyes appear to be double on each side. They have, however, but one crystalline lens, one vitreous humour, and one retina. Name from αναβλεπω, to raise the eyes.

Anacam'peros, a genus of shrubaceous plants of ten species, belonging to the Cape of Good Hope. Class *dodecandria*,

order *monogynia*. Named from the Greek αναχαμπτειος.

ANACA'MPTICS, from ανα, back, and καμπτω, to bend. That branch of optics now called *catoptrics* (q. v.).

ANACAN'THES, a genus of chondropterygious fishes; from ανα, and καν̃θα, a spine, being covered with spines.

ANACARDIA'CEÆ, a natural order of exogenous plants, of which the cashew-nut (*Anacardium occidentale*), is the type. The marking-nut, Burmæn varnish, mastich, pistacio nuts, and sumach, are all produced by species of this order.

ANACAR'DIUM, the cashew-nut; a genus of the class *enneandria*, and order *monogynia*. There are two species, the *acajou* or *acajuba* (*A. occidentale*), the oil of the nut of which is a good marking ink; and the Malacca bean (*A. orientale*). Name from ανα, resembling, and καρδια, a heart, in allusion to the form of the fruit.

ANACLAS'TIC, refracting, from ανα, backwards, and κλασις, a breaking. *Anaclastic glasses* are sonorous glasses, made chiefly in Germany. They resemble inverted funnels, with very thin convex bottoms. On drawing out a little air by applying the mouth to the orifice, the bottom springs into a concave form with a sort of crash, and again, by blowing into them, the bottom with a like noise springs into its convex form. These glasses are used to show the elasticity of glass.

ANACLAS'TICS. *See* ANACLASTIC. The old name for that branch of optics which treats of refracted light, and which is now called *dioptrics* (q. v.).

ANACOLU'THON, Gr. αναζολευθον, something which does not follow. A grammatical term denoting the want of sequence among the members of a sentence.

ANACON'DA, } a name given in Ceylon to
ANACON'DO, } a large snake, a species of *boa*, "which is said to devour travellers." Its flesh is much esteemed as food. The name is Ceylonese, and means *the great snake*.

ANACREON'TIC. The *anacreontic verse* consists of three feet and a half, usually spondees and iambics, but sometimes anapests.—An *anacreontic* is a poem in anacreontic verse.

ANADIPLO'SIS from ανα and διπλυος, double, duplication. A rhetorical figure, consisting in the repetition of the last word or words in a line or clause of a sentence, as,

"He retained his virtues amid all his misfortunes—misfortunes which" &c.

2. Among *physicians*, the reduplication of a paroxysm in agues of a double type.

ANAGAL'LIS, the herb *pimpernel*, of which there are two British species; one of which is called the *poor man's weather-glass*. Class *pentandria*, order *monogynia*. Named from αναγελαω, to laugh; because, says Pliny, it excites pleasure; and, according to Dioscorides, because it cures bilious disorders.

AN'AGLYPH, from ανα, upon, and γλυφω, to engrave. An embossed or chased ornament, usually of metal and worked in relief. When raised on stone, the anaglyph becomes a cameo: when sunk, an intaglio.

ANAGNOS'TA, Lat. from αναγνωστκω, to read. A domestic servant employed by the wealthy Romans to read to them during meals. The old clergy continued the custom and the name.

ANAGOGE, } from ανα, upwards, and
ANAGOGY, } αγω, to lead. In *theology*, a mode of interpreting the Bible, whereby the text is turned from its literal sense to signify something of a more spiritual and mysterious nature.

AN'AGRAM, from ανα and γραμμα, a letter. A transposition of the letters of a name, by which a new word or sentence is formed; e.g. *Horatio Nelson* becomes *Honor est a Nilo*.

AN'AGRAPH, from ανα, upon, and γραφω, to write. A transcription, inventory, register, prescription, anagram, commentary.

ANAGYRIS, αναγυρις, bean-trefoil. A genus of shrubaceous plants, natives of the southern parts of Europe. Class *decandria*, order *monogynia*.

ANAL, Lat. *analis*, pertaining to the anus; e.g. the *anal fin* is that between the vent and the tail. The anal valves of certain of the cephalopods are intended for the defence of the terminal orifice of the intestines.

ANAL'CIME, cubic zeolite, called also cubizite. A stone which is found chiefly in the cavities of amygdaloidal rocks, regularly crystallised, in angulo-granular concretions, and massive. It is remarkable as having no cleavage lines: each crystal is composed in a singular manner of 24 solids, all symmetrically arranged with respect to the axes of the icosatetrahedron, and each of them possessing a separate optical structure and double refraction. It is rendered feebly electrical by heat, whence its name, from αναλκις, feeble.

ANALEM'MA, Lat. from αναλημμα, altitude. 1. In *geometry*, a projection of the sphere on the plane of the meridian, orthographically made by straight lines, circles, and ellipses, the eye being supposed at an infinite distance, and in the east or west points of the horizon.——2. An instrument of wood or brass, upon which an analemmatic projection is drawn, with a horizon and cursor fitted

to it, in which the solstitial colure, and all circles parallel to it, are concentric circles; all circles oblique to the eye are ellipses; and all circles, whose planes pass through the eye, straight lines. The use of the instrument is to show the common astronomical problems, which it does very imperfectly.

ANALEP'SY, from αναλαμβανω, to recover. A species of epileptic attack, of sudden and frequent occurrence, but not reckoned dangerous.

ANAL'OGY, Gr. αναλογια, of αναλογος, according to rule. A certain relation or agreement between things in some circumstances or effects, when the things are otherwise entirely different, and which in reasoning serve to explain or illustrate, but not to demonstrate. Thus, there is an analogy between plants and animals, in so far as both grow and decay. In matters of experience analogy is one of the principal bases of reasoning.

ANALYSIS, Gr. ἀναλυσις, resolution; R. λυω, to loosen. 1. *Generally*, the resolution of something into its constituents: an examination of the different parts of a subject separately, as the propositions of an argument; opposed to *synthesis* or composition.——2. In *mathematics*, the name given to "the method of resolving problems by means of algebraical equations." The analytic method of resolving problems consists in "reasoning upon the whole problem, reducing it at every step to simpler terms, and so coming at last to those considerations which must be put together to make a solution and to verify it." *Analysis* is divided into *finite* and *infinite*, *determinate* and *indeterminate*, and *residual*. The analysis of finite quantities constitutes algebra, and that of infinite quantities constitutes the method of fluxions, or differential calculus. Analysis of powers is evolution.——3. In *chemistry*, the resolution of a compound body to its elements, which is effected by means of heat, mixture, electricity, &c. *Qualitative analysis* consists in the determination of the component parts of a compound merely in respect to their nature, and without reference to their proportions; by quantative analysis, on the other hand, it is required to determine the relative proportions of the component parts.

ANALY'TICS, the method of analysis. A name given to algebra, as being a general analysis of pure mathematics.

ANAMORPHO'SIS, from ανα, and μορφοσις, formation. 1. In *perspective drawing*, a projection or representation, which, under ordinary points of view, appears extravagantly distorted and ridiculous, yet seen from a particular situation, it strikes the eye as one of complete symmetry. The anamorphosis is also something restored by reflection from specula, with certain surfaces as those of cones and cylinders, and by refraction through lenses. Delineations of this sort depend on the simplest rules of mathematics and perspective.—2. In *natural history*, an appearance unusual to the production.

ANA'NAS (Brazilian), the pine-apple plant. A species of bromelia which is a native of South America, but now grows wild in some parts of Africa and Asia, especially the Malayan Archipelago, where it seems to thrive better than in its native woods.

ANAN'DROUS, from ἀ, without, and ανηρ, ανδρος, a male, a stamen. Plants whose flowers are destitute of stamens; thence called female flowers.

AN'APEST, } from ανα and παιω, to beat
AN'APÆST, } time. A metrical foot in Greek and Latin, having the two first syllables short and the last long; e. g. *pĕtās*. It is a reversed dactyle.

ANAPHRODI'SIA, from α, and αφροδιτη. Want of generative power.

ANAPLERO'SIS (αναπληρωσις). Restoration of parts destroyed, as in the healing of a wound.

ANARRHICH'AS, the sea-wolf, or wolf-fish. A genus of acanthopterygious fish, belonging to Cuvier's family *Gobiodes*. Named from ανα, upwards, and ρυω, to drag, in allusion to its climbing rocks and shoals by aid of its fins and tail.

ANARRHIN'UM, a genus of herbaceous plants of the class *didynamia*, and order *angiomonospermia*. Named from ανα and ρινος, the seed vessel being recurvated.

AN'AS. The *anas* of Cuvier is a genus of palmipedes, of the family Lamellirostres, and which comprises three subgenera; the cygnus (*swan*), the anser (*goose*), and the ANAS of Meyer, the *duck*, properly so called, of which there are many species. Name from αναω, to swim well.

ANASAR'CA, from ανα, between, and σαρξ, the flesh. A species of dropsy which consists in a collection of serous fluid in the cellular membrane, immediately under the skin.

ANASTO'MA, a subgenus of land-volute shells (*lucerninæ*), belonging to the genus *lucerna*. Name from ανα, upwards, and στομα, a mouth.

ANASTOMATIC. *See* ANASTOMOTIC.

ANASTOMO'SE, from ανα and στομα, the mouth. To inosculate: the term is used of parts, which growing in different directions, meet and grow together, as the veins in leaves.

ANASTOMO'SIS (αναστομωσις). Inosculation: applied to the opening of one vessel into another, as arteries, veins and lymphatics, in the animal body.

ANASTOMO'TIC, applied, 1. In *anatomy*, to those branches of vessels which anastomose with other vessels.——2. In *medicine*, to medicines supposed to have the power of opening the mouths of vessels and promoting circulation, e. g. cathartics.

ANAS'TROUS, from α, without, and αστρον, a star. *Anastrous signs* are the 12 portions of the ecliptic which the signs anciently possessed (called *duodecatemoria*), but which are now deserted by reason of the precession of the equinoxes.

ANATA'SE, from ἀνατάσις, extension. Pyramidal titanium-ore: a very pure mineral oxide of titanium, called also *octohedrite* and *rutile*.

ANATH'EMA, αναθεμα, a placing behind. A thing laid by as consecrated or devoted: Hence, 1. In *heathen mythology*, an offering made to some deity and hung up in a temple.——2. In *church affairs*, "excommunication with curses;" hence denunciation by ecclesiastical authority, accompanied by excommunication. A person thus placed under the ban of the church is here said to be anathematized.

There are properly two kinds of anathemas, the *judiciary* and the *abjuratory*. The former is pronounced by a council, bishops, &c., the latter is the act of a convert, who anathematizes (denounces) the religion which he abjures.

ANA'TIDÆ, the duck family of birds. The genus anas is the type.

ANATIF'A, the barnacle. A genus of cuneiform multivalve shells, belonging to the class *cirrhopoda*, of Cuvier; often found adhering to rocks, piles, keels of vessels, &c. There are many species. Named from *anas*, a goose, and *fero*, to bring forth, in allusion to the absurd notion once entertained, that the "barnacle-goose" was bred within these shells.

ANAT'OMY, from ανατομια of ανατεμνω, to cut up. The dissection of organised bodies, with a view to elucidate their structure and functions; also the science which treats of the structure of organised bodies, and which is learned by dissection. Anatomy is distinguished into *human* and *comparative*, the one treating of the structure of the human body, the other describing and comparing the structure of other animals. The anatomy of the inferior animals is also sometimes called *zootomy*, and that of vegetables *phytotomy*. The science is also divided into *general* and *descriptive*. The first teaches the structure and physical properties of the various tissues which compose the body, without reference to the form or situation of the organs into whose composition they enter; while descriptive anatomy takes cognizance of the shape, position, and connexion of the parts. When dissections are made for the purposes of investigating the changes induced in the structure of organs by disease, the operations are called *pathological* or *morbid anatomy*; with a view to surgical operations, they constitute *surgical anatomy*; for the purpose of elucidating the functions of organs, *physiological anatomy*; and finally, to exhibit the plan on which the living frame and its organs are developed, *transcendental anatomy*. The art of making models of wax or of other materials to illustrate the healthy or diseased structure of parts, is sometimes termed *artificial anatomy*.

ANAT'ROPOUS, from ανατρεπω, to invert. A term applied to a very common kind of embryo, produced by one side of the ovule growing upon itself, while the other remains immoveable, till that part originally next the apex is brought down to the hilum, as exemplified in the apple.

ANAXIMAN'DRIANS, the followers of Anaximander, the most ancient of philosophical atheists. They admitted of nothing in nature but matter.

ANBAT'KEND, the name of a celebrated book of the Brahmins, wherein the Indian philosophy and religion are contained. The word means literally, the cistern wherein is the water of life.

AN'CEPS, two-edged, having two sharp edges: applied to the stems and leaves of plants.

ANCHI'LOPS, αιγιλωψ, from αιξ, a goat, and ωψ, the eye. Goat's-eye, a tumour near the inner angle of the eye. *See* ÆGILOPS.

ANCHOMENUS, a genus of adephagous coleoptera, belonging to the Patellimani of Latreille.

AN'CHOR, Lat. *anchora*, from αγκυρα, probably from αγκη, a hook. A hooked iron instrument of considerable weight and strength, for enabling a ship to lay hold of the ground and fix itself in a certain situation by means of a rope, called the *cable*. The arms which take hold of the ground are technically called *flukes*; the cross-bar of wood is called the *stock*; the massy iron bar constituting the body of the anchor is called the *shank*; and the flattened points of the flukes are called *palms*.

Anchors are of different sizes, and have different names, according to the purposes which they serve: as *sheet*, *best bower*, *small bower*, *spare*, *stream*, and *kedge anchors*. Ships of the first class have usually seven anchors; and smaller vessels, as brigs and schooners, three. The weight in cwts. of the principal anchor, should be a twentieth of the number of tons burden, in ordinary vessels. Thus, a vessel of 1000 tons will require an anchor of 50 cwts. There are many nautical phrases connected

with the anchor: as, the *anchor comes home*, when it comes from its bed; it is *foul*, when entangled with another; *a-peak*, when drawn in so tight as to bring the vessel immediately over it; *a-trip*, or *a-weigh*, when just drawn out of the ground in a perpendicular direction. To *back an anchor*, is to lay down a small anchor a-head of that by which the ship rides, with the cable fastened to the crown of the latter, to prevent its coming home. *At anchor*, to *lie at anchor*, to *ride at anchor*, to *cast anchor*, to *weigh anchor*, are well-known phrases. ——2. In *architecture*, a carving somewhat resembling an anchor, commonly placed as part of the enrichment of boultins.——3. In *heraldry*, anchors are emblems of hope.

AN'CHORAGE, ground suited for holding an anchor, that is, neither too deep, shallow, nor rocky. The best anchorage is land-locked and out of the tide.——2. The duty charged to ships for the use of a harbour where they cast anchor ——3. The anchor and necessary tackle for anchoring are also sometimes called the ship's anchorage.

AN'CHORET, } Gr. αναχωρητης, from
AN'CHORITE, } αναχωρεω, to retire. A recluse: one who retires into a solitary place to devote himself to religious duties. Also a monk, who with the leave of the abbot retires to live in solitude with an allowance from the monastery. A hermit. Many of the early Christians became anchorets to escape persecution; but this kind of life afterwards became fashionable among religious enthusiasts.

ANCHOR-GROUND, ground suited for anchoring. *See* ANCHORAGE.

ANCHOVY, a small fish (*clupea encrasicolus*, Lin.), common in the Mediterranean. It closely resembles the sprat, and is chiefly used as a sauce. About 120,000 lb. are consumed in Britain annually.—The name is Span. *anchova*, of uncertain origin. *See* ENGRAULIS.

ANCHOVY-PEAR, a large esculent fruit of Jamaica: also the tree which bears it, the *grias cauliflora*.

ANCHU'SA, the *buglos* or *alkanet*. The popular name of a genus of which there are two British species, class *pentandria*, order *monogynia*. Named from αγχουσα, a paint, in reference to the dye obtained from the roots of one species of it. *See* ALKANET.

ANCHYLO'SIS, from αγκυλοω, to bend. A stiff and bent joint.

ANCIENT, Fr. *ancien*, old. 1. Substantively in the plural, *ancients:* those who lived in former ages, opposed to *moderns*. The term is now commonly applied to the Greeks and Romans.——2. In French history, the *council of ancients* was one of the two assemblies which composed the legislative body in 1795. It consisted of 250 members, and derived its name from each of them being at least 40 years of age.—— 3. A flag or streamer in a ship of war, probably a corruption of *end-sheet*, a flag at the stern.

ANCIENT-DOMAIN, } In *English law*, a
ANTIENT-DEMESNE. } tenure by which all manors belonging to the crown were held in the reign of William the Conqueror. The numbers, names, &c., of these lands were all entered in the record called the *domesday-book*, as *terra regis*. The tenure resembles copyhold in some respects.

ANCIENTLY, in *old statutes*, eldership or seniority.

ANCILLA'RIA, a volute shell, of an oblong subcylindrical form. It belongs to the genus buccinum of Lin., and the family buccinoida of Cuv. The shell is highly polished. Named from *ancilla*, a maid.

ANCIP'ITAL, Lat. *ancipitas*. Compressed so as to form two opposite angles or edges: applied to leaves in the same sense as *anceps* (q. v.).

ANCIPITOUS, from *anceps*, two-edged. *See* ANCIPITAL.

AN'CON, Gr. αγκων, the elbow. Sometimes applied to the olecranon or projecting part of the elbow on which we lean. In *architecture*, the ornaments or consoles cut on the keystones of arches, &c., are termed *ancones*. The term is also applied to the corners of walls, cross-beams and rafters, and to other projecting parts.

ANCONO'SE, } Lat. *anconeus*, angular.
ANCO'NOUS, } The anconose muscle (*anconeus minor* of Winslow), is a small triangular muscle situated in the back part of the elbow, and which assists in extending the forearm.

AN'CONY, probably from *ancon* (q. v.). In *iron works*, a piece of half-wrought iron; the middle is of the shape of a bar, but the ends are unwrought.

ANCY'LE. In *antiquity*, a shield, which it was pretended fell from heaven in the reign of Numa Pompilius, at which time likewise a voice was heard to declare that Rome should be mistress of the world, so long as she preserved this holy buckler; it was kept with great care in the Temple of Mars, under the protection of twelve priests. Among *surgeons*, a contraction or stiffness of a joint; from αγκυλος, crooked, or contracted.

ANCYLOME'LE, a curved probe used by surgeons; αγκυλος, crooked, and μηλη, a probe.

ANCYLUS, the fresh-water limpet; a genus of river snails. *See* LIMNACIANÆ.

AN'DA, a Brazilian tree, the fruit of which is an oval-shaped nut, containing two seeds, which are strongly cathartic.

ANDALUSITE, a massive mineral, of a flesh-red colour, and vitreous lustre, which takes its name from Andalusia, in Spain, where it was first found. Its chief elements are alumina, silica, and potash, coloured by a minute portion of oxide of iron. It occurs in primitive rocks; chiefly in gneiss in England, Scotland, and Ireland. Mohs places it among the gems.

ANDA'NTE, an Italian term (literally *going*) employed in music to denote a movement moderately slow between *largo* and *allegro*.

ANDE'NA, in *old writings*, the swath made in mowing of hay; as much ground as a man can stride over at once.

ANDERSO'NIA, the generic name of a tree of New Holland; class *pentandria*, order *monogynia*. Named in honour of Dr. O. Anderson.

ANDI'RA. 1. The name of a species of Brazilian bat, "nearly as large as a pigeon."——2. The generic name of the *cabbage-tree*; a lofty tree which grows in the East and West Indies, and other hot countries: class *diadelphia*, order *decandria*. The bark and seed are used in medicine.

ANDRANA'TOMY, from ανηρ, a man, and ανατεμνω, to cut up. The dissection of the human body, particularly of the male.

ANDRENE'TÆ, a tribe of hymenoptera, embracing all those genera of bees which live solitarily, and consist of two kinds of individuals, males and females. They correspond with the *andrenæ* of Fabricius, and take their name from the typical genus *andrena*.

ANDROCÆ'UM, from ανηρ, a male, and οἰκος, a house. In *botany* all that part of a flower to which the male organs belong; the male apparatus of a plant.

ANDRO'GINAL, ANDRO'GINE, ANDRO'GINOUS, } Gr. ανδρόγυνος, from ανηρ, a man, and γυνη, a woman. Having two sexes, or being an hermaphrodite. In *botany*, the term is applied, 1. To flowers which have both male and female organs. ——2. To plants which have separate male and female flowers. Such plants constitute the Monœcious class in the Linnæan system, and have frequently *aments*.

AN'DROID, from ανηρ, a man, and εἰδος, likeness. In *mechanics*, a figure constructed so as to imitate the actions or motions of man. *See* AUTOMATON.

ANDRO'MEDA. 1. In *astronomy*, a constellation of the northern hemisphere, behind Pegasus, Cassiopeia, and Perseus, representing a woman chained. It is fabled to have been formed in memory of Andromeda, daughter of Cepheus and Cassiopeia, and wife of Perseus, whom her father chained to a rock, and left exposed to a sea-monster.——2. In *botany*, the March cystus: a genus of the class *decandria*, and order *monogynia*, of which there is one British species. This beautiful tribe of plants takes its name likewise from the fable of Andromeda, being found in dreary and northern wastes, feigned to be the abodes of hobgoblins and monsters.

AN'DRON, in *Grecian antiquity*, an apartment for the use of men; hence, among *ecclesiastical writers*, the southern side of a church, which was anciently appropriated to the men; the northern being appointed for the women. Among the Greeks and Romans, the andron was always in the lower part of the house, and the gynœcea or women's apartments in the upper.

ANDROPETALOUS, from ανηρ, a male, and πεταλον, a petal. A term used in botany to describe double flowers, which are produced by the conversion of the stamens into petals, as is exemplified in most double flowers.

ANDRO'PHORON, ANDRO'PHORUM, } from ανηρ, a male, a stamen, and φερειν, to bear. The columnar expansion in the centre of some flowers on which the stamens seem to grow, as in the passion-flower.

ANDROPO'GON, a genus of plants; *man's-beard*, from ανηρ, a man, and πωγων, a beard. Class *polygamia*, order *monœcia*. There are many species, all natives of warm climates; two of them are known to physicians under the names of Indian nard and camel's-hay, or sweet-rush.

ANDRO'TOMY. *See* ANDRANATOMY.

ANDRUM, a kind of elephantiasis of the scrotum, which is epidemic in the south of Asia, particularly Malabar. The root of the word is Indian.

ANDRYALA, the *downy sow-thistle*, a genus of exotics. Class *syngenesia*, order *polygamia æqualis*.

ANELECTRIC, non-electric; from α, not, and ηλεκτρον, electricity.

ANEM'IA, a genus of cryptogamous plants of the order *filices*. There are five species, all perennials, and natives of the West Indies and South America. Named from ἄνεμος, the wind.

ANEMO'LOGY, from ἄνεμος, the wind, and λογος, discourse. The doctrine of the winds, or a treatise on the subject of aerial currents.

ANEMO'METER, from ἄνεμος, the wind, and μετρον, measure. A machine or instrument for measuring the force or velocity of the wind: called also a *wind-gage* (q.v.) An instrument of this sort was first invented by Wolfius.

ANE'MONE, the *wind-flower*, a genus of

the class *polyandria* and order *polygynia*. There are four British, and 24 foreign species, all perennials. Named from ἄνεμος, the wind, because the flower is said not to open till blown upon by the wind. From the beauty of the flower it is fabled that Venus changed her Adonis into an *anemone*.

ANEMO'NIA, } an acrid crystallisable and
ANEMO'NIN, } inflammable substance, obtained from some species of *anemone*.

A'NEMOSCO'PE, from ἄνεμος, the wind, and σκοπεω, to view. Properly, a machine for showing from what point of the compass the wind blows; but the term is oftener used as synonymous with *anemometer* (q.v.) The common weathercock is strictly an anemoscope.

ANEPITHY'MIA, loss of any natural appetites, as that for food and drink: from α, without, and επιθυμια, desire.

ANE'SIS, in *medicine*, remission or diminution of symptoms; from ανιημι, to remit.

ANETH'UM, the herbs *dill* and *fennel*; the name of a genus of the class *pentandria*, and order *dygynia*. Named ἄνηθον, *quòd citò crescat* (Pliny, 20, 18). The fennel, *A. fœniculum*, grows plentifully on the chalky cliffs in England; its seeds are carminative.

AN'EURISM, Gr. ανευρυσμα, from ανευρυνω, to dilate. "The term signifies strictly a tumour arising from the dilatation of an artery; but it has been extended to several diseases and lesions of the blood-vessels, and to dilatations of the heart"

ANFRACTUO'SITY (*supra*), an involution of parts.

ANFRAC'TUOUS, Lat. *anfractus*, a winding backwards and forwards. A term most commonly used in botany, to signify that the marginal parts are folded back, and doubled and bent until all trace of the normal character is lost.

ANGEL, 1. literally a messenger, from αγγελος, one employed to communicate information, from αγγελλω, to announce; hence, in *scripture*, a spiritual intelligence employed by God to execute his will.——2. The name of a gold coin formerly current in England bearing the supposed figure of an angel. This coin had different values in different reigns; e.g. 6*s.* 8*d.* in the reign of Edward VI.; 7*s.* 6*d.* in 1st Henry VIII., and 8*s.* in 34th Henry VIII.; 10*s.* in the reigns of Mary and Elizabeth. The angel was first struck in commemoration of a saying of Pope Gregory, that the English, whom he denominated pagan Angli, were so beautiful, that if they were Christians they would be angels.——3. The order of the *Golden Angel* was an ancient order of knighthood, said to have been instituted by Constantine, but more probably by the imperial house of Comnenus of Constantinople. The order was revived by Charles V. It is the same as that known as the orders of St. George and of St. Constantine.——4. Angel is also the popular name of a genus of fishes (*chætodon*, Lin.) remarkable for their beautiful colours. *See* CHÆTODON.

ANGEL'ICA, a genus of aromatic plants of the class *pentandria* and order *digynia*, named *angelic*, from the cordial and medicinal properties of some of its species.

ANGELICEÆ, the name given by Decandolle to a tribe of umbelliferous plants, of which the genus *angelica* is the type.

ANGELICS, *angelici*, in *church history*, an ancient sect of heretics, who maintained that the world was created by angels, also a congregation of nuns founded at Milan, in 1534, by Louisa Torelli, Countess of Guastalla. *Angelics* is also the name of an order of knights instituted in 1191, by Angellus Flavus Comnenus, emperor of Constantinople, probably the same as the order of the golden angel. *See* ANGEL (3).

ANGELITES, in *church history*, a sect so called from Angelicum, in Alexandria, where they held their first meetings. They are also called *Severites*, from Severus, their head; and *Theodosians*, from one Theodosius, whom they made their pope.

ANGELOT. 1. A musical instrument somewhat resembling a flute; so called from Fr. *auche*, the reed of a hautboy or other musical instrument.——2. An ancient gold coin, struck at Paris while under the dominion of England; so called from its being the figure of an angel, supporting the scutcheon of the arms of England and France.——3. A small rich sort of cheese, made in Normandy: supposed to be so called from the name of the person who first made it, or from its resemblance to the form of the coin *angelot*.

ANGEL-SHOT, from Fr. *ange*, a chain-shot. A sort of chain-shot having two halves of a cannon-ball fastened to the ends of a chain.

ANGEL-WATER, a mixture of rose, orange-flower, and myrtle water, perfumed with ambergris. It is made in Portugal.

ANGINA, Lat. from *ango*, to strangle. A general name for diseases called *sore throat*, and which are attended with difficult deglutition and respiration, as quinsy, mumps, croup. That peculiar affection of the chest called *suffocative breast-pang* is also named by physicians *angina pectoris*.

ANGIOCAR'POUS, from αγγειον, a case, and καρπος, fruit. A term applied in *botany* to seed-vessels which are enclosed in a covering that does not form part of them-

selves. The filbert in its husk, and the acorn in its capsule, are examples of angiocarpous fruits.

Angio'graphy, from αγγειον, a vessel, and γραφω, to describe. A description of the vessels of the human body.

Angio'logy, from αγγειον, a vessel, and λογος, discourse. The doctrine of the blood-vessels and absorbents of the body.

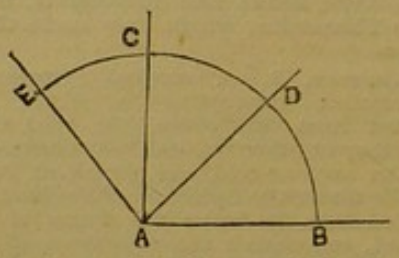
Angiomo'nosper'mous, from αγγειον, a vessel, μονος, one, and σπερμα, seed. Applied to plants which produce only one seed in a pod.

Angiospermia, the name given by Linnæus to an order of plants of the class *didynamia*, which have their seeds inclosed in a pericarp or seed-vessel.

Angiostoma, "a family of univalve shells of the order *siphono-brachiata*." Name, from αγγειον, a vessel, and στομα, a mouth.

Angiotomy, from αγγειον, a vessel, and τεμνω, to cut. The analogy of the sanguiferous and absorbent vessels of the body. The word has been confounded with *arteriotomy* and *phlebotomy*.

Angle, Lat. *angulus*, a corner, from αγγυλος, a bend. In *plane geometry*,



when two straight lines, not lying in the same direction, as A B and A D, meet in a point as at A, the opening between them is called an *angle*. Thus, the opening commencing at A is called the angle B A D, or D A B; and the lines A B and A D are called its *sides* or *legs*. When the legs of the angle intercept less than the fourth part of a circle drawn round the point A, the angle is said to be *acute*. When exactly a fourth of the circle is similarly intercepted, the angle is called a *right angle*; but when more is intercepted, the angle is *obtuse*. Thus, B D is *less* than the fourth; B C *exactly* a fourth; and B E *more* than a fourth: therefore, the angle B A D is an *acute angle*; the angle B A C is a *right angle*; and the angle B A E is an *obtuse angle*. And as all circles are supposed to be divided into 360°, an acute angle will contain less than 90°; a right angle, 90°; and an obtuse angle, more than 90°. The number of degrees which an angle wants of 90°, or of being a right angle, is called its *complement*; and the number of degrees which it wants of being equal to two right angles, or 180°, is called its *supplement*. Thus, the angle C A D is the complement of the angle D A B, or these angles are complements of each other; and are also called *contiguous* or *adjacent angles*, because one leg, A D, is common to both.——A *solid angle* is "formed by the meeting of two plane angles, which are not in the same plane, in one point."—*Euclid*. Solid angles do not, like other subjects of geometrical investigation, admit of accurate comparison with one another, as no multiples of them can be taken; and therefore all reasoning regarding them must be confined to the plane angles by which they are bounded.——A *spherical angle* is an angle made on a sphere by the intersection of two great circles, or by the inclination of the planes of these circles to each other.——*Facial angle*, in *zoology*, signifies the angle formed by the intersection of a line drawn from the most prominent part of the frontal bone over the anterior margin of the upper jaw, with another line drawn from the external orifice of the ear-passage along the floor of the nasal cavity.——The *frontal angle*, in *ornithology*, is the angle which the upper line of the beak makes with the forehead.

Angle of Draught. When a power is applied to drag or roll a body over a plane surface, it has to overcome two obstacles: one is the friction of the surface over which the body moves, and the other the weight of the body itself. There is, in every case, a certain direction of the drawing power which is best adapted to overcome these combined obstacles; and the angle made by the line of direction with a line upon the plane over which the body is drawn, and perpendicular to that line of direction, is termed the *angle of draught*.

Angle of Incidence. *See* Reflection.

Angle of Refraction. *See* Refraction.

Angle of Vision, the angle formed by two rays of light proceeding from different objects, or opposite extremities of the same object: called also the *visual angle* and the *optic angle*.

Angler, one who fishes with an *angle*, or hook attached to a line. Also the popular name of a singular fish, known also by the name of the *fishing-frog*, from the resemblance which it has to the frog in the tadpole state.

Anglican, pertaining to England or the English nation; e.g. the *Anglican church*. The word is the adjective of *Anglia*. A tribe of Saxons, called *Angles*, who, being employed by the Britons against the Scots and Picts, ultimately turned upon and conquered their employers, and gave the name of *Anglia* to England. The Angles were the *Ingævones* of Tacitus.

Anglo-Danish, pertaining to the An-

glican Danes, or Danes who settled in England (*Anglia*).

Anglo-Norman, pertaining to the Normans who settled in England.

Anglo-Saxon, pertaining to the *Angles*, or tribe of Saxons that settled in England. *See* Anglican.

An'gon, the javelin of the ancient French, the iron head of which resembled a fleur-de-luce.

An'gor, Lat. from *ango*, to strangle. In *pathology*, a feeling of anxiety, and constriction in the præcordial region: it is an accompaniment of many severe diseases.

Angu, bread made of the cassava, a plant of the West Indies.

Anguina, a family of serpents having an osseous head, teeth, and tongue, and eyes furnished with three lids. They are all comprised in the genus *anguis* of Linnæus (whence their family name), and belong to the order *ophidia* of Cuvier.

Anguis, a genus of serpents (Linnæus) composing the family *anguina* of Cuvier, and now subdivided into *pseudopus*, *ophisaurus*, *anguis proper*, and *acontias*. They are all characterised by having subcaudal and abdominal imbricated scales. The slow-worm (*A. fragilis*) is an example.

Angular, relating to angles. *Angular motion* is the motion of a body about a fixed point, which is measured by the angle described at the centre by lines drawn from its positions at different points of its circular path. By *Angular section* is meant, in the old geometry, the division of an angle into any number of equal parts. The bisection only of an angle is possible by plane geometry; the trisection of an angle requires the aid of solid geometry, and the general division of an angle into any proposed number of equal parts is a problem which has not as yet been solved. *Angular sections*, in modern mathematics, is the name used to denote a branch of analysis, which is employed in the investigation of the properties of circular functions.

Angulate, angled; applied to stems, leaves, petioles, &c., which are of an angular shape.

Angus'tate, Lat. *angustatus*, beginning with a narrow base and growing broader; tapered downwards, or towards the base.

Angus'ticlave, from Lat. *angustus*, narrow, and *clavus*, a knob. A robe or tunic worn by the Roman knights; it was embroidered with narrow purple knobs, or studs, whereas the *laticlave* worn by the senators had broad studs.

Angustifoliate, narrow-leaved; *angustus*, narrow, and *folium*, a leaf.

Angustu'ra, bark; a medicinal bark (of the *Bonplandia trifoliata*); is so called because brought from Angustura, in South America. It is occasionally used as a tonic, and in diarrhœa. *Spurious angustura* is a poisonous bark, sometimes found in commerce; it is obtained from a species of strychnos.

Anhela'tion, from *anhelo*, to breathe with difficulty. Difficult respiration, with a sense of suffocation. *See* Dyspnœa.

Anhi'ma, an aquatic fowl of Brazil, somewhat like a crane. It is said that when the male or female dies, the living one remains by the carcass till it also expires.

Anhydrite, anhydrous gypsum. A variety of sulphate of lime containing no water of crystallisation. It is also called *prismatic gypsum*.

Anhydrous, from α, priv., and ὕδωρ, water. Containing no water in combination. Anhydro is a contraction of this word; e. g. anhydro-sulphuric acid.

Anil, one of the indigo plants (*indigofera*). *Añil* is the Spanish and Portuguese word for *indigo*, perhaps from Arabic *nila* blue. The plant is a native of America.

Anille'ros, in *history*, the name given to the moderate party during the Spanish revolution of 1820-23. They directed the Cortes, and were headed by Arguelles and Martinez de la Rosa.

Animal, an organised and living body, endowed with sensation and the power of voluntary movement, in whole or in part Locomotion, although a general characteristic, is not an essential attribute of animality. There are numerous animals as permanently fixed to their native rocks and coral reefs, as the most deep-rooted plants are to the soil on which they grow. The word *animal* is Latin, from *anima*, air, breath, soul.

Animal Kingdom. The Animal Kingdom is arranged into four divisions. Division I. *Vertebral Animals*, so called from their possessing a vertebral column, or spine.—Division II. *Molluscous Animals*, such as shell-fish, which are of a soft structure, and without a skeleton, from *mollis*, soft.—Division III. *Articulated Animals*, such as the worm, or insect, which are also without a skeleton; but whose skins or coverings are divided and jointed; from *articulus*, a small joint.—Division IV. *Zoophytes*, animals believed to be composed very nearly of a homogeneous pulp, which is moveable and sensible, and resembles the form of a plant; from ζωον, a living creature, and φυτον, a plant.

Division I.

Vertebral Animals are composed of four classes: viz., 1. *Mammalia*, animals which suckle their young; from *mamma*, a teat; 2. *Aves*, from *avis*, a bird; *Reptilia*, animals that crawl, from *repo*, to creep; 4. *Pisces*, from *piscis*, a fish.

The First Class, *Mammalia*, is again divided into orders, which are subdivided

into genera, and these are further divided into species. The following familiar examples will illustrate the principal orders: 1. Bimana, two-handed, from *bis*, double, and *manus* a hand. Of this order man is the type and sole genus.—2. Quadrumana, four-handed, from *quatuor*, four, and *manus*. Apes, baboons, lemures, and the loris tardigradus, are of this character.—3. Cheiroptera, from χειρ, hand, and πτερον, wing. These have their hands so modified, as to serve the office of wings. Of this order the common bat may be considered the type.—4. Insectivora, from *insecta*, insect, and *voro*, I devour. Animals which live wholly or chiefly on insects, as the hedgehog, shrew, mole, &c.—5. Plantigrade, from *planta*, the sole of the foot, and *gradior*, I walk. These are generally carnivorous animals, as the bear, racoon, &c.—6. Digitigrade, from *digitus*, the finger, or toe, and *gradior;* so called from walking on the extremities of their digits, as the lion, wolf, dog, &c.—7. Amphibia, from αμφι, both, and βιος, life; having the faculty of existing both in water and on land, as the walrus, seal, &c.—8. Marsupialia, from *marsupium*, a pouch. The females of this order have a bag, or pouch, underneath the belly, in which they deposit their young after parturition, as the kangaroo and opossum.—9. Rodentia, from *rodo*, I gnaw, so called from having two long incisors in each jaw, and no canine teeth, as the squirrel, rat, beaver, hare, &c.—10. Edentata, from *edentulus*, toothless; i. e. animals without the front teeth, as the ai, unau, armadillo, ant-eater, &c.—11. Pachydermata, from παχυς, thick, and δερμα, skin; i. e. *thick-skinned*, as the rhinoceros, elephant, mammoth, horse, &c.—12. Ruminantia, from *ruminatio*, chewing the cud, as the camel, deer, cow, goat, sheep.—13. Cetaceæ, from *cetus*, a whale. To this order belong the dolphin, whale, dugong, &c.

Second Class.—*Aves, or Birds.*—1. Accipitres, from *accipiter*, a hawk; such as the vulture, eagle, hawk, &c.—2. Passeres, from *passer*, a sparrow; those which neither manifest the violence of birds of prey, nor the fixed regimen of terrestrial birds, but feed indiscriminately on insects, fruit, or grain, as the lark, thrush, swallow, crow, wren, &c.—3. Scansores, from *scando*, I climb; i. e. climbing birds, which have the toes arranged in pairs; two before and two behind, as the parrot, woodpecker, toucan.—4. Gallinæ, from *gallina*, a hen. This order is sometimes called *rasores*, scratchers, being provided with strong feet, and obtuse claws for scratching up grains, as the peacock, pheasant, pigeon, hen.—5. Grallæ, from *grallæ* stilts; i. e. long-legged, as the ostrich, stork, ibis, flamingo.—6. Palmipedes, from *palma*, the palm of the hand, and *pes*, foot; i. e. swimming birds, as the swan, goose, pelican, gull, &c.

Third Class.—*Reptiles.*—1. Chelonia, from χελυς, a tortoise, including terrapenes and turtles.—2. Sauria, from σαυρα, a lizard, an order which have their mouths well armed with teeth, and their toes generally furnished with claws, as the crocodile, alligator, cameleon, dragon, &c. The most gigantic of this species have been long extinct.—3. Ophidia, from οφις, a serpent, as the boa, viper, &c.—4. Batrachia, from βατραχος, a frog. To this order belong the salamander, proteus, &c.

Fourth Class.—*Fishes.*—1. Chondropterygii, from χονδος, gristle, and πτερυξ, the ray of a fin: as the sturgeon, shark, lamprey, &c.—2. Plectognathi, from πλεκω, I join, and γναθος, the jaw: as the sunfish, trunk-fish, &c.—3. Lophobranchi, from λοφος, a loop, and βραγχια, the gills, as the pipe-fish, pegasus, &c.—4. Malacopterygii, from μαλακος, soft, and πτερυξ: as the salmon, trout, cod, herring, &c.—5. Acanthopterygii, from ακανθα, a thorn, and πτερυξ: as the perch, sword-fish, mackerel, &c.

Division II.—*Molluscous Animals.*

1st Class. Cephalopoda, from κεφαλη, the head, and ποδα, feet, i. e. animals which have their organs of motion arranged round their heads. This class includes sepia, or cuttle-fish, argonauts, the nautilus, ammonite, an extinct cephalopode which inhabited a shell resembling that of the nautilus, coiled like the horns of a ram, or of the statues of Jupiter Ammon, whence the name; belemnites also extinct, of which the shell was long, straight, and conical; nummulites, likewise extinct: whole chains of rocks are formed of its shells, and the pyramids of Egypt are built of these rocks: so called, from *nummus*, a coin.—2nd Class. Pteropoda, from πτερον, a wing, and ποδα, feet: those having fins resembling wings on each side of the mouth: the clio borealis, which abounds in the north seas, and is the principal food of the whale.—3rd Class. Gasteropoda, from γαστερ, the stomach, and ποδα: animals which move by means of a fleshy apparatus placed under the belly, as the snail, slug, limpet.—4th Class. Acephala, from α, without, and κεφαλη, head: as molluscous animals that have no head, viz., the oyster, muscle.—5th Class. Brachiopoda, from βραχιον, arm, and ποδα: animals which move by means of processes resembling arms, as the lingula,

terebratula, &c.—6th Class. Cirrhopoda, from *cirrus*, a tuft of hair, and ποδα: animals which are commonly called barnacles and acorn-shells, as the balanus, anatifera, &c.

Division III.—*Articulata.*

1st Class. Annelides or vermes, from *annellus*, a small ring, and *vermis*, a worm. Animals having a long cylindrical body divided into ring-like segments, as the leech, sea-mouse, earth-worm, and sand-worm; worms which cover themselves by means of a slimy secretion that exudes from their surfaces, with a case of small shells and pebbles, like the caddis-worm, or with sand and mud.—2nd Class. Crustacea, from *crusta*, a hard covering. Animals which have a shelly crust covering their bodies, as crabs, shrimps, lobsters, &c.—3rd Class. Arachnida, from αραχνη, a spider; as spiders, the leaping spider, the scorpion spider, the mite, &c.—4th Class. Insecta, insects. This class is divided into insects without wings, *aptera*, and those which have them; and these are again subdivided, according to the peculiarities of their wings. (1.) Aptera, from α, without, and πτερον, wing: as centipedes, the louse, flea, &c. (2.) Coleoptera, from κολεος, a sheath or scabbard, and πτερον: insects which have their wings protected by a cover: as the beetle, corn-weevil, &c. (3.) Orthoptera, from ορθος, straight: as the locust, grasshopper. (4.) Hemiptera, from ημισυ, half: insects which have one-half of their wings thick and coriaceous, and the other membranous: as the bug, tick, fire-fly. (5.) Neuroptera, from νευρον, a nerve: as the dragon-fly, ant-lion, ephemera. (6.) Hymenoptera, from υμεν, a membrane: as the bee, wasp, ant. (7.) Lepidoptera, from λεπις, a scale: as the moth, butterfly. (8.) Rhipiptera, from ριπις, a fan: as the xenos, stylops. (9.) Diptera, from δις, double: as the house-fly, gnat.

Division IV.—*Zoophytes.*

Echinodermata, from εχινος, a hedgehog, and δερμα, the skin: as the star-fish, sea-urchin.—Entozoa, from εντος, within, and ζωον, an animal: as the tænia hydatia.—Acalephæ, from ακαλη̣φη, a nettle: as the medusa, polypi, tubipora, sertularia, cellularia, flustra, coralline, sponge.—Infusoria, from *infundo*, I pour in: as monas, vibrio, proteus.

Animalcule, literally *a little animal.* This name is applied by naturalists to those minute beings which become apparent only by aid of the microscope. They are hence called *microscopic animals* by some; and as numerous species are developed through the medium of infused substances, they are very commonly called *infusoria*, and under this name Cuvier places them in his fourth great division: the radiated or zoophitical animals.

Animal-flower, an absurd name given to several species of animals of the genus actinia, but especially the *urtica marina*, or the sea-nettle and the sea-anemone.

Animalization, endowing with properties peculiar to animals; e. g. the process by which the nutritive part of the food is converted into the various substances which compose the body. *Animal substances* are the products of animal bodies, chemically considered, which are chiefly characterised by the presence of nitrogen usually combined with carbon, hydrogen, and oxygen.

An'ime (Fr.). In *heraldry*, a term used to denote that the eyes of a rapacious creature are borne of a different tincture from the creature itself.

An'ime (Sp.). A transparent amber-coloured resin, exuded from the trunk of a large American tree, called by the Indians *courbaril*—a species of Hymenæa. It is sometimes called *gum-anim.*

Anion, from ανα, upwards, and ειμι, to go. A substance which in electrolysis passes to the anode. *See* Electrode.

Anisob'ryous, from ανισος, unequal, and βρυω, to grow. A term applied to monocotyledonous plants, which having only one cotyledon, grow at first with more force on one side of their axis than on the other.

Anisodac'tylæ, } Gr. ανισος, unequal,
Anisodac'tyles, } and δακτυλος, a toe.
The term given by Temminck to an order of birds, the toes of which are of unequal length, as in the nuthatch.

Anisody'namous, from ανισος, unequal, and δυναμις, power. A term applied in *botany* in the same sense as anisobryous (q. v.).

Anisostem'onous, from ανισος, unequal, and στημων, a stamen. A term applied in *botany* when the stamens in a flower neither correspond with the calyx nor corolla in number or power; e. g. when a flower having five sepals has three or seven stamens: in such case the stamens are neither equal to the number of sepals nor to any power of their number.

Aniso'stomus, from ανισος, unequal, and στομα, a mouth. A term sometimes used to denote that the divisions of a calyx or a corolla are unequal.

Anisotom'idæ, Gr. ανισος, unequal, and τεμνω, to cut. The name of a family of coleopterous insects, having moniliform antennæ, subelongate, slender at the base, and gradually increasing towards the apex with a terminal club-shaped mul-

articulate joint. The family includes eight genera: tritoma, phalacrus, ephistomus, leiodes, agathidium, clambus, clypeaster, and sericoderus. Many of the species are British.

ANNATS, from *annus*, a year. A year's income of a spiritual living, originally given to the pope on the death of an incumbent, and paid by the successor. At the Reformation the annats were vested in the king, but were restored by Queen Anne to the church, and appropriated to the augmentation of poor livings. ——2. Masses said in the Romish church for the course of a year.

ANNE. The *order of St. Anne* is a Russian order of knighthood, which originated in Holstein, and was carried by the princes of that country into Russia. It became a Russian order in 1796.

ANNEALING, from Sax. anœlan, to heat. A process by which glass is rendered less frangible; and metals which have become brittle, either in consequence of fusion or long continued hammering, are again rendered malleable. The process consists in bringing the material to be annealed to a high heat, and allowing it to cool gradually: it is frequently called *nealing* by the workmen.

ANNELIDA, } the class of sea-worms
ANNELIDES, } having the joints of their bodies, like the common earth-worm, disposed in rings, and having red blood. They constitute the first class of articulata in the system of Linnæus. Name, from *annellus*, a little ring, and εἶδος, like.

ANNO DOMINI [Lat.] In the year of our Lord; noting the time from Christ's incarnation, as *Anno Domini* 1844, contracted A.D. 1844.

ANNO'NA, the *custard-apple*. A genus of many species, mostly natives of America and the West Indies. Class *polyandria*, order *polygynia*.

ANNOT'TA, } a species of red dye, formed
ANNOT'TO, } of the pulp which surrounds the seeds of the *Bixa orellana*, a plant common in South America. It is employed in colouring cheese, and, in dyeing, to give an orange tint to simple yellows.

ANNU'ITY, from *annus*, a year. A periodical payment of a specified sum of money at particular dates agreed upon, to be continued either for a definite period, as ten, fifty, &c. years, in which case it is called an *annuity certain*; or for an indeterminate time, dependent upon some contingency, as the death of a person, in which case it is a *contingent annuity*; or for an indefinite period, in which case the annuity is said to be *perpetual*. A *deferred annuity* is one to commence after a certain number of years: if after the death of a person now living, it is a *reversionary annuity*. When the annuity is limited by the duration of a given life, it is termed a *life annuity*; when it is to continue only for a term of years, provided a certain life or lives continue, it is a *temporary life annuity*. The *present value* of an annuity is that sum which, being improved at compound interest, will be sufficient to pay the annuity.

ANNULA'RIA, a species of phalæna, of the geometra section.

ANNULA'TA, the first class of *articulata*, according to Cuvier, comprehending all red-blooded worms. The body is usually soft, more or less elongated, and divided frequently into a considerable number of segments, whence the name *annulata*, from *annulatus*. They nearly all inhabit the water, the lumbrici or earth-worms excepted. Several penetrate into holes at the bottom; others construct tubes with the ooze or other matter.

AN'NULATE, Lat. *annulatus*. Formed or divided into rings, or marked with distinct annulations, or surrounded with rings.

AN'NULET, from Lat. *annulus*, a ring. In *architecture*, 1. A small square member in the Doric capital, under the quarter-round.——2. A narrow flat moulding which is common to many places, as the bases and capitals; called also a *fillet*, a *listil*, a *cincture*, or a *list*, *timea*, *eye-brow*, or *square-rabbet*. In *heraldry*, a little circle borne as a charge in coats of arms; formerly regarded as a mark of nobility and jurisdiction, it being the custom of prelates to receive their investiture *per baculum et annulum*, by staff and ring. It is also an emblem of strength and eternity.

ANNULO'SA, from Lat. *annulus*, a ring, segment. A division of the animal kingdom in some systems, containing the five classes *crustacea*, *myriopoda*, *arachnida*, *insecta*, and *vermes*. In the arrangement adopted by Macleay, the annulosa comprehend only the classes *insecta*, *arachnida*, and *crustacea*.

ANNULOSE, furnished with, or composed of, rings (*annuli*).

AN'NULUS, a Lat. word for *ring*, used chiefly in botany in that sense, but with considerable latitude.

ANNUN'CIATION, order of the Annunciada, Annunciata, Annuntiada. An order of knighthood in Savoy, instituted by Amadeus III., in 1335, but named *annunciada* by Amadeus VIII.

ANNUN'CIATION. 1. "The tidings brought by the angel Gabriel to the virgin Mary, of the incarnation of Christ. ——2. A festival kept by the church of Rome on the 25th of March, in commemoration of those tidings; called also Lady-day.——3. The Jews give the name to a part of the ceremony of the passover.

ANO'BIUM, a sub-genus of *ptini* (*see* PTINUS). Name, from ἀναβιον, resuscitated, the species being characterised, in

common with most of their congeners, by their frequent simulation of death, and their reassumption of activity as soon as the threatened danger is over. Several species inhabit the interior of houses, where they attack the timbers, furniture, books, &c., and pierce little round holes, resembling those made by a very small gimlet. When much pierced the article is popularly said to be *worm-eaten*. The sexes frequently summon each other by reiterated and rapid strokes of their mandibles against the wood they inhabit, and mutually answer the signal. These signals constitute that noise resembling the accelerated tick of a watch, so often superstitiously listened to as "the death-watch."

AN'ODE, from ἄνὰ, up, and ὁδὸς, a way. The way which the sun rises; the surface at which electricity passes into a body, supposing the current to move in the opposite direction of the sun: opposed to *cathode*.

AN'ODON, ANODON'TA, ANODON'TEA, } the *fresh-water muscle*. A genus of mollusca belonging to Cuvier's second family of testaceous acephala, *mytilacea*, or muscles. Character, doubly-winged, no lamellar or other teeth, whence the name, α, without, and ὀδόντα, teeth, ὀδοὺς a tooth.——2. The name has also been applied to a genus of serpents which have the teeth very minute: the *A. typus*, a South African species, answers to the *coluber scaber* of Linnæus.

ANO'LI, the vernacular name in the Antilles of a species of lizard, to which the generic name *anolis* (q.v.) is applied.

ANO'LIS, the name of an inguanoid genus of lizards, all the species of which are natives of the warmer parts of America, and are remarkable for agility, beauty, and brilliancy of their colours, and their power of inflating the skin of the throat. The typical species is the *anoli* of the Antilles.

ANOM'ALIPED, any fowl whose middle toe is united to the exterior by three phalanges, and to the interior by one only; from ἀνώμαλος, anomalous, and πους, foot.

ANOMALIS'TIC, ANOMALIS'TICAL, } from ἀνώμαλια, inequality, irregular. In *astronomy*, the *anomalistic year* is the time in which the earth passes through her orbit, otherwise called the *periodical year*. It is longer than the tropical year by 25 minutes, on account of the precession of the equinoxes. *See* APSIDES.

ANOM'ALY, ἀνώμαλια, irregularity, deviation from law. In *astronomy*, an irregularity in the motion of the planets, whereby they deviate from their perihelion, which is owing to their unequal velocity. There are three anomalies; the true, the mean, and the eccentric.——2. In *grammar*, an exception to a general rule.——3. In *music*, a false scale or interval.

ANOMŒANS, ANO'MEANS, } the name by which the pure Arians were called in the fourth century, in contradistinction to the Semi-Arians: from ἀνόμοιος, different, because they maintained that the Son was in no respects like the Father.

ANOMORHOMBO'ID, ANOMORHOMBOIDA, ANOMORHOMBOIDIA, } from ἀνόμοιος, irregular, and ῥομβοειδὴς, rhomboidal. A genus of pellucid, crystalline spars of no determinate external figure, but always fracturing into regularly rhomboidal masses. There are five known species, all white, and possessing in some degree the double refraction of Iceland spar.

ANONA'CEÆ, an extensive natural order of evergreen, exogenous plants, trees, and shrubs, whose fruit is sometimes edible; as the annona, the type of the order.

ANOPLO'THERE, ANOPLOTHE'RIUM, } from ἄνοπλος, unarmed, and θηρίον, a wild beast. The name given by Cuvier to a genus of fossil quadrupeds, which presents many affinities with the various tribes of the pachydermata, and approximates in some respects to the order of the ruminantia. The bones of this extinct genus have hitherto been only found in the gypsum quarries near Paris. Five species are ascertained; the largest appears to have been of the size of a dwarf ass, with a thick tail, equal in length to its body, probably to assist the animal in swimming.

ANOR'MAL, commonly written *abnormal*, irregular; from *ab* and *norma*, law. Opposed to *normal*.

ANOR'THITE, a variety of felspar, distinguished by the absence of right angles in its fracture: whence its name.

ANOS'TOMA, from ἀνω, upwards, and στομα, a mouth. A genus of air-breathing gastropods, named from the peculiarity of the adult shell, that the last whorl turns upwards towards the spire of the shell.

ANOU'RA, ANOU'RANS, } from α, without, and ουρα, tail. The name of a tribe of Batrachian reptiles which lose the tail on arriving at maturity. The toad and frog are well-known examples.

AN'SÆ, plural of *ansa*, a handle. In *astronomy*, the parts of Saturn's ring projecting beyond the disc of the planet, like handles to the body of the planet.

AN'SERES, the third order of *aves*, in the system of Linnæus: the *anser*, or goose, is the type. *See* NATATORES.

ANT, contracted from Sax. æmet, an emmet A tribe of insects, celebrated

from time immemorial for their provident habits, and, in some countries, for their depredations. The species are numerous, and constitute a family of aculeate hymenoptera, to which Cuvier gives the name of *Heterogyna*, the most celebrated genus of which is the *Formica* of Linnæus. Gould describes five species of English ants: viz.—(1.) *Formica rufa*, Lin., the hill ant; (2.) *Formica fuliginosa*, Latr., the jet ant; (3.) *Myrmica rubra*, Lat., *Formica*, Lin., the red ant; (4.) *Formica flava*, Latr., the common yellow ant; and, (5.) *Formica fusca*, Lin., the common yellow ant. The larvæ and nymphs are vulgarly called *ant-eggs*.

ANTA (plural ANTÆ,, Lat. from *ante*, before. In *architecture*, a pilaster or square projection attached to a wall. When detached from the wall, antæ are termed parastatæ by Vitruvius.

ANTA'CID, from ἀντι, against, and *acid*. Applied to medicines which neutralise acidity of the stomach.

ANT-BEAR, } This name is common to
ANT-EATER. } the *Myrmecophaga* and *Manis* of Linnæus. The first, which is pre-eminently the *ant-eater*, is a hairy animal, with a long muzzle, terminated by a smooth toothless mouth, from which is protruded a filiform tongue, which the animal insinuates into ant-hills and the nests of termites, whence these insects are drawn by being entangled in the viscid saliva that covers it. The manis, called also the pangolin, or scaly ant-eater, is also destitute of teeth, has a very extensile tongue, and, like the true ant-eater, lives on ants and termites; but the body is covered with large trenchant scales, arranged like tiles. The name of ant-bear is confined to the Myrmecophaga, all the species of which belong to the Western Continent; while all the species of Manis belong to the Eastern Continent. Both belong to Cuvier's order of *Edentata*, or quadrupeds without front teeth.

ANT-CATCHER, the Myothera of Illiger, a bird very much resembling the thrush. The species live on insects, and chiefly on ants. They are found on both continents.

ANTAG'ONIST, αντι, against, and ἀγωνίζω, to contend. An opponent. In *anatomy*, a muscle whose action is opposed to that of another muscle; e. g. the flexors and extensors of a limb are antagonists, and also the adductors and abductors.

ANTANACLA'SIS. αντανακλασις, a rhetorical figure, which repeats the same word in a different sense, as, "*Dum vivimus, vivamus*" (whilst we *live*, let us *live*). The return to the former train of thought after the interruption of a parenthesis, is also called antanaclasis.

ANTAPHRODI'SIAC, } from αντι, against,
ANTAPHRODI'TIC, } and Αφροδιτη, Venus. Applied: (1.) to medicines which diminish venereal desire; (2.) to medicines against venereal syphilis.

ANTARCTIC, from ἀντι, opposite, and ἀρκτος, a bear. Opposite the arctic or northern pole: relating to the southern pole, especially to a lesser circle, distant 23° 28′ from the south pole. *See* ARCTIC.

ANTARES, a star of the first magnitude, popularly known as the Scorpion's Heart.

ANTATRO'PHIC, from αντι-ατροφια, against wasting. Counteracting atrophy.

ANTE, a Latin preposition signifying *before*. 1. In *heraldry*, *ante* denotes that the pieces are let into one another, as by dove-tails, rounds, swallow-tails, &c.—— 2. In *architecture*, *see* ANTA.

ANTECEDENCE, from *ante*, before, and *cedens*, going. Precedence. In *astronomy*, an apparent motion of a planet towards the west, or contrary to the order of the signs.

ANTECEDENT, from *ante*, before, and *cedens*, going. In *grammar*, the word or words to which a relative refers. In *logic*, the first of two members of a hypothetical proposition; the second member is the consequent. In *mathematics*, the first of two terms of a ratio, or that which is compared with the other. *See* RATIO.

ANTECES'SOR, Lat., one who *antecedes*, or goes before; a leader, a principal; formerly given as a title to one who excelled in any science. In the universities of France, the teachers of law take the title *antecessors* in all their theses.

ANTE'CIANS, Lat. *antœci*, from ἀντι, opposite, and οικεω, to dwell. Those people who live under the same meridian but on different sides of the equator, and equally distant from it. They have the same hours of day and night, but different seasons, it being winter to the one, while it is summer with the other.

ANTECUR'SORS, Lat. *antecursores*, forerunners. In the Roman armies, the *antecursores* were a body of light horse detached to obtain intelligence, provisions, &c. They were also called *antecessores* and by the Greeks προοδρομοι.

ANTEJURAMEN'TUM, by our ancestors called *juramentum calumniæ*, an oath which anciently both accuser and accused were to take before any trial by purgation. The accuser swore that he would prosecute the criminal, and the accused that he was innocent of the crime charged against him.

AN'TELOPE. *See* ANTILOPE.

ANTELU'CAN, before light; *ante*, before, and *lux*, light: applied to assemblies of Christians in ancient times, held before light in the morning.

ANTEMU'RALE, *ante*, before, and *murus*, a wall. In *fortification*, an out-work.

ANTENA'TI, from *ante*, before, and *natus*,

born. In *history*, the subjects of Scotland, born before the accession of James I. to the English throne, and alive after it; opposed to *postnati*.

ANTENI'CENE, anterior to the council of Nice; *ante*, before, and *Nice*. A term in ecclesiastical history.

ANTEN'NÆ, Lat. plural of *antenna*, a yard-arm. In *zoology*, the horns, or feelers of insects. These are peculiar to this order of beings, and seem to constitute very delicate organs of touch. Their form and size vary greatly in different genera and species, and even in the two sexes of the same species. When the antennæ have but one joint, they are said to be *exarticulate;* when they have two joints, *biarticulate;* when furnished with three, *triarticulate;* while those whose joints are numerous are said to be *multiarticulate*. The antennæ rarely exceed two in number, but some apterous insects have as many as six.

ANTEN'NULÆ, Lat. dim. of *antennæ* (q. v.) A term applied to the small articulate filaments attached to the lower-lip of some mandibulate insects, and which seem to be endowed with great sensibility.

ANTENNULA'RIA, a subgenus of Tubularia of Linnæus, in which the cells form horizontal rings round the stem; whence the name.

ANTEPAG'MENTS, Lat. *antepagmenta*. In *architecture*, the mouldings, or architraves round doors; also the jambs of a doorway.

ANTEPEC'TUS, Lat. from *ante*, opposite to, and *pectus*, the breast. In *entomology*, a term used to signify under the breast-plate of the manitrunk, and the bed of the first pair of extremities.

ANTEPOSI'TION, from *ante* and *position*, from *pono*, to place. In *grammar*, the placing of a word before another, which, by the ordinary rules, should follow it.

ANTEPREDIC'AMENT, from *ante*, before, and *predicament*. In *logic*, a preliminary question to illustrate the doctrine of predicaments and categories.

ANTE'RIOR, *ante*, before, in time, or place. Thus historians use the word in the first sense, and anatomists in the latter. In descriptions of shells, the anterior of bivalves is the side opposite to the hinge; of a spiral univalve, that part of the aperture most distant from the apex; of a symmetrical conical univalve, that part where the head of the animal lies.

AN'TES, a range of pilasters attached to the front of a building. *See* ANTA.

ANTESIGNANI, a class of picked soldiers in the Roman armies, who were drawn up before (*ante*) the standards (*signa*), whence the name.

ANTESTA'TURE, from *ante* and *statura*, stature. In *fortification*, a small retrenchment made of palisadoes, sacks of earth, &c.

ANTHE'LA, Gr. from ἀνθήλιον, a little flower. A name given by Meyer to the inflorescence of the rush tribe of plants.

ANTHE'LIX, } from ἀντι, opposite, and
ANTIHE'LIX, } ἕλιξ, the *helix*, or margin of the external ear. The inward protuberance of the external ear, being a semicircle within, and almost parallel to the helix.

AN'THEM, from ἀντι, opposite, and ὑμνος, a hymn. A hymn performed in cathedral service by choristers, who sing alternately: first introduced into church service, it is said, in the reign of Queen Elizabeth; but, according to Pliny, the early Christians sang their hymn to Christ in parts by turn (*secum invicem*).

AN'THEMIS, the generic name of the *camomile*, or *chamomile;* a genus of the class *syngenesia*, and order *poly. superflua*. Named from ἀνθεμον, a flower, in allusion to the profusion of its blossoms. There are five indigenous species, the flowers of one of which (the *A. nobilis*), is much used as a stomachic.

AN'THER, from ἄνθος, a flower. In *botany*, the part of the stamen which is situated on the top of the stem, or filament, and which contains the pollen, or farina; this, when mature, it emits for the impregnation of the stigma. *See* STAMEN. Different terms are applied to the anthers, to designate their form; as oblong, globose, semilunar, angular, linear, &c.; and others to designate their position, as erect, incumbent, versatile, lateral, sessile, free, cuneate, &c.

ANTHERIF'EROUS, bearing anthers. *Anthera*, an anther, and *fero*, to bear Forming a support to an anther.

ANTHERO'GENOUS, *anthera*, an anther, and γινομαι, I am produced. A term applied in *botany*, when in double flowers the anthers are converted into horn-like petals.

ANTHESPHO'RIA, from ἄνθος, a flower, and φερω, to carry. A Sicilian festival in honour of Proserpine.

ANTHEST'ERIA, an Athenian festival in honour of Bacchus—from ἄνθος, flowers being offered to Bacchus.

ANTHESTE'RION, the sixth month of the Athenian year. It answered to a part of November and December.

ANTHO'BII, a tribe of pentamerous coleoptera, which take their common name from ἄνθος, a flower, and βιός, life; because they live among flowers, and the varied foliage of shrubs and trees.

ANTHODIUM, Gr. ανθωδης, full of flowers, from ἄνθος, a flower. A species of calyx which contains many flowers, being common to them all, as the head of a thistle or daisy.

ANTHO'LOGY, from ἄνθος, a flower, and

λογος, a discourse. A collection of flowers, or beautiful passages from authors. In the *Greek church*, a collection of devotional pieces.

ANTHO'LYSIS, from ἄνθος, a flower, and λυσις, a loosening. The expanding of a flower-bud; also the changing of flowers from their usual state to some other state, as leaves, branches, &c.

ANTHOMY'CA, a genus of diptera of the Muscide family. Name from ἄνθος, a flower, and μυια, a fly. There are upwards of 100 British species of this insect.

ANTHO'PHILA, a family of aculeate or stinging hymenoptera. Name from ἄνθος, a flower, and φιλος, a lover. The insects of this family all collect the pollen of flowers or honey. Latreille divides them into two sections, the *andrenatæ* and the *apiariæ*, to which the honey-bee properly so called belongs.

ANTHOPHO'RUM, from ἄνθος, a flower, and φερειν, to bear. In *botany*, the name given to a columnar process arising from the bottom of the calyx, and having the petals, stamens, and pistil, at its apex.

ANTHOPHY'LLITE, from ἄνθος, a flower, and φύλλον, a leaf. A mineral usually massive, but sometimes found crystallised, of a yellowish-grey, inclined to brown; pearly lustre. It is found in Inverness-shire, and in the cobalt mines of Modum in Norway. Its constituents are silica, alumina, lime, with oxide of iron and manganese.

ANTHO'RISM, from ἀντι, against, and ὁρισμος, definition. In *rhetoric*, a definition or description opposite to what is given by the adverse party.

ANTHOXAN'THUM, the sweet "*vernal-grass.*" A genus of perennials, of which there are two British species: class *diandria*, order *digynia*. Name from ἄνθος, a flower, and ξανθος, yellow, "from the yellowish hue of the spikes, especially in age." Hay is supposed to derive its fragrance from the presence of this dwarf grass, which is found plentifully in pastures.

ANTHOZA'SIA, from ἄνθος, a flower, and ζαω, to flourish. A term used by *botanists* to signify that the leaves of a plant assume the appearance of petals.

AN'THRACITE, a species of coal found in the transition-rock formation, and often called *stone-coal*. Its colour is iron-black, lustre imperfect metallic, fracture conchoidal; Sp. gr. from 1·3 to 1·6. It contains about 97 per cent. of carbon, with minute proportions of iron, alumina, and silica. It is difficult to kindle, but burns without smell or smoke, and with intense heat: whence its name from ανθραξ, charcoal. It is called also *glance-coal* and *blind-coal*.

ANTHRACOTHE'RIUM, a name given to a fossil and extinct mammiferous animal of the tertiary strata, supposed to belong to the pachydermata. Seven species are known, some approximating to the size and appearance of the hog, others resembling the hippopotamus. Name from ἀνθρακιὺς, carbonaceous, and θηριον, wild beast; the bones being found chiefly in the tertiary coal or lignite of Cadibona, in Liguria.

AN'THRAX, Gr. ανθραξ, a burning coal. A *carbuncle*, which is the name of a gem, and also of a disease nearly allied to a boil, but more aggravated in its symptoms. The name is also given to a genus of dipterous insects belonging to the *tanystoma* of Cuvier, and placed among the bombyliers by Latreille. The genus is now raised to the rank of a family, and named *anthracidæ*.

ANTHRE'NUS, the name of a Linnæan genus of pentamerous coleoptera, from ανθρηνη. An ancient name of an insect, probably allied to this genus, in the habit of living among flowers.

AN'THRIBUS, the name of a Fabrician genus of tetramerous coleoptera, from ἄνθος, a flower, and τριβω, to destroy. The genus is formed of a section of the curculiones of Lin., which has the lip and jaw bifid and short, also the proboscis short.

ANTHRIS'CUS, the beaked-parsley. A genus of which there are three British species, one of which is well known as a salad and pot-herb, under the name of *garden chervil:* class *pentandria*, order *digynia*. Name given by Pliny to a plant analogous to this genus.

ANTHROP'OGLOTE, } from ανθρωπος,
ANTHROP'OGLOTTE, } man, and γλωττα, tongue. A name given to animals, in which the tongue resembles the human tongue; e. g. the various species of parrot,

ANTHROP'OLITE, from ανθρωπος, man, and λίθος, a stone. A petrifaction of the human body; a fossil human skeleton, of which several have been found in the West Indies.

ANTHROPOMOR'PHITE, from ανθρωπος, man, and μορφη, form. One who believes a human form in the Supreme Being. An ancient sect of heretics were called *anthropomorphites*, because they took literally the passage, "*God made man after his own image.*" Their doctrine was called *anthropomorphism*.

ANTHROPOP'ATHY, from ανθρωπος, man, and παθος, passion. A rhetorical figure, by which some passion is ascribed to the Supreme Being that belongs only to man.

ANTHROPOPH'AGI, from ανθρωπος, man,

and φαγω, I eat; cannibals. The practice is called *anthropophagy*.

ANTHROPOS'COPY, from ανθρωπος, man, and σκοπεω, I view. The art of judging or discovering man's character, disposition, passions, and inclinations, from the lineaments of his body; in which sense physiognomy is a branch of anthroposcopy.

ANTHYL'LIS, the *kidney-vetch*: a genus of 20 species, mostly natives of Europe. *Diadelphia—Decandria*. Name from ἄνθος, a flower, and ιουλος, a beard, or down, from the downy calyces. The *A. vulneraria* is sometimes provincially called *Lady's-fingers*, from the form of the flower heads.

ANTHYPOCON'DRIAC, from αντι-ὑποχονδριακος, not-hypochondriac. Applied to medicines used against hypochondriasis.

ANTHYPOPH'ORA, from αντι, and *hypophora* (q.v.). A rhetorical figure, which consists in refuting an objection by the opposition of a contrary sentence.

ANTHYSTER'IC, from αντι, against, and ὑστερα, the womb. Counteracting hysteria.

ANTIBAC'CHUS, Lat. from αντι and βακχειος, a foot of one short and two long syllables. In *poetry*, a foot of three syllables, first two long, and the last short, e.g. *āmārĕ*.

AN'TIC, old; usually written *antique*. In *architecture*, antics are fancies having no foundation in nature, as sphinxes, centaurs, syrens; representation of different sorts of flowers growing on the same stem; grotesque ornaments of all kinds, as lions and pards with acanthus tails, or other tails than their own proper ones; human forms with similar ridiculous appendages.

ANTICACHEC'TIC, from ἀντὶ, against, and καχεκτικος, of a bad habit of body. Substantively, applied to medicines used to cure a bad habit of the constitution.

ANTICAR'DIUM, Lat. from αντὶ, opposite, and καρδια, the heart. The pit of the stomach, or scrobiculus cordis.

ANTICAUSOT'IC, from ἀντὶ, against, and καυσος, burning fever. Applied to antifebrile medicines.

AN'TICHRIST, from ἀντὶ, against, and *Christ*. Among *ecclesiastics*, a great adversary of Christianity, who is to appear upon the earth towards the end of the world. Some place his capital at Constantinople; others at Jerusalem; others at Moscow; a few at London; and the generality at Rome.

ANTICH'RONISM, from ἀντὶ, against, and χρόνος, time. Deviation from the right order, or account of time.

ANTICIPA'TION. In *music*, the obstruction of a chord upon a syncopated note, to which it forms a discord.

ANTICLI'MAX, from ἀντὶ, against, and κλιμαξ, gradation. A sentence in which the ideas become less important towards the close; opposed to *climax*, as—

"Next comes Dalhousie, the great god of war,
Lieutenant-Col'nel to the Earl of Mar."

ANTICLINAL, Gr. from ἀντὶ, against, and κλινειν, to incline. If a range of hills, or a valley, be composed of strata, which on the two sides dip in opposite directions, the imaginary line that lies between them, towards which the strata on each rise, is called the *anticlinal axis*. In a row of houses, with steep roofs, facing the south, the slates represent inclined strata dipping north and south, and the ridge is an east and west anticlinal axis. The term *anticlinal* is opposed to *synclinal*.

ANTICOSMET'IC, Gr. from ἀντὶ, against, and κοσμος, order, beauty. Destructive or injurious to beauty. Substantively, any preparation which injures beauty.

ANTIDES'MA, the *Chinese-laurel*: a genus of East Indian shrubaceous plants. *Diœcia—Pentandria*. Name ἀντὶ, against, and δέσμα, a bandage; the leaves being regarded as an antidote to the bite of serpents.

ANTIDOTA'RIUM, the old name, 1. for a dispensatory.——2. For a book containing directions for preparing medicines, or *antidotes*.

ANTIENNEAHE'DRAL, from ἀντὶ, opposite, ἐννεα, nine, and ἑδρα, side. A term used in crystallography, to denote that the crystal has nine faces on two opposite sides.

ANTIGUG'GLER, } from *anti* and *guggle*.
ANTIGUGLER, } A small metallic siphon, which is inserted into the mouths of casks, or large bottles, called carboys, for drawing off the liquor without disturbing the sediment, or making any *guggling* noise.

ANTILOG'ARITHM, from *anti*, against, and *logarithm*. The complement of the logarithm of a sine, tangent, or secant; or the difference of that logarithm from the logarithm of 90 degrees.

AN'TILOPE, a numerous genus of ruminant mammalia, usually divided according to the form of the horns, the nucleus of which is bony, without pores or sinuses, like the antlers of the stag. The most remarkable species are the *gazelle*, *springboc*, *plunging-antelope*, *rock-springer*, *algazel*, *chamois*, *gnu*, and *nylgau*. The name is corrupted from *anthelops*, from ἄνθος, a flower, and ὠψ, an eye. Flowery-eyed or beautiful-eyed; the beauty of the eye in the animal of this genus being proverbial, especially in oriental countries.

ANTIMONIC ACID, the sesquioxide of antimony ($Sb^2 + 0^3$). It combines with alkalies in definite proportions, and forms salts, which are called *antimoniates*.

ANTIMONIOUS ACID, the deutoxide of antimony ($Sb + 0^2$), which combines in definite proportions with alkalies, and forms salts, called *antimonites*.

AN'TIMONY, a metal but rarely found native. It is usually combined with sulphur in the state of a sesquisulphuret, usually called *crude antimony*, while the metal itself is called *regulus of antimony*. The metal is of a bluish-white colour, crystalline texture, and brittle. Sp. gr. 6·7; fuses at 810°. At a high heat it oxidates rapidly, forming the white crystals called *argentine flowers of antimony*. With tartaric acid it forms *tartar-emetic*. Among oriental ladies, the powdered sulphuret (properly *sesquisulphuret*, which is the common ore of the metal), is used as a paint for the eyelashes and eyebrows. *See* ALCOHOL. It is extensively used as an alloy, e. g. in type-metal, bell-metal, Britannia-metal, specula-metal, &c. Even its fumes render gold brittle, which, with other things, led the alchemists to assign it a royal lineage, and call it by the title of *regulus*, or the little king.

The Latin name of antimony is *stibium*; hence the chemical symbol Sb., but the etymology of the modern name is uncertain. The term *antimonium* is low Latin, which some writers suppose to have been formed from *anti*, and Fr. *moine*, a monk, from the ludicrous story related by Furetiere of Basil Valentine, who appears to have been the discoverer of the metal about 1620. He was a monk, and practised as a physician. By way of experiment, he gave some hogs a dose of some preparation of the metal, and observed that after they were well purged, they immediately fattened. Imagining that the effect on his brother-monks would be the same, he administered to them a similar dose. Unlike the hogs, the monks, however, did not get fat—they died of the experiment. The substance thenceforth obtained the name of *antimoine*, which is still the French name, and may be translated *antimonk*.

ANTIN'OMIANS, a sect who maintain that virtue and good works are unnecessary under the gospel dispensation—that faith is sufficient for salvation. Name from αντι, against, and μονος, law, the law being of no use or obligation.

ANTIN'OUS, a figure inserted into the consellation aquila, from *Antinous*, the favourite youth of Adrian.

ANTI'OCHIAN. The *Antiochian sect* or *academy* was founded by Antiochus a philosopher, contemporary with Cicero. He attempted to reconcile the doctrines of the different schools, but was really a Stoic.—*Antiochian epoch*, a method of computing time from the proclamation of liberty granted to the city of Antioch, about the time of the battle of Pharsalia.

ANTIPAR'ALLEL, from *anti* and *parallel*, opposite. Applied to lines which make equal angles with other lines, but in a contrary order; also to lines running in the opposite direction.

ANTIP'ATHY, from ἀντὶ, against, and παθος, an affection. In *pathology*, disgust and horror at the presence of particular objects, with great restlessness or fainting; e. g. the aversion of some persons to cats, toads, vipers, &c.; to the smell of roses, the sound of music; to the sight of a drawn sword, as in James I., or the rattling of a carriage along a bridge, as in Peter the Great, all of which depend on some peculiar idiosyncrasy; but in what such idiosyncrasy consists is not yet explained.—In *ethics*, hatred (against persons), aversion (against things), repungnancy (against actions).—In *physics*, a contrariety in the properties of matter, e. g. oil and water.

ANTIPERISTAL'TIC, from *anti* and *peristaltic*. Applied to an inverted action of the intestines, by which their contents are urged upwards: opposed to *peristaltic*.

ANTIPHLOGIS'TIC, from *anti* and *phlogistic* (q. v.), counteracting heat. A term applied to those means, whether medicinal or regiminal, which tend to reduce inflammation.

ANTIPH'ONARY, a service book in Catholic churches, containing whatever is said or sung in the choir, except the lessons: called also a *responsary*.

ANTIPH'ONY, from ἀντι, opposite, and φωνη, sound. The answer made by one choir to another, when the psalm or anthem is sung between two. It sometimes also denotes that species of psalmody wherein the congregation, being divided into two parts, repeat the psalm, verse for verse, alternately; in contradistinction to *symphony*, where the whole congregation sing together. In a more modern sense, antiphony denotes a kind of composition made of several verses extracted out of different psalms, adapted to express the mystery solemnized on the occasion.

ANTIPRAX'IA, αντιπραξια, antipraxy. A contrariety of action or affection in similar things, as spasm of the muscles of one leg and paralysis of those of the other.

ANTIPTO'SIS, αντιπτωσις. In *grammar*, the putting of one case for another.

AN'TIQUARY, from *antiquarius*, from *antiquus*, oldest (*quàsi ab* ante *et* ovum). A person who studies and searches after monuments and remains of antiquity, as old medals, books, statues, sculptures.

and inscriptions, and in general whatever may afford any light into antiquity. The title has also been given to keepers of cabinets of antiquities; e. g. Henry VIII. gave John Leland the title of his *Antiquary*. The monks who were employed in making new copies of old books, before the art of printing, were also called *Antiquarii*. Under the reign of George II., the Royal Society of Antiquaries, in London, was founded.

ANTIQUATED, grown old. In *conchology*, "longitudinally furrowed, but interrupted by transverse furrows, as if the shell had acquired new growth at each furrow."

AN'TIQUE, from *antiquus*, first. Generally, something that is very old; but the term is chiefly used by sculptors, painters, and architects, to denote such pieces of their different arts as were made by the ancient Greeks and Romans; e. g. antique busts, antique vases, &c. Works of art dated after the sixth century are *ancient*, but not antique.

ANTIQ'UITY, ancient times: Lat. *antiquitas* (v. supra), from the root *ante*, before. The term is generally used in the plural—*antiquities*, comprehending all that remains of ancient times, e. g. monuments, coins, inscriptions, edifices, literature, offices, habiliments, weapons, manners, ceremonies. Scholars, however, distinguish between *antiquities* and *archæology*: the former relating to the middle ages, the latter to ancient Greece and Rome.

ANTIRRHI'NEÆ, a small division of plants in the natural system. Type, the *Antirrhinum* (snapdragon) of Linnæus. *See* ANTIRRHINUM.

ANTIRRHI'NUM, the generic name of the plant *snapdragon*, or *calves'-snout*, of which fluellen, or female speedwell, and toadflax, are species. *Didynamia—Angiospermia*. Name, αντιῤῥινον, from ἀντὶ and ῥιν, the nose, in allusion to the resemblance of the flower to the nose of a calf.

AN'TISABBATA'RIANS, a sect who oppose the observance of the Christian Sabbath: hence the name, from *anti* and *Sabbath*.

ANTIS'CIANS, Lat. *Antiscii*, from ἀντὶ, opposite, and σκια, a shadow. Those inhabitants of the earth, who, living on opposite sides of the equator, their shadows at noon are thrown in contrary directions; and from this circumstance the epithet is applied.

ANTISEP'TIC, from ἀντὶ, against, and σηπος, putrid. A term applied to such substances as have the power of preventing animal and vegetable substances from passing into a state of putrefaction, and of obviating putrefaction when already begun; as culinary salt, nitre, spices, and sugar. The term is also applied by physicians to medicines used to correct the tendency to putrescency, which is supposed to exist in the fluids of the body, in certain malignant diseases. Thus, cinchona, alcohol, camphor, and some other substances, are named antiseptics.

ANTISPASIS, from ἀντὶ, against, and σπαω, to draw. In *pathology*, a revulsion of the humours from one part of the body to another.

AN'TISPASMO'DIC, from ἀντὶ, against, and σπασμος, a spasm. An antispasmodic medicine properly means one which has the power of allaying spasms of the muscles; the term, however, is usually extended to those medicines which allay severe pain, from any cause unconnected with inflammation; and hence it is not easy to draw the line between antispasmodics and narcotics.

ANTIS'TASIS, αντιστασις. The defence of an action, founded on the consideration that, if it had been omitted, worse would have ensued: called by Latin writers *comparativum argumentum*.

ANTISTO'CHEON, ἀντιστυιχῖον. In *grammar*, the using of one letter instead of another, as *olli* for *illi*.

ANTISTRAGUS, in *anatomy*, the process of the external ear opposite (*anti*) the *tragus* (q. v.), and behind the meatus auditorius, or ear-passage.

ANTISTRO'PHE, } from ἀντὶ, opposite.
ANTISTRO'PHY, } and στρέφω, to turn. Reciprocal conversion. In *grammar*, a figure by which two things, mutually depending upon each other, are reciprocally converted; e. g. the master of the servant, the servant of the master. In *lyric poetry*, that part of a song and dance, in use among the ancients, which was performed before the altar, in turning from east to west; in opposition to *strophe*. *See* ODE. STROPHE.

ANTI'THESIS, αντιθεσις, of ἀντὶ and θεσις. In *rhetoric*, an opposition of words, or sentiments, as,—

"Liberty *with laws*, and government *without oppression*."

ANTIT'RAGUS, Lat. from *anti* and *tragus*. An eminence on the outer ear, opposite the tragus.

AN'TITRINITA'RIAN, from *anti* and *trinitarian*. One who denies the existence of three persons in the Godhead; opposed to trinitarian. The antitrinitarians of modern times are understood to be the Socinians, otherwise called Unitarians.

AN'TITYPE, from ἀντὶ and τυπος, type, or pattern. A figure corresponding to some other figure, type, or pattern. The term is chiefly used by theologians; but it may be understood to mean generally anything formed according to a model, or pattern. In the *Greek liturgy*, the sacramental bread and wine are called *anti-*

types, meaning thereby similitudes, in a theological sense.

ANTIT'ROPAL, Gr. from ἀντὶ, against, and τρεπειν, to turn. A term in botany, used when in a seed the radicle of the embryo is turned to the end farthest away from the hilum, which, indeed, is the normal position, if the development of an ovule be rightly understood.

ANTIZYM'IC, from ἀντὶ and ζυμοω, to ferment. Applied to whatever prevents fermentation.

AN'TLIA, an ancient machine, supposed to be the same with our pump; called by the Greeks ἀντλιον, from ἀντλαω, to draw water. In *astronomy*, the *Antlia pneumatica*, or pneumatic pump, is a new asterism formed by De la Caille, out of a few stars, between Hydra and Argo Navis. In *entomology*, the oral instrument of Lepidopterous insects, in which the ordinary *trophi*, or instruments of manducation are replaced by a spiral, bipartite, tubular apparatus, and appendages for suction.

ANTOSIAN'DRIANS, a sect of rigid Lutherans are so denominated, because they opposed the doctrines of Osiander.

AN'TRUM, Lat. a cave, from αντρος. This term is applied by anatomists to many cavities, but especially the maxillary sinus, situated above the molar teeth of the upper jaw. The term was formerly used by botanists to denote such hollow fruits as the apple.

ANTRUS'TIONS. In *history*, a class of people among the Franks, who were the personal vassals of the kings and counts. The word seems to be formed from the same root as our word *trust*.

ANU'BIS, a symbolical deity of the Egyptians, regarded as a faithful companion of Osiris and Isis. He had temples and priests consecrated to him, but was only an ugly dog after all.

A'NUS, Lat. the termination of the rectum. In *conchology*, a depression of the posterior side near the hinge of bivalves. In *botany*, the posterior opening of a monopetalous flower. In *entomology*, the last two segments of the abdomen.

AN'VIL, a mass of iron, having a smooth and nearly flat top surface of steel, upon which blacksmiths, and various other artificers, forge metals with the hammer. Blacksmiths place their anvils upon a wooden block; but cutlers and file-makers fasten theirs to a large block of stone. The old English name is *anvelt*, from *on* and '*build* (Belg.) to shape; hence, *onbuild*, *anbeeld*, *anvelt*, *anvilt*, *anvil*, that on which things are shaped.

ANXIETY, *anxietas*. In *medical language*, this term is applied to a painful restlessness and inquietude, usually accompanied with a sense of weight in the precordial region.

AO'NIAN, pertaining to Aonia, in Bœotia. The Aonian font was Aganippe, at the bottom of Mount Helicon, near Thebes, and sacred to the Muses, which were therefore called *Aonides*.

A'ORIST, from αοριστος, indefinite. In *grammar*, a tense peculiar to the Greek language, expressing action in an indeterminate manner, without regard to past, present or future.

AOR'TA, from αορτη, an ark, or chest. The principal trunk of the arterial system, called also the *magna arteria*. It proceeds from the left ventricle of the heart, and gives, either mediately or immediately, to all the other arteries, except the pulmonary. In mammalia and in birds, it is single; in most reptiles, and in cephalopods, double; and triple in crustaceous.

AOU'TA, the paper-mulberry tree (*broussonetia papyrifera*). It is found in Japan and Otaheite.

APAG'OGE, } from απο, from, and αγω,
APAG'OGY, } to drive. 1. In *logic*, a kind of argument wherein the greater extreme is evidently contained in the medium, but the medium not so evidently in the lesser extreme, as not to require further proof. ——2. In *mathematics*, a passage from one proportion to another, when the first, having been demonstrated, is employed in proving others.——3. In the *Athenian law*, the carrying of a criminal taken in the act, to a magistrate; or when this was impracticable, taking the magistrate to the criminal.

APAGOG'ICAL (*See* APOGOGE). An apogogical demonstration is an indirect proof, which consists in showing the absurdity of the contrary.

APAG'YNOUS, Gr. from ἁπαξ, once, and γυνη, a female. A term applied to plants that fructify only once, and perish immediately after they flower.

AP'ALUS, a Linnæan genus of coleopterous insects.

AP'ANAGE, an allowance to younger branches of a sovereign family out of the revenues of the country. In ordinary cases, it descends to the children of the prince who enjoys it.

APAN'THROPY, from α, neg, and ανθρωπος, man. A species of melancholy characterised by a dislike of society.

APARITH'MESIS (απαριθμησις). In *rhetoric*, an answer to a protesis.

AP'ATHY, from α, neg, and παθος, affection. In the *Stoic philosophy*, an utter privation of passion, and an insensibility to pain, which was regarded as the highest wisdom. In *medicine*, a morbid suspension of the natural passions and feelings.

AP'ATITE, a native phosphate of lime, constituting a genus of brittle minerals; green, blue, red, brown, and yellow

colours, occurring both crystallised and massive. Finest specimens found in Devon and Cornwall.

APATU'RA, a genus of butterflies (*lepidoptera diurna*), of which the "purple emperor" is a species.

APATU'RIA, an Athenian festival which took place in October, and continued three days. On this occasion children accompanied their fathers, that their names might be entered on the public register.

APE, a popular name extended to all the tribe of monkeys and baboons (*quadrumania*, Cuv., which comprehends the *simiæ* and *lemurs* of Lin.), but more especially to those species which have no tail; those having tails being called baboons: the gibbons are examples of the first, and the patras of the latter.

APE'AK, in *nautical language*, perpendicular. *See* ANCHOR.

APE'RIENT, Lat. *aperiens*, opening. Mildly laxative or deobstruent.

APER'TOR, Lat. from *aperio*, to open. The muscle which raises the upper eyelid is sometimes called *apertor oculi*, the eye-opener.

AP'ERTURE, from *apertus*, open. An opening. In *geometry*, the space between two right lines which meet in a point and form an angle. In *optics*, a round hole in a turned bit of wood, or plate of tin, placed within a telescope or microscope, near the object-glass, by which more rays are admitted, and a more distinct appearance of the object is obtained.

APET'ALOUS, from α, without, and πεταλον, a petal. Applied to flowers that want the corolla.

APET'ALOSE, } Lat. *apetalus*, without pe-
APET'ALOUS, } tal. Applied to flowers which have no corolla.

APHÆ'RESIS. *See* APHERESIS.

APHÆ'REUS, from ἀφαιρεω, to take away. The removal of a vowel from the beginning of a word, as 'tis, for it is, 'bide, for abide. *See* also APHERESIS.

APHANIP'TERA, from ἀφανης, obscure, and πτερον, wing. An order of apterous haustellate insects, having perfect rudimental wings, and undergoing a metamorphosis like that of the *tipulidæ*, or crane-flies.

APH'ANITE, a mineral included among the rocks, which the older mineralogists called *cornéennes*, or *lapis corneus trapezius*. The predominant principle is amphibole. Name α, not, and φαινω, to appear, in allusion to the homogenous appearance of the rock.

APHELEXIS, a genus of superb flowering shrubs, natives of the Cape of Good Hope, class *syngenesia*, order *pol. superflua*.

APHE'LION, } ἀφήλιον of ἀπό, and ἡλιος,
APHE'LIUM, } the sun. That point in the orbit of a planet at which it is at the farthest distance from the sun that it can be: opposed to *perihelion*.

APHELXIA, from αφιλκω, to abstract. Revery: a genus of diseases of which there are three species. *A. socors*, absence of mind, *A. intenta*, abstraction of mind, and *A. otiosa*, brown study.

APHE'RESIS, } from ἀπό, and αἱρεω, to
APHÆ'RESIS, } take. In *grammar*, the taking of a letter or syllable from the beginning of a word; e. g. to write *mittere* for *omittere*. In *surgery*, amputation.

APH'IDES, } the second family of homop-
APHID'II, } terous hemiptera, in the system of Cuvier; typical genus, *aphis* of Linnæus.

APHIDIPH'AGI, a family of trimerous coleoptera. Name, from the circumstance of their feeding on aphides (*aphidii* and φαγω, to eat). The cow-bug and lady-bug belong to this family, and are well known to gardeners.

A'PHIS, the *puceron*, *vine-fretter*, or *plant-louse*. A genus of homopterous hemiptera, and the type of the family *aphidii* or *aphides*, which is simply the plural of *aphis*.

APHLOGIS'TIC, flameless, from α, not, and φλογιστος, inflammable. An aphlogistic lamp is one in which a coil of platinum wire is kept in a state of ignition by vapour of alcohol or ether, without flame.

APHO'NIA, αφωνια, speechless. Aphony; a suppression or total loss of voice.

APHRODI'SIA, in *archæology*, festivals kept in honour of Venus (ἀφροδιτη).

APHRODI'TA, } the *sea-mouse*, a genus of
APHRODI'TE, } *articulata*, of the order *dorsibranchiata* (Cuv.) Name, ἀφροδιτη, Venus, in allusion to the splendid colouring of some of the species, e. g. the *aphrodita aculeata* of Lin.

APH'THA, αφθαι, the thrush. A disease which shows itself in small white ulcers upon the tongue, gums, inside of the lips, and palate, resembling particles of curdled milk.

APHYL'LOSE, } Lat. *aphyllus*, of αφυλλον,
APHYL'LOUS, } leafless. Applied to parts of plants when altogether void of leaves, as an aphylous stem. Plants which are devoid of leaves are naturally arranged under one head, *aphyllæ plantæ*.

APIA'CEÆ, Lat. *apium*, parsley. A name recently proposed to replace that of umbelliferæ.

APIA'RIÆ, a tribe of honey-making hymenoptera, of which the *apis*, or garden-bee is the type.

APIAS'TER, the bird otherwise called the *bee-eater*; a species of merops, Lin. It resembles the swallow. Name, from *apis* a bee

APIC'ULATED, from *apex*, a sharp point. Leaves, &c. terminating suddenly in a point are so called.

APIOC'RINITE, the pear-encrinite (*apiocrinites rotundus*), the pear-like remains of which are plentifully found near Bath.

When living, the roots of the *apiocrinites rotundus* were confluent, and formed a thin pavement at this place over the bottom of the sea, from which their stems and branches rose into a thick submarine forest, composed of these beautiful zoophytes.

A'PION, a genus of tetramerous coleoptera, of the attelabide tribe. Name, from ἄπιον, a pear, which the insects somewhat resemble in form.

A'PIS. 1. The honey-bee; a genus of aculeate hymenoptera, of the family anthophila. This extensive genus is divided into two tribes, the *andrenetæ* and *apiariæ*; the honey-bee, *par excellence*, or *apis* of Latreille, belongs to the latter. Name, from α, without, and πους, a foot, "*quòd sine pedibus nascantur*"—plural, *apidæ*. ——2. In *mythology*, a bull, worshipped by the Egyptians, especially at Memphis. He was required to be black, and was changed every twenty-five years.

APIS'TES, Gr. from απιστος, treacherous. A genus of spiny-finned fishes, remarkable for a strong suborbital spine, with which they are apt to inflict severe wounds when incautiously handled.

A'PIUM, the herb celery: a genus, *pentandria: digynia*. Name, Celtic, *apon*, water, in reference to the places where it naturally grows. The *A. graveolens*, or smallage, is the origin of our *garden celery*. Among the older botanists, *apium* was the generic name of the herb *parsley*. *See* PETROSELINUM.

APLAN'TIC, from α, not, and πλαναω, to wander, free from error. Applied to those optical instruments in which the spherical aberration is completely corrected: distinct from *achromatic*.

APLO'ME, a mineral of a deep orange colour, found in Siberia and New Holland. It is usually regarded as a variety of garnet; but the primitive form of the crystal is a cube, and not a dodecahedron. Name, from ἁπλοος, simple, in allusion to its crystalline structure.

APLYS'IA, the sea-hare: a genus of mollusca, of the order Tectibranchiata. Name, from α, not, and πλυνω, to make clean, in allusion to the power possessed by some of the species of throwing out an acrid and deep purple humour when in danger. The English name is taken from the form of the tentacula, which are four in number, being folded so as to resemble the ears of a hare.

APOCALYPSE, from αποκαλυπτω, I reveal. Revelation: the name of one of the books of the New Testament, written according to Irenæus, A.D 96, in the island of Patmos, whither St. John had been banished by the emperor Domitian. Anciently there were numerous books published under the same name.

APOCAR'POUS, Gr. from απο, from, and καρπος, fruit. The term is employed when the carpels of a flower either do not adhere at all, or when they adhere only by the ovaries.

APOCRISARY, from αποκρισις, answer. Anciently a resident in an imperial city, in the name of a foreign church, or bishop answering to the modern *nuncio*.

APOC'RYPHA, from απο and κρυπτω, I hide. The apocrypha, or apocryphal books, are those writings not admitted into the canon of Scripture, being either not acknowledged as divine, or regarded as spurious. When the Jews published their sacred books, they gave the appellations of *canonical* and *divine* only to those which were then made public; while such as still remained in their archives were denominated apocryphal, for no other reason than that they were not published.

APOCYN'ACEÆ, a family of plants of which the genus *apocynum* is the type.

APOCYNUM, the plant dog's-bane: a genus *pentandria; digynia*. Name, απο and κυων, a dog; it was anciently believed to be poisonous to dogs.

AP'ODA, the second order of the Echinodermata, comprising but a small number of animals, closely related to the Holothuriæ; but which want the vesicular feet of that order. The body is invested with a coriaceous unarmed skin. From α, without, and πους, a foot.

AP'ODE, an animal without feet (ἀ and πους). The apodes of older travellers were birds without feet, which supported themselves on trees by means of their hooked bills.

APODYTE'RIUM, Gr. from ἀποδυσθαι, to strip one's self. That part in the palæstra, or bath, in ancient architecture, for undressing before bathing, or engaging in gymnastic exercises.

AP'OGEE, from ἀπὸ and γῆ, the earth. That point of the moon's orbit in which she is at the greatest distance from the earth: opposed to *perigee*.

When the earth was regarded as the centre of the system, the terms apogee and perigee were applicable to the places of all the planets, and also of the sun, with respect to their variable distances from the earth; but now these terms are referrible to the moon only. What was formerly the sun's *apogee* is therefore, in strictness, the earth's *aphe-*

lion, and the *perigee* of the former has become the *perihelion* of the latter.

APOLLINA'RIANS, a Christian sect deriving their name from Apollinaris, bishop of Laodicea, in the fourth century, who maintained that the body of Christ was endowed with a sensitive, but not with a rational soul; and that the divine nature supplied the place of the intellectual principle in man.

APOLLO. In *mythology*, the god of medicine, music, and the fine arts, of the Greeks and Romans. Cicero mentions four deities of this name; three of Grecian, and one of Egyptian origin; the last the Great Apollo. The *Apollo Belvidere* is reckoned in the first class of ancient statues, and takes its name from having been placed in the Belvidere of the Vatican, at Rome, by Pope Julius II. The artist is unknown.

AP'OLOGUE, from απο, and λογος, speech. A relation of fictitious events, differing from a *parable* in this: the parable is drawn from events among men, and is therefore supposed probable; the apologue may relate the supposed actions of brutes or inanimate things; and therefore does not require to be supported by probability; e. g. Æsop's fables are in general apologues.

AP'ONEURO'SIS, from απο, and νευρον, a tendon. A tendinous expansion.

APOPH'YGE, } from απο and φυγη, flight.
APOPH'YGY, } In *architecture*, a concave quadrantal moulding joining the shaft of a column to the base, and connecting the top of the shaft to the fillet under the astragal; the small facia, or bend, at the top and base of the shaft of columns.

APOPHYL'LITE, a mineral called also Ichthyophthalmite, or fish-eye-stone. Its constituents are silica and lime, with a small proportion of potash. It occurs both massive and crystallised in the secondary trap rocks of the Hebrides and Iceland. Name απο and φυλλον, a leaf, in reference to its tendency to exfoliate.

APOPH'YSIS, ἀπόφυσις, a process. 1. In *anatomy*, a process, projection, or protuberance of a bone, or other part, otherwise called *appendix*, and differing from *epiphysis*.——2. In *botany*, a fleshy tubercle under the basis of the pericarp of some mosses.

AP'OPLEXY, from αποπληξια, a stroke. A sudden deprivation of all the powers of sense and voluntary motion, the action of the heart continuing, as well as the respiration, which is often accompanied with a stertorous sound.

AP'OROBRAN'CHIANS, } Gr. from απορεω,
AP'OROBRANCHIA'TA, } I want, and βραγχια, gills. A name applied by Latreille to an order of Arachnida, which are destitute of stigmata on the surface of the body.

AP'ORON, ἄπορον, a problem difficult to resolve, and which has never been resolved, though not in itself impossible; e. g. the squaring of the circle. Among the ancients, when a question was proposed which the person to whom it was put could not solve, the answer was απορεω, I cannot see through it. The term aporon has also been used generally for whatever was inexplicable.

APOSE'PEDIN, απο, from, and σηπεδων, product of putrefaction. A peculiar crystallised substance obtained from putrid cheese.

AP'OSIOPE'SIS, a rhetorical figure, afterwards called *reticency* and *suppression*, and which consists in the person really speaking of a thing at the time that he makes a show as if he would say nothing of it. From αποσιωπαω, to be silent.

A-POSTERIO'RI, *posteriori*, after. Arguments *a-posteriori* are drawn from effects, consequences, or facts,; in distinction to arguments *a-priori*, which are from causes previously known.

APOS'TLE, αποστολος, a messenger used to denote one of the disciples commissioned by Jesus Christ to preach the gospel. According to Theodoret, "those who are now bishops were called *apostles*" in the primitive ages. In the *Greek liturgy*, the term *apostle* means the Epistles of St. Paul, printed in the order in which they are to be read in the churches through the course of the year

APOSTLES' CREED. A confession of faith, formerly supposed to have been drawn up by the Apostles themselves.

APOSTOL'IC, in the *primitive church*, was an appellation given to all such churches as were founded by the Apostles, and even to the bishops of those churches, as the reputed successors of the Apostles. These were Rome, Alexandria, Antioch, and Jerusalem.

APOSTOL'ICS, certain sects of Christians who pretended to imitate the practices of the Apostles, abstaining from marriage, wine, flesh, pecuniary reward, &c.

APOSU'RA, a tribe of nocturnal lepidoptera, characterised by the absence of feet on the anal segment of the body of the larvæ; whence the name, α, neg., and πους, a foot.

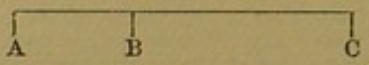
APOTHE'CA, αποθηκη, a repository. In *ancient architecture*, a storehouse for oil, wine, &c.

APOTHECARY, from αποθηκη, a repository. On the Continent, and formerly in this country, the functions of the apothecary consisted in compounding and dispensing the prescriptions of the physician and surgeon; but now the term

is applied to practitioners in medicine who deal also in drugs. The apothecaries of old times were allied with the grocers; but having separated from them, they were incorporated by a charter from James I.

Apothe'osis. In *archæology*, a ceremony whereby emperors and great men were ranked among the gods, which was followed by the erection of temples and the institution of sacrifices to the new deity. From απο and θεος, God.

Apot'ome, from αποτεμνω, to cut off. 1. In *mathematics*, the difference between two incommensurable quantities, or an irrational remainder, as AB; when from



a rational line, AC, is cut off a rational part, BC, only commensurable in power with the whole line AC.——2. In *music*, the difference between a greater and lesser semitone, expressed by the ratio 128 : 125.

Appanage, lands appropriated by the sovereign to the younger sons of the family as their patrimony, the reversion being reserved to the crown on failure of male heirs. The term is derived from the *panage*, *panagium* of the middle ages, from *panis*, bread, provision.

Appara'tus, Lat. from *apparo*, to prepare. Things provided as a means to an nd, as the tools of an artisan; but in a rictly technical sense, the instruments r utensils for performing an operation. —2. In *surgery*, certain methods of performing operations; as *A. major* and *A. minor*, which are particular methods of operating for the stone.——3. In *physiology*, a catenation of organs all ministering to the same function; as the *respiratory apparatus*, the *digestive apparatus*.

Appa'rent, from *ad* and *pareo*, to appear. Visible; appearing to the eye. 1. In *mathematics* and *astronomy*, this term is applied to things as they appear to us, in contradistinction to *real* or *true*; as the apparent diameter, distance, and motion of the sun. Conjunctions are said to be apparent when the bodies appear to be placed in the same right line with the eye; e.g. when a right line, supposed to be drawn through the centres of two planets, passes through the eye of the spectator, the conjunction is only apparent; but if the same right line pass, not through the eye, but through the centre of the earth, the conjunction is then real.—The *apparent diameter* or *magnitude* of an object is the angle which it subtends at the bottom of the eye; and this diminishes as the distance increases, so that a small object at a small distance may have the same apparent diameter as a larger object at a greater distance: the condition to be fulfilled is, that they subtend equal angles at the eye.—The *apparent figure* of an object is the form under which it appears when viewed at a distance; thus, the apparent figure of a straight line may be a point; of a surface, a line; and of a solid, a surface.—An object may have *apparent motion* when it is really at rest (at least, relatively speaking); as in the case of an observer moving in one direction, any remote object at rest will appear to move in a parallel line in the contrary way. The apparent motions of distant objects are also very different from the real motions, these being only perceptible from the mutation of the angle at the eye.—The *apparent place* of an object differs from the true place in proportion to its distance and the refracting power of the medium through which it is observed. *See* Time *and* Horizon.——2. In *law*, an *apparent heir* is one whose right is indefeasible, provided he outlives his ancestor, as the eldest son or his issue: in distinction to an *heir presumptive*, whose right of inheritance may be defeated by the contingency of some nearer heir being born.

Appari'tion, from *apparitio*, an appearance. In *astronomy*, the becoming visible of a star, &c., which before was hid: opposed to *occultation*.

Appa'ritor, Lat. from *appareo*, to attend. Among the *Romans*, any officer who attended the magistrates and judges to execute their orders.—In *England*, an officer who serves the process of a civil court; also a beadle in the universities who carries the mace.

Appau'mée, in *heraldry*, denotes that the hand is extended with the full palm appearing, and the thumb and fingers at full length.

Appe'al, from Lat. *appello*, to drive or send. In *law*, to call or remove a cause from an inferior to a superior court; also to institute a criminal prosecution for some heinous offence; e.g. to appeal a person of felony. *Substantively*, the removal of a cause or suit from an inferior to a superior tribunal; also a process instituted by a private person against another person for some heinous crime by which he has been injured, as for *murder*, *larceny*, *mayhem*. The process was anciently given to private persons to recover the *waregild*, or private pecuniary satisfaction for an injury received in the murder of relations, or other personal affront.

Appear'ance, from *appear* of Lat. *ad* and *pareo*. 1. In *perspective*, the representation or projection of a figure upon the perspective plane.——2. In *optics*, the view of an object by direct rays, without either reflection or refraction, is termed *direct appearance*.——3. In *astronomy*, &c.,

appearances are usually termed phenomena and phases.

APPEL'LANT, in *church history*, one who appeals from the constitution of Unigenitus to a general council.—*Milton.*

APPELLA'TION, the name by which anything is distinguished when spoken of.

Appellations are frequently vulgar corruptions. For instance, at the institution of yeomen of the guards, they used to wait at table on great occasions, and were ranged near the buffets, which procured them the name of *buffetiers*, now jocularly *beef-eaters*. The designation of a sheriff's officer was originally a *bond* or *bound bayliffe*, now both written and pronounced *bum bayliffe*. The proclamation called "O yes," was originally a proclamation commanding silence, being the French word *oyez*, listen. *Blackness* is the corruption of *blanc nez*, or the white-headland. *Bull* and *mouth*, vulgarised from *Boulogne mouth*, means the port or harbour of Boulogne, which was taken by Henry VIII., and became a popular subject for signs. The *bull* and *gate* has a similar origin, being the representation of the principal gate of Boulogne, which Henry VIII., Samson-like, carried away with him when he took the town.

APPEL'LATIVE, a common name in distinction to a proper name Appellatives stand for whole ranks of beings; e. g. *man* is the name of the whole human race, *fowl* of all winged animals.

APPEN'DAGE, something added to a principal, but not essential to it; from *ad* and *pendeo*, to hang. In *botany*, the term is applied to additional organs of plants which are not universal or essential; neither is one plant furnished with them all, e. g. stipules, floral leaves, thorns, prickles, tendrils, glands, and hairs

APPEN'DANT, from Lat. *appendo*. Hanging to something else, but not forming an integrant part of it. In *law*, common *appendant* is a right belonging to the owners or occupiers of lands to put commonable beasts upon the waste lands of the manor. So also a common of fishing may be *appendant* to a freehold.—An advowson *appendant* is the right of patronage annexed to the possession of a manor.

APPENDIC'ULATE, Lat. *appendiculatus*, appendicled or appended. Applied to parts of plants which are furnished with additional organs for some particular purposes; e. g. to flowers furnished with some addition distinct from the tube; to petioles with leafy films at the base; to seed furnished with hooks, scales, &c.

APPEN'SUS, Lat. *appendo*, I hang up. When an ovule is attached to the placenta by some point intermediate between the apex and the middle.

AP'PETENCE, } Lat. *appetentia*, desire,
APPETENCY, } appetite. The disposition or power of organised bodies to select and imbibe such portions of matter as serve to support and nourish them.

AP'PIAN-WAY, the most famous of the highways leading from Rome, and constructed by the Censor, Appius Claudius, A.U.C. 442.

APPLAU'SE, Lat. *applausus*, approbation, expressed by the hands, in distinction to *acclamation* (q. v.)

In the ancient theatres, persons were appointed for the purpose of applauding, and masters were appointed to teach them the art. There were three species, viz. *bombus*, a confused din; *imbrices* and *testæ*, by beating on a sort of sonorous vessels, placed in the theatres for the purpose. The *plausores* or applauders let themselves out on hire to the vainglorious among the poets and actors.

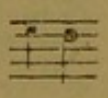
AP'PLE. In former times this word signified fruits in general, especially those of a roundish form; but now it is restricted to that of the *Pyrus malus*, or cultivated crab-apple of our hedges. The *apple of love* or *love-apple*, is the tomato or *lycopersicum*, a species of solanum. The *apple of the eye* is the pupil. An *apple-graft* is a scion of an apple-tree engrafted.

AP'PLICATE, from Lat. *applicatus*, applied. In *geometry*, an *applicate*, or *ordinate applicate*, is a right line drawn at right angles across the axis of a curve, and terminating at both ends in the curve, called now more commonly a *double ordinate*.

APPLICA'TION, in Lat. *applicatio*, is the laying of two things together. 1. In *geometry*, a division for applying one quantity to another: the areas being the same and the figures different; or the transforming of a given line into a circle or other figure; so that its ends shall be the perimeter of the figure.——2. In *sermons*, that part of the discourse in which the principles, before laid down and illustrated, are practically applied.

APPOGGIA'TO, in *music* (particularly in *song*), a blended and not abrupt utterance of the tones, so that they insensibly glide and melt into each other, without any perceptible break. The term is Ital. from *appoggiare*, to lean on.

APPOGGIATU'RA, in *music*, a small additional note of embellishment, preceding the note to which it is attached, and taking away from the principal note a portion of its time. Ital. from *appoggiato* (q. v.)



APPOR'TIONMENT, in *law*, the dividing of a rent, &c. among the parties who lay claim to it.

APPREN'TICE, from Fr. *apprenti*, of *ap-*

prendre, to learn. One who is bound by indenture to serve a tradesman or artificer, or company of such, a certain time, upon condition that the master instructs, or causes him to be instructed, in his art, business, or profession. The term for which the apprentice is bound is called his *apprenticeship*, and varies in different businesses from three to seven years. In *old law books*, barristers are called *apprenticii ad legem*, and their technical apprenticeship lasted sixteen years, after which they might take the name of serjeants, *servientes ad legem*.

APPRES'SED, } Lat. *appressus*. In *botany*,
APPRES'T, } applied to leaves pressed to the stem; also to peduncles.

APPROA'CH, from *ad* and Fr. *proche*, near. 1. In *military language*, both the advances of an army, and the works thrown up by besiegers to protect themselves in their advances, are called *approaches*.——2. In *gardening*, when a scion of one tree is grafted into another without cutting it from its parent stock, it is said to be *ingrafted by approach*. *See* INGRAFTING.——3. In *geometry*, the curve of approach is defined by this property—that a heavy body descending along it by the force of gravity, makes equal approaches to the horizon in equal times.

APPROPRIA'TION, from Lat. *ad* and *proprius*, private. In *law*, the sequestering of a benefice to the perpetual use of a spiritual corporation sole or aggregate.

APPRO'VE, from *ad* and *prove*, proof. In *law*, when a person indicted of felony or treason, and arraigned, confesses the fact before the plea is pleaded, and appeals (*accuses*) his accomplices of the same crime to obtain his pardon, this confession and accusation are called *approvement*, and the person an *approver*, because he must *approve* (adduce sufficient *proof*) to what he alleges in his appeal.

APPROX'IMATE, in *zoology*, when the teeth are so arranged in the jaws that there is no intervening vacancy.

APPROXIMA'TION, from Lat. *ad* and *proximus*, next. In *mathematics*, a continual approach to a quantity required, where no process is known for arriving at it exactly: this is the case in all rules for finding the square or cube root of a number which is not an exact square or cube.

AP'PUI, in the *manège*, the stay upon the horseman's hand, or the reciprocal sense between the horse's mouth and the bridle hand; or the sensibility of the horse to the action of the bridle.

APPU'LSE, Lat. *appulsus*. The act of striking against. In *astronomy*, the approach of a planet to a conjunction with the sun or a star.

APPUR'TENANCE, an appendage or adjunct. Fr. *appartenance*. Appropriately, such buildings, rights, and improvements as belong to land are called *appurtenances*. Common *appurtenant* is that which is annexed to land, and can be claimed only by prescription or immemorial usage, on a legal presumption of a special grant.

AP'RICOT, the fruit of the *Prunus Armeniaca*, which grows wild in many parts of Armenia, and was introduced into England about the middle of the 16th century. Apricot-trees are chiefly raised against walls, and are propagated by grafting upon plum-tree stocks. Old orthography, *apricock*, Fr. *abricot*.

A'PRIL, the fourth month of the year. Lat. *Aprilis*, from *aperio*, to open, in allusion to the season, which is truly the spring and opening of the year.

A-PRIORI, the opposite of *a-posteriori*. To judge or prove a thing *a-priori*, is to do it upon grounds or reasons preceding actual knowledge, or independently of it.

A'PRON, from *a* or *ag*, and Celt. *bron*, the breast. 1. A cloth or piece of leather worn to defend the clothes.——2. In *gunnery*, a flat piece of lead as a cover for the touch-hole of a cannon.——3. In *ships*, a piece of curved timber fixed behind the lower part of the stem, and immediately above the foremost end of the keel: it connects the stem and keel.——4. A platform at the entrance of a dock, on which the dock-gates are shut.——5. A piece of leather or wax-cloth spread before a person riding in a gig, to defend him from rain, &c.

AP'SIDES, plural of *apsis*, a circle (q. v.). Those two points in the orbit of a planet or comet, one of which is the farthest from, and the other the nearest to, the sun. The nearest point is called the *lower apsis* or *perihelion* (q. v.), and the farthest point is the *higher apsis* or *aphelion* (q. v.). In the orbits of the satellites, the corresponding terms are *perigee* and *apogee*. The (imaginary) straight line which joins the apsides, that is, the transverse axis of the orbit (which is an ellipse), is called the *line of the apsides*. This line moreover has a slow progressive motion, which may be represented by supposing a planet to move in an ellipse, while the ellipse itself is slowly revolving about the sun in the same plane: this is called the *motion of the apsides*, and the time which the earth takes, setting out from either apsis, to return to the same point, is called the *anomalistical year*. This, in consequence of the motion of the apsides, is longer than the tropical year. The motion of the apsides is however so slow, that more than 109,830 years are required for the major axis of the earth's orbit to accomplish one sidereal revolution. *See* EQUINOXES.

APS'IS, Lat. of ἁψίς of ἅπτω, to connect. 1. In *astronomy*, either of the two

points of a planet's orbit, otherwise called the perihelion and aphelion. *See* APSIDES. —2. In the *old churches*, an inner part where the altar was placed, and where the clergy sat, answering to the choir: used in opposition to *nave*, where the congregation were seated, and synonymous with *concha*, *camera*, *presbyterium*. —3. In *architecture*, the bowed or arched roof of a house, room or oven; the canopy of a throne; and anciently, the throne of a bishop; at present called *apsis-gradata*, from being raised a few steps above the seats of the priests.

APTENODY'TES, the scientific name of the *penguins*, a tribe of palmipedes, or web-footed birds of the family of brachypteræ (Cuv.): they are found only in the Antarctic seas. Name from ἄπτηνος, wingless, and δύτης, a diver, in allusion to "their little wings, covered with mere vestiges of feathers, which at first sight resemble scales, and their habits in the water:" they are totally incapable of flying, and when they do go on shore, they push themselves along on their bellies as in swimming. The great penguin (*A. patagonica*), of about the size of a goose: the flesh is black, but eatable.

AP'TERS, } the name of a class of insects,
AP'TERA, } in the system of Linnæus. Named α, without, and πτέρον, a wing, being characterised by the absence of wings.

AP'TEROUS, belonging to the class of apters: destitute of wings and scutellum.

AP'TERYX, Gr. from α, without, and πτέρυξ. A New Zealand genus of very rare birds, in which the wings are reduced to a single defensive spur.

AP'THANE, a title anciently given to the higher degrees of nobility in Scotland. *See* THANE.

AP'THOUS, απτειν, to inflame. A disease termed the thrush.

APYC'NI SUONI, in *music*, sounds distant one or more octaves, and which yet accord.—*Apycnos* is said of the diatonic genus, on account of its having spacious intervals in comparison with the chromatic and enharmonic.

APY'RETIC, from α, not, and πῦρ, fire. A medical term applied: 1. To those days on which the intermission happens in agues. —2. To local affections not attended with febrile excitement of the system.

A'QUAFORTIS, *strong water*. Nitric acid was so named by the alchemists, on account of its strong solvent and corrosive action upon numerous mineral, vegetable and animal substances; and the name is still used to denote the weak and impure nitric acid used in the arts. This is distinguished according to its strength, *double* and *single*, the single being only half the strength of the other.

AQUA MARI'NA, sea-water. A name given by jewellers to the *beryl* on account of its colour.

AQUA RE'GIA, } Royal water. The
AQUA REGA'LIS. } name given by the alchemists to that mixture of nitric and muriatic acids which was best fitted to dissolve gold, styled by them the king of the metals. It is now called *nitro-muriatic acid*; or, adopting the more recent name for the muriatic acid, its synonym is *nitro-hydrochloric acid*.

AQUA TOFFA'NIA, } Water of Toffana.
AQUA DELLA TOFA. } A poisonous liquid, prepared by a woman at Naples, named *Toffana*, or *Tofania*. It was as limpid as rock water; and from four to six drops were a fatal dose. It was contained in small glass vials, bearing the inscription *Manna of St. Nicholas of Bari*, and ornamented with an image of the saint. Toffana distributed this poison to women who were anxious to get rid of their husbands; and when put to the rack, in 1709, she confessed that she had destroyed upwards of 600 persons by means of it. The mode of preparing it is now happily lost.

AQUA VI'TÆ, water of life. A name familiarly applied to native distilled spirits: equivalent to the *eau-de vie*, or brandy, of the French; the *whisky*, of the Scotch and Irish; and the *Geneva*, of the Dutch. It has been the *aqua mortis* of myriads of the human race.

AQUA'RIANS. Christians, in the primitive church, who consecrated water (*aqua*) instead of wine for the celebration of the Eucharist.

AQUA'RIUM. A place in gardens, in which only aquatic plants are grown.

AQUA'RIUS, the water-carrier. The name of the eleventh sign of the Zodiack, emblematic of the rainy season. It is marked thus ♒, and answers to the Egyptian Canopus.

AQUATIN'TA, from *aqua* and *tinta*, dyed. The art of engraving on copper after the manner of Indian ink, by which happy imitations are made of pencil drawings in Indian ink, bistre, sepia, &c.

A'QUEDUCT, from *aqua* and *ductus*, a conduit. A structure made for conveying water from one place to another, either under ground or above it, without employing any other mechanical principle than that water will descend along an inclined plane. A structure continuing the line of a canal across a river, road, or valley, is called also an *aqueduct*, and, perhaps more correctly, an *aqueduct bridge*.

A'QUEO, from *aqua*. When prefixed to a word, *aqueo* denotes that water enters into the composition of the substance named, as aqueo-sulphuric acid: opposed to *anhydro*-sulphuric acid.

A'QUIFOLIA'CEÆ, Lat. *aquifolium*, the holly. A natural order of robust Exogens,

which connect the monopetalous and polypetalous subclasses. Ilex, Prinos, and Cassia are the most common genera.

A'QUILA, the eagle. The name of a tribe of diurnal birds, of the order *accipitres*, embracing the most powerful of all the birds of prey.

The eagles are now divided into the *Aquila proper* (to which belongs the Ring-tailed Eagle), the *Haliæetus* of Savigny, or *Fisher Eagles* of Cuvier (the Pygargus and Bald Eagle), *Pandion* (the Osprey), Circaëtus, Harpyia (where we find the "Great Harpy of America," that possesses such strength of beak as to be able to cleave a man's skull), and *Morphnus*, differing in certain peculiarities of the tarsi, claws, and wings.

——2. In *astronomy*, a constellation of the northern hemisphere, usually joined with Antinöus, or of which the asterism Antinöus is an integral part.

AQUILARIA'CEÆ, from *aquilaria*, eagle-wood, one of the genera. A very small order of Indian plants, whose species is but little known. The *aquilaria agallochum* produces the eagle or aggul wood, which, in all probability, was the aloes wood of scripture.

AQUILE'GIA, the herb Columbine. A genus. *Polyandria—Pentagynia*. Named from *aquila*, an eagle, whose claws the nectaries resemble. About 12 species, of which one is indigenous. Perennial.

A.R. stand for *anno regni*, the year of the reign; e.g. A.R. V. R. 4, in the fourth year of the reign of Queen Victoria.

ARA, an altar. The name given to an asterism south of the Scorpion's Tail. It is also called *Ara Thuribuli*, the Altar of Incense.

AR'ABESQUE (Fr.), } Something done af-
AR'ABESK (Eng.). } ter the manner of the Arabs: applied to sculptural and painted ornaments consisting of imaginary foliage, plants, stalks, &c., but in which no human or animal figures appear, representations of these being forbidden by the Koran. The term is synonymous with *moresque* (q. v.), but not necessarily with *grotesque* (q. v.).

AR'ABIS, the herb *wall* or *rock cress*. A genus. *Tetradynamia—Siliquosa*. Named so "because originally an *Arabian* genus," or more probably from the Greek Δεαβη, a species of nasturtium used in pickles. Walls and rocks throughout Europe.

AR'ABO-TEDES'CO, Ital. *arabo*, and *tedescho*, German. In *painting* and *sculpture*, a style of art composed of Moorish, Roman, and German-Gothic.

ARACATS'CHA, a South-American plant, said to be more nourishing and prolific than the potato (*solanum tuberosum*), and which may be cultivated with advantage in most parts of Europe. Scientific name, *Heracleum tuberosum Molinæ*.

What is most peculiar regarding this plant is, that it is also found growing in the country of Sus on the south side of the Atlas, and is called by the Arabians *aracatscha*, which means the *dry root*. Now the question is, how does the plant come to bear among the natives of Santa Fé de Bogota an Arabian name? Did the Arabs, in old antiquity, trade with South America? Or, shall we believe that a continent—a real *Atlantis*—formed a connection between Africa and South America?

ARA'CEÆ, or AROIDEÆ, *arum*, one of the genera. Acrid endogens, with the flowers arranged upon a spadix, inclosed in a spathe.

ARACH'NIDA, the name given by Linnæus to the spider-tribe of articulated animals, from αραχνη, a spider, and ειδος, likeness. They compose the two families of spiders and scorpions.

ARACH'NIDES, the *spiders* composing the second class of articulated animals in the system of Cuvier. They are provided with moveable feet, are destitute of wings, do not experience any metamorphosis, and generally feed on insects, though many are parasitical, and some are only found among flour, on cheese, and various plants. They are divided into two orders, *pulmonariæ* and *trachearia*.

ARACH'NOID, cobweb-like, from αραχνη, a spider, or spider's web, and ειδος, likeness. In *anatomy*, (1). A cobweb-like membrane forming one of the tunics or coats of the brain. (2). One of the tunics or coats of the eye.——In *natural history*, a species of fossil madrepore.

ARA'CK, the native name of a spirituous liquor prepared in India from rice, the juice of the sugar-cane and of the cocoa-nut, by distillation. It is the *aqua vitæ* of India.

ARÆOM'ETER, from αραιος, rare, thin, and μετρον, measure. An instrument to measure the density or gravity of fluids. *See* HYDROMETER.

ARÆ'OSTYLE, from αραιος, rare (thin set), and στυλος, a column. In *architecture*, one of the five proportions by which the ancients regulated the intervals called intercolumniations, between the columns of porticoes and colonnades. In modern practice the word denotes the intercolumnar space of 4 diameters, and is restricted to apertures decorated with the Tuscan order.

ARÆOSYS'TYLE, from αραιος and systyle (qv.) In *architecture*, a method of proportioning the intervals between columns ranged in pairs. The disposition is composed of two systyle intercolumniations, as exemplified in the west front of St. Paul's.

ARAIGN'É'E, Fr. a spider. In *military affairs*, a branch, return, or gallery of a mine.

ARA'LIA, a genus of American plants, chiefly arborescent, of which the angelica-tree is a species. *Pentandria—Pentagynia.* The berries of the angelica-tree (*A. spinosa*), are said to be useful in tooth-ache and colic, whence called *tooth-ache tree.* It is also called *prickly-ash.*

ARALIA'CEÆ, a natural family of plants, of which the genus *aralia* is the type.

ARA'NEA, a spider; a genus of arachnides, of the order pulmonariæ. The species are exceedingly numerous, some so small as to be nearly microscopic, and others so large as to kill small birds, and so poisoning that their bites have proved fatal to man. The domestic spider is a species of this genus; it is harmless from its want of power to pierce the skin.

A'RAR, the tree whose wood is chiefly used by the Mahometans for the construction of their mosques, and whose resin is the sandarach of commerce.

ARAUCA'RIA, a genus of trees somewhat resembling the pine tribe. *Diœcia—Monadelphia.* Named from *Araucania* in South America, where one of the species (Sir Joseph Banks' pine) grows plentifully, and being the first discovered gave name to the genus.

AR'BALEST, } a cross-bow, from *arcus*, a
AR'BALIST, } bow, and *balista* (q. v.). This instrument consisted of a steel bow set in a shaft or stock of wood, furnished with a spring and trigger. The arrows shot from it were called *quarrels.*

ARBITRA'TION, the hearing and determining between parties in controversy, by arbiters either chosen by the parties or appointed by a magistrate. It is usual for each party to choose an arbiter, and these to nominate a third party called an *umpire.* The final determination is called an *award;* and this is binding upon the parties.

ARBITRA'TOR. Properly, a person to whom the presiding judge proposes questions depending on scientific or technical knowledge, which affects the matter in dispute.

AR'BOR, the Latin word for *tree*, as distinguished from *shrub.* 1. In *gardening*, a bower, usually formed of lattice-work covered with parasitical plants, as ivy.—— 2. In *mechanics*, the same with *shaft* (q. v.). ——3. In *chemistry:* If mercury be thrown into a dilute solution of nitrate of silver, the silver is gradually precipitated in a beautiful arborescent form, constituting what is usually called the *Arbor Dianæ* (the tree of Diana), or *Arbor philosophorium* (the philosophical tree).——4. In *anatomy:* When the cerebellum is cut vertically, the medullary substance appears ramified so as to represent a tree: this dendriform arrangement is called the *Arbor vitæ* (tree of life).——5. In *botany:* A beautiful evergreen tree—the *Thuja occidentalis*—is likewise called the *Arbor vitæ.* It is a native of Siberia, Canada, Japan, and China.

ARBO'REOUS, Lat. *arboreus*, tree-like. Having a permanent woody stem. This term is sometimes used to distinguish such fungi or mosses as grow upon trees from those which grow upon the ground.

ARBORES'CENCE, from *arboresco*, to grow like a tree. The resemblance of a tree frequently observed in crystallizations and in mineral productions.

ARBORES'CENT, Lat. *arborescens*, growing like a tree (*arbor*). Becoming woody, dendriform. A species of Asterias, called sometimes *Caput Medusæ* (Medusa's head), is popularly called the *arborescent star-fish*, in allusion to its appearance.

ARBOR'ETUM, a place in parks, pleasure grounds, gardens, or nurseries, in which a collection of different species of trees is cultivated.

AR'BORICULTURE, Lat. from *arbor*, a tree, and *colere*, to cultivate. The art of cultivating trees and shrubs grown for timber, or for ornamental purposes. The practice includes propagation by seeds, by cuttings, layers, grafting, raising in beds and rows, transplanting, pruning, thinning, and, finally, felling, and the succession of kinds.

AR'BUTUS, the *strawberry-tree.* A genus. *Decandria—Monogynia.* The *A. unedo*, or true strawberry-tree, is a beautiful evergreen, which, from its frequency and elegant foliage, adds greatly to the lake scenery in Killarney in Ireland. The *A. alpina*, called popularly the bear-berry, bear's whortle berry, bear's bilberry, wild cranberry, &c., is a trailing shrub found plentifully among the Highland hills of Scotland; as is also the *A. uva ursi*, or red bear-berry, which affords excellent food for moor-fowl. This derives the name from Celtic *ar*, rough or austere, and *boise*, a bush, which is characteristic of the Scottish species.

ARC, Lat. *arcus*, a bow, vault, or arch. In *geometry*, any part of a curved line which does not consist of contrary curvatures. It is by means of circular arcs that all angles are measured, the arc being described from the angular point as a centre. *See* ANGLE.

ARCA'DE, Fr. from Sp. *arcada*, from Lat. *arca.* In *architecture*, a series of recesses with arched ceilings or soffets.

The use of this word is very vague Some use it for a single arched aperture or inclosure, instead of *vault*, or for the space covered by a *continued vault* or arch, supported on piers or columns, instead of *gallery* or *corridor;* and by others for the space inclosed by two or more arcades, or a wall and an arcade,

instead of a *piazza* or ambulatory.—*Stuart.*

Ar'cadæ, a family of marine bivalve shells, of which the genus *arca* is the type.

Arca'dians, a society of Italian poets in Rome, established in the latter half of the 17th century, for the improvement of taste, and the cultivation of Italian poetry. It took the title of *The Academy of Arcadians;* in conformity with which they pretend to imitate the pastoral life of the Arcadians (inhabitants of Arcadia, the Greek Switzerland).

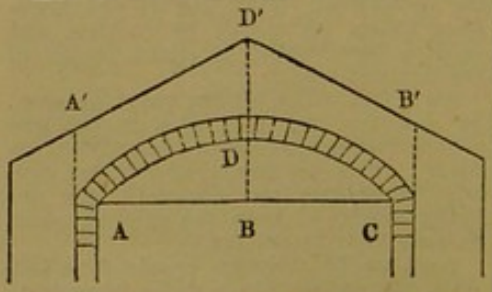
Arc-boutant, Fr. from *arc* and *bouter*, to abut. An arched buttress formed of a flat arch, abutting against the feet or sides of another arch or vault to support them and prevent their giving way in that direction: called also a *flying buttress.*

Arch, probably from αρχη, beginning, origin; Fr. *arc*, arch. 1. In *geometry*, part of a circle, not more than a half.

Among modern mathematical writers this form of the word is disused, being replaced by *arc* (q. v.), except as restricted to its signification among architects and mechanics.

——2. In *architecture*, a mechanical arrangement of separate inelastic bodies in the line of a curve, which preserve a given form when resisting pressure. A concave structure of stone or brick raised upon a mould in the form of an arc of a curve, and serving as the inward support of some superstructure. The arch may be supported by the form of its own curve, the stones acting against each other, and resisting with the force by which they would otherwise fall; or it may be constructed of wood or iron, and supported by the mechanism of the work.

The lateral supports of an arch are *abutments* or *butments*, and the internal supports are *piers.* The first or undermost stones at A and B of the arch are



termed *springers*, and the line A B on which they are placed is called the *springing line* or *reins* of the arch. The upper end of the pier on which the arch rests is the *impost* or *platband.* The stones ranged in the curvature of the arch are *archstones* or *voussoirs.* The whole interior curved surface of the arch A D C, is called the *intrados* by geometers, and *soffet* by architects, or popularly the *arch.* The *extrados* is the convex surface A' D' B'. The *span*, called by geometers the *chord of the arch*, is measured from the lines where the intrados rises from the impost. The *rise of the arch*, or, geometrically, the *versed sine*, is the distance C D of the highest point of the intrados above the chord line A B C. The highest point D of the intrados, is by geometers called the *crown* or *vertex*, but by the workmen the *underside of the crown*, the *crown* with them being the upper end of the *key-stone*, or stone which connects the two *semi-arches* A D and C D at D. These semi-arches are called *haunches*, or *hances*, or *flanks*, and the spaces above these, being the outer walls, forming the elevation of the arch, is the *spandrels*, or, collectively, the *spandrel-wall.* Sometimes small circular arches are constructed through the spandrel and haunch walls, mostly over piers in stone bridges: these are called *ox-eyes* by the workmen.

Arch, chief, from αρχι: used as a syllabic prefix to words, to denote the highest degree of their kind, whether good or bad.

Archæol'ogy, from αρχαιος, ancient, and λογος, a discourse. The science or subject of antiquities, especially of Greece and Rome.

Ar'chaism, Gr. from αρχαιος, ancient. A term used by ancient chemists and physicians, to imply the occult cause of certain phenomena.

Archbish'op, from *arch* and *bishop.* The name of a church dignitary of the first class.

The title was introduced about A.D. 340. England has two archbishops, that of Canterbury and that of York, who are called *primates* and *metropolitans.* The archbishop of Canterbury had anciently jurisdiction over Ireland, and was styled a *patriarch*, and is still accounted the first peer of England, and next to the royal family. He has the precedence of the dukes and all the officers of the crown.

Archbu'tler, one of the great officers of the German empire, who presents the cup to the king on solemn occasions. The office belongs to the king of Bohemia.

Archcham'berlain, an officer of the German empire, much the same as the great chamberlain in England.

Archchan'cellor, a high officer who in ancient times presided over the secretaries of the court.

Arch'count, a title formerly given to the earl of Flanders, on account of his great power and riches.

Arch'deacon, from *arch* and *deacon.* An

ecclesiastical dignitary next to a bishop: his jurisdiction may extend over the whole diocese, or only a part of it. There are sixty archdeacons in England, and as many *archdeaconries* over which they have authority.—*Archdeacon's court* is an inferior church court held in the absence of the archdeacon, and from which appeal lies to the bishop's court. The judge in this court is called the *archdeacon's official*.

ARCH'DUKE, from *arch* and *duke*. A title given to the princes of the house of Austria, all the sons being archdukes and daughters archduchesses.

ARCHEI'ON, the most retired and secret place of the Grecian temples, used as a treasury.

ARCH'ES-COURT, an ecclesiastical court of appeal belonging to the archbishop of each province, the judge of which is called the *Dean of Arches*. The court takes its name from the church of St. Mary-*le-Bow* (*de arcubus*), whose top is raised of stone pillars built archwise, where it was anciently held.

ARCH'ETYPE, from αρχετυπον, a first pattern. Among *minters*, the standard weight to which the others are adjusted.

AR'CHIACO'LYTH, from αρχος, chief, and ακολουθος, minister. In the ancient cathedral churches, the ministers were divided into four orders, viz. priests, deacons, subdeacons, and acolyths (or Lat. *acolythi*), each of which had its chiefs: that of the acolythi was called the *archiacolyth* or *archiacolythus*.

ARCH'IATER, from αρχη, chief, and ατρος, physician. An old title for the chief physician to a prince who retained several.

AR'CHIDAP'IFER, from *arch* and *dapifer*, sewer. In *Germany*, a great officer of the empire: the office belongs to the elector of Bavaria.

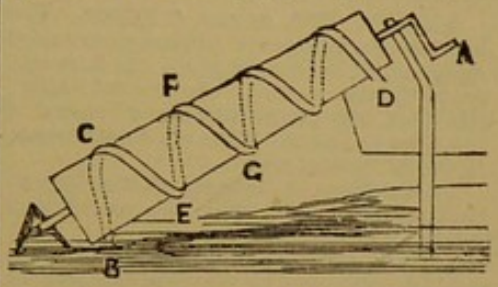
AR'CHIL, } A violet, red, or purple
ARCHIL'LA. } paste, obtained from a species of whitish moss (*lichen roccellus*) which grows upon rocks in the Canary and Cape de Verd Islands. It is used in dyeing for modifying other colours. It is analogous to the substance called *cudbear* in Scotland. Litmus is obtained from the same lichen, by a modified process practised in Holland. A sort of archil is also obtained from the *lichen parellus*, which grows on the basaltic rocks of Auvergne.

ARCHILO'CHIAN, appertaining to Archilochus, a Greek poet, who flourished about 700 B.C. The *Archilochian verse*, which is called from him, is—

–∪∪–∪∪–

ARCHIMAN'DRITE. In the *Greek church* the abbots were called *mandræ*, and their chief *archimandrite*, the prefix *archi* meaning *chief*. *See* ARCH.

ARCHIME'DES' SCREW, a machine for raising water, said to have been invented by Archimedes, the most celebrated among the ancient geometricians (287 B.C.). The machine consists of a tube rolled in a spiral form about a cylinder, as in the figure. The handle, A, being turned, the



water enters the spiral tube at B: the orifice being brought to C, the water will fall to E; another revolution brings it to G; and so on, till it is finally discharged at D.

ARCHIPEL'AGO is a corruption of *Ægeopelago*, the modern Greek pronunciation of Αιγαιον Πελαγος, the Ægean Sea. The term is applied to any sea interspersed with many isles, and to the isles situated therein.

AR'CHITECTURE, the art of contriving and erecting buildings. According to the objects to which it is applied, architecture is divided into civil, naval, and military The word is from the Lat. *architectura*, o the verb *architector*, from αρχιτεκταν, a constructor, an architect.

The Egyptian style of building takes its origin in the *cavern* and *mound*; the Chinese architecture is modelled from the *tent*; the Grecian is derived from the *wooden cabin*; and the Gothic from the *bower* of trees.

ARCH'ITRAVE, from ἀρχος, chief, and *trabs*, a beam. In *architecture*, that part of the entablature which rests immediately upon the columns. It probably represents the beam which in ancient buildings extended from column to column, to support the roof. In Gothic architecture there is no architrave.

AR'CHIVES, a collection of written documents containing the rights, privileges, claims, treatises, constitutions, &c. of a family, corporation, community, city, or kingdom; also the place where such documents are kept. The term is Fr., from Ital. *archivio*; Low Lat. *archivium* or *archivum*, from αρχειον.

AR'CHIVOLT. In *architecture*, the inner contour of an arch or band, adorned with mouldings, running over the facings of the archstones and bearing upon the imposts. It differs in different orders. The term is from the Fr. *archivolte*, and the same as the Lat. *arcus volutus*.

ARCH'LUTE, } Ital. *arcileuto*. A large
ARCH'ILUTE, } lute, a theorbo: the base strings are doubled with an octave, and the higher strings with a unison.

ARCH'MARSHAL, the grand marshal of the German empire. The dignity belongs to the elector of Saxony.

ARCH'ON, from ἀρχων, a prince. The highest magistrates of Athens were called Archons. There were nine: the first was properly the *archon*; the second, *king*; the third was the *polemarch*, or general of the forces; and the other six were *thesmothetæ*, or legislators.

ARCHON'TICS, a branch of the Valentinians, who held that the world was made by *archontes* or angels.

ARC'TIC, an epithet given to the north pole in reference to the constellation of the Little Bear, called by the Greeks ἀρκτος, the last star in the tail of which points out the north pole. The *arctic circle* is a lesser circle of the sphere, parallel to the equator, and 23° 28′ distant from the north pole, from which it takes its name. This, and its opposite, the *antarctic* (q. v.), are called the *two polar circles*, and within these lie the *frigid zones*.

ARC'TIUM, the plant *burdock* or *clitbur*. A genus. *Syngenesia — Poly. æqualis*. Name, ἀρκτος, a bear, in allusion to the coarse texture of the involucres. Waste places, as way-sides.

ARC'TOMYS, the marmot. A genus of mammalia, of the order rodentia. The marmots live in societies and are easily tamed. There are many species, the most interesting of which are the *Alpine M.*, which inhabits high mountains, and the *bobac* of Poland and Kamschatka, both about the size of a hare, and burrow in the hardest soils. The American species are smaller. Name, ἄρκτος, a bear, and μυς, a rat; the bear-rat.

ARCTOPHYLAX, Lat. from ἄρκτος, a bear, and φυλάξ, a keeper. The Greek name of the constellation Boötes, or Charles's Wain.

ARCTU'RUS, Lat. from ἄρκτος, a bear, and οὐρα, a tail. A star of the first magnitude in the constellation Arctophylax, or Boötes.

ARC'TUS, ἄρκτος. The name given by the Greeks to two constellations, called by the Latins *Ursa major* and *Ursa minor*, and by us the *Great Bear* and the *Little Bear*.

ARCUA'TION, Lat. *arcuatio*, a bending. In *gardening*, a method of raising by layers such trees as cannot be raised from seed. It consists in bending to the ground the branches which spring from the offsets or stools, and covering them with earth three inches deep upon the joints. When they have taken root, they are removed.

AR'DEA, the heron. A genus of birds of the order *grallatoriæ*, and family *cultrirostres*. There are several species, including the crabeaters and bitterns. Named by the Latins from ἀ'ίερα δύειν, ab alto volatu.

ARE, from *area*. A superficial square measure in France, substituted for the former square rod. It contains 1076·44 square feet, English.

A-RE, in the Guidonian scale of music, denotes the lowest note but one.

A'REA, a Latin word signifying—1. A threshing-floor.——2. A vacant space bounded on all sides, or before a public building. In *geometry*, the superficial content of any figure; the surface included by any given lines. The extent is ascertained by finding how many times the surface contains another smaller surface, of which we have an accurate idea; as a square inch, a square foot, &c., which we use as superficial measures. Among *physicians*, the term area has been used vaguely to denote certain cutaneous diseases producing baldness.

ARE'CA, the *cabbage-tree*, a genus of palms, one species of which, called the cabbage-palm (*A. oleracea*), grows abundantly in South America, and is cultivated in both the Indies. The pith forms an inferior sago, the young buds are eaten as cabbage, and the fruit yields oil. The fruit (nut) of another East Indian species (*A. catechu*), yields two kinds of catechu, called *cuttacamboo* and *cashcutti* by the Indians. *Monœcia—Monodelphia*. Called also *fausel-nut* (nut resembles the nutmeg), and *drunken-date*.

ARE'NA, sand. In the Roman amphitheatres, a plain space in the middle, covered with sand, on which the gladiators, &c. fought. Hence, also, the combatants were called *arenarii*.

ARENA'RIA, the plant *sandwort*. A genus, of which there are eleven indigenous species. *Decandria—Trigynia*. Named from *arena*, sand, the greater number of species growing in sandy soils.

ARENDA'TOR. In *Russia*, one who contracts with the government for the rents of the farms is called an *arendator*, from *arenda*, a farm. And he who rents an estate of the crown is called a *crown-arendator*. The estate and rent paid for it are indifferently denoted by *arende*.

AREN'GA, a genus of palms peculiar to the Moluccas. The pith affords a kind of sago, and the sap sugar by evaporation, and a pleasant liquor by fermentation.

ARENILIT'IC, pertaining to sandstone, *arena* and λιθος; consisting of sandstone.

Areo'da, a very brilliant genus of pentamerous coleoptera, belonging to Brazil, closely allied to the cockchafer.

Are'ola, Lat. dim. of *area*. In *anatomy*, the small interstices of cellular tissues. In *Surgery*, an inflamed ring around pustules, &c. The coloured circle which surrounds the nipple of the breast.

Are'olæ, the smaller spaces into which the wings of insects are divided by the nervures.

Are'olate. 1. In *entomology*, divided into small spaces.——2. In *botany*, in composite plants, when the florets are placed on the surface of the receptacle, and dropping off leave pentagonal spaces.

Areola'tion. Any small space, bounded by something different in colour, texture, &c.

Areom'eter. *See* Aræometer and Hydrometer.

Areom'etry, the art of measuring the density or gravity of fluids by means of a hydrometer (generally an *areometer*).

Areopa'gus, the name of the oldest of the Athenian courts of justice, and also the most respectable. The title is derived from Αρης, Mars, and παγος, hill. Mars' Hill, a hill in the city on which its first meetings were held. The judges were called *areopagitæ*.

Aretol'ogy, a name sometimes given to that part of moral philosophy which treats of virtue, its nature, and the means of attaining it; from αρετη, virtue, and λογος, discourse.

Argal, crude tartar, called also *argol*.

Argan'd. When a strong light is required from oil or gas, it is common to make a circular burner, with a hole perforated through the middle for the admission of air into the interior of the flame, and a series of small perforations around the circumference for the egress of gas, or one continuous opening into which the wick is put when it is required to burn oil. Such burners are called *argands* or *argand burners*, from the inventor's name.

Arge'mone, a genus of Mexican plants. *Polyandria—Monogynia*. Name from *argema*, an ulcer of the eye, which the first known species was said to cure.

Argent, from *argentum*, silver. The white colour in coats of arms, intended to signify in a woman, chastity; in a maid, virginity; in judges, justice, &c.; the rich, humility.

Argen'tate. Fulminating silver is sometimes called *argentate of ammonia*.

Argentif'erous, producing silver, *argentum* and *fero*.

Ar'gentine, resembling silver, *argentum*. Also a name of *slate-spar*, which is a nearly pure sub-species of carbonate of lime, of a slaty structure. The antimonious acid is popularly termed *argentine flowers of antimony*.

Ar'gil, } Lat. *argilla* of αργιλλος, white
Ar'gill, } earth, αργος, white. Generally potter's earth, but strictly the earth of clay called in chemistry *alumina* (q. v.).

Argilla'ceous, of the nature of argil, containing argil. *A. earth*, alumina. *A. schist*, clay-slate: an indurated clay common to the fossiliferous and metamorphic series.

Argil'lite, argillaceous-schist or clay-slate used in roofing houses.

Ar'gol, crude tartar, called also *argal*, which when purified is called *cream of tartar*.

Argonau'ta, the paper nautilus or sailor, a sub-genus of sepia or cuttle-fish; there are several species closely resembling each other in animal and shell.

These mollusca are always found in a very thin shell, symmetrically fluted and spirally convoluted, the last whorl so large that it bears some resemblance to a galley, of which the spine is the poop. The animal makes a constant use of it, and in calm weather whole fleets of them may be observed navigating the surface of the ocean, employing six of their tentacula as oars and elevating the two membraneous ones by way of a sail. If the sea becomes rough, or they perceive any danger, the argonaut withdraws all its arms, concentrates itself in its shell, takes in water, and descends to the bottom. There is, however, considerable doubts whether the animal found within this shell be really the constructor of it, or a parasitical intruder into a shell formed by some other animal not yet discovered. The animal has no other connection with the shell than that it is found within it, and occupies the last or large whorl only. The others being entirely empty.—The name is derived from Αργω, the name of the ship in which Jason sailed to Colchis in search of the golden fleece, and ναυτος, a sailor.

Ar'go-Na'vis, the ship Argo (Jason's ship). The name of a constellation in the southern hemisphere, and type of the ship in which Jason sailed to Colchis.

Ar'gument. Lat. *argumentum*. In *astronomy*, a quantity upon which another quantity or equation depends, or some circumstance relative to the motion of a planet or satellite; or it is an arc whereby we endeavour to find another unknown arc proportional to the first; hence *argument of inclination*, called also the *argument of latitude*, the portion of a planet's orbit intercepted between the ascending node and the place of the planet from the sun, counted according to the succession

of the signs. *Argument of the moon's apogee*, called also the *annual argument*, the distance of the moon's apogee from the sun's place, that is, the arc of the ecliptic comprised between these two points. *Argument of parallax*, denotes the effect produced by parallax on an observation, and which is the argument for determining the quantity of horizontal parallax.

ARGUMENTUM AD HOMINEM, an argument which presses with consequences drawn from one's own principles and concessions.

ARGUS-SHELL, a species of porcelain shell, beautifully variegated with spots, in some measure like the peacock's tail.

ARGYN'NIS, a genus of butterflies, remarkable for the silvery spots on the under part of the body.

AR'GYRITIS, an old name of litharge, from αργυρος, silver, because separated in the process of extracting silver from the lead ores.

ARGYR'OCOME, a sub-genus of cud-weed (*gnaphalium*). From αργυρος, silver, and κομη, hair, because the flowers are silvery white.

A'RIA, in *music*, Ital. for *air* (q. v.)

A'RIANS, the adherents of the Alexandrian bishop, Arius, who held Christ to be a created being, inferior to God in nature and dignity. Their doctrine is *Arianism*.

A'RIES, Latin for ram. In *astronomy*, a constellation forming the first of the twelve signs of the zodiac. Symbol, ♈ In the ancient military art, *aries* means a battering-ram.

ARIET'TA, in *music*, Italian for dim. of *aria* (q. v.).

A'RIL, Lat. *arillus*. A tunic investing the seed of some plants completely or partially. It is fixed at the base of the seed, and more or less closely envelopes the other parts. Mace is the aril of the nutmeg.

ARIM'ANES, } The evil principle in the
AHRI'MAN. } Persian theology, which perpetually counteracts the designs of the good principle, Ormuza or Horminda.

ARIO'SO, Italian for light, lively. Applied in music to a kind of melody bordering on the majestic style of a capital air.

ARI'STA, the awn. A sharp bristle-like appendage which proceeds from the husk or glume of grasses.

ARI'STATE, Lat. *aristatus*, awned. Applied to leaves, &c. terminating in a long rigid spine, which does not appear as a contraction.

ARISTOLO'CHIA, the plant birthwort. Genus. *Gynandria—Hexandria*. Name, αριστις, and λοχια, for its supposed medicinal virtues. One indigenous species.

ARISTOLOCHI'EÆ, a natural family of plants, of which the genus *Aristolochia* is the type.

ARISTOTE'LIA, the generic name of a South American tree. *Dodecandria—Monogynia*. Named in honour of Aristotle, the ancient philosopher.

ARITH'METIC, from αριθμητικη, the art of numbering, αριθμος, number. A branch of mathematics which has for its object the combination of numbers according to certain rules, in order to obtain results which satisfy given conditions. These rules, methodically arranged, constitute the science to which is given the name *arithmetic*. Arithmetic is called *theoretical* when it treats of the properties and relations of numbers considered abstractedly: and *practical*, when it treats simply of the art of computing. *Integral arithmetic* treats of whole numbers; *fractional arithmetic* of fractional numbers; *decimal arithmetic* of decimal numbers. *Logarithmic arithmetic* is that which is performed by tables of logarithms. *Political arithmetic* is the calculation of revenue, determination of taxes, adjustment of expenditure, &c. *Specious* and *universal arithmetic* are names given to algebra. All arithmetical operations are performed by means of addition, subtraction, multiplication, and division.——*Arithmetical complement* of a number is what it wants of the next higher decimal denomination. Thus 4 is the arithmetical complement of 6, as it is what 6 wants of 10.——*Arithmetical mean* between two numbers is a number, such that its excess over the first is equal to its defect from the second. Thus 5 is an arithmetical mean between 3 and 7.——*Arithmetical progression*, a series of numbers, such that each differs from the quantity that precedes and follows it by the same number. Thus, 3, 5, 7, 9, form an arithmetical progression, when the common difference of the terms is 2.——*Arithmetical proportion* of four numbers consists in the difference of the first and second being equal to that of the third and fourth. Thus, 2, 5, 8, 11.

ARITHMETICAL RATIO. The difference of any two of an arithmetical progression.

ARK, the name given, in our translation of the Bible, to the floating edifice in which Noah resided during the deluge. From Sax. ϸɪc or ϸɪk, a chest. Lat. *arca*. Dut. *arke*. The chest in which the tables of the law were preserved was called the *ark of the covenant*. This coffer was 3 feet 9 inches long, by 2 feet 3 inches in breadth, and the same in depth. It was made of shittim-wood, and covered with the mercy-seat, or propitiatory (ιλαστηριον επιθημα), made of pure gold, and having at each corner a cherub with expanded wings.

ARM, Sax. aɼm or eaɼm. That part of the upper extremity of the human body which extends from the shoulder to the wrist: divided into the brachium and antibrachium by anatomists.

AR'MA, Lat. for arms, applied in botany to various pointed appendages of plants, as *spina*.

ARMADIL'LO, a mammiferous genus of quadruped peculiar to America; the dasypus of Linnæus, and belonging to his order bradypoda, but placed by Cuvier in the order edentata. The armadillos take their name from the peculiar scaly and hard shell, formed of compartments resembling little paving stones, which covers their head and body, and frequently their tail. They dig burrows and live partly on vegetables, and partly on insects and dead bodies. There are several species or rather sub-genera.

AR'MATURE, Lat. *armatura*, armour, that which defends, but sometimes used of offensive weapons. A piece of soft iron applied to a loadstone, or connecting the poles of a horse-shoe magnet, is called its *armature;* when the armature is applied the magnet is said to be *armed*.

ARMED. In *heraldry* the term is used with respect to beasts and birds of prey when their teeth, horns, feet, beak, talons or tusks are of a different colour from the rest of the body; e.g. "He bears a falcon armed, or."

ARME'NIAN STONE, a blue mineral or earth variously spotted, and not unlike the lapis lazuli; found first in Armenia or Turcomania.

AR'MIGER, literally a bearer of arms, *arma* and *gero;* an old title of dignity next in degree to a knight, now replaced by *esquire*.

AR'MILLARY, from *armilla*, a bracelet. Consisting of rings or circles, chiefly applied to an artificial sphere composed of various circles put together in the proper order of the imaginary circles which surround the earth, for the purpose of illustrating the motions of the celestial bodies.

AR'MINGS, in nautical language the *waist-cloths* hung about a ship's upper works.

ARMIN'IANS, a religious sect which has its name from Arminius (the Latin name of James Hermann), who maintained, in opposition to Calvin, that the merits of Christ extended to all mankind; and that the grace necessary to salvation is attainable by every one. The Arminians still remain a distinct sect in Holland, under the name of *remonstrants* (q. v.), and have been the predominant party in the church of England since the time of Laud.

AR'MOR, } a defensive habit composed
AR'MOUR, } of the casque or helmet, gorget, cuirass, gauntlet, tacce, brassets, cuisses and covers for the legs, to which the spurs were fastened. This furniture was denominated *harness* or armour, *cap-à-pié*, i.e., from head to foot, and was used by cavaliers and men-at-arms. In *statutes*, armour is used for the whole apparatus of war. *Coat-armour* signifies the escutcheon of any person or family, with its several charges and other furniture, as mantling, crest, supporters, motto, &c.

ARMS, Lat. *arma*. In *botany*, *see* ARMA. In *heraldry*, the ensigns armorial of a family, and consisting of figures and colours borne in shields, banners, &c., as marks of distinction and dignity. *Charged arms* are such as retain their ancient integrity, and acquire some new honourable charge or bearing. *Vocal arms* are such that the figures bear some allusion to the name of the bearer.

AR'NICA, the plant leopard's bane, a genus of perennials; *Syngenesia—Polygamia superflua;* a European species, is used medicinally. Name anciently given to a different plant.

ARNOIDEÆ, a natural family of plants of which the genus *arum* is the type.

AR'NOLDISTS. The partisans of Arnold of Brescia, who, in the twelfth century, was the first to raise his voice against the abuses and vices of the clergy.

AR'OBA, } in Sp. *arroba*, and in the dia-
AR'OBE, } lect of Peru *arrow*. 1. A weight used in Spain, Portugal, Goa, and Brazil; that of Madrid is 25lbs. avoir.——2. A measure of capacity, that of Malaga contains 794 cub. ins.

ARO'MA, Lat. of ἀρωμα. The odoriferous principle of *aromatic* plants, or such as have a warm and agreeable odour, as the cardamom.

AROU'RA. 1. A Grecian measure of 50 feet.——2. An Egyptian measure of 100 square feet.

ARPEG'GIO, } Ital. *arpeggiare*, to play
ARPEGGIA'TO, } on the harp. In *music*, the striking or bowing of notes on a violin or similar instruments in quick succession, in imitation of the harp.

AR'PENT, the French acre, corrupted from *arvipendium* or *aripennium*, which denotes the measuring of land with a cord. The arpent is about ⅞ acre English.

ARQUEBUS'ADE, from arquebuss, a hand-gun. An aromatic spirituous lotion applied to strains, &c., originally applied to wounds from an arquebuss.

ARRAC'ACHA. The South American name for an umbelliferous plant, the *Arracacia esculenta* of botanists. Its roots, which are of a large size, and fleshy and sweet, are cultivated in Columbia and Jamaica.

ARRAI'GN, arraignment. To arraign is to set in order or fit for trial: as to ar-

raign a writ of novel disseisin; to call a prisoner to the bar of the court to answer to the matter charged in the indictment, and the calling of the prisoner to the bar is denominated an *arraignment*. The term from Norm. *aresner*, to answer. Blackstone says from Lat. *ad rationem ponere*; in Fr. *ad reson* or abbreviated *a resn*.

Ar'ras, a kind of tapestry, said to take its name from Arras, the capital of the department Pas de Calais, where the article was first manufactured.

Arrenta'tion, from Sp. *arrendar*, to rent. In the *forest laws of England* the licensing of an owner of land in a forest to inclose it in consideration of a yearly rent.

Ar'reoys, the name given to a class of individuals in Otaheite and the neighbouring islands, who destroy their own offspring at the moment of their birth.

Arre'st, from French *arrêter*, for *arrester*, to stop. To *arrest judgment*, is to stop judgment after verdict, for causes assigned. The motion for this purpose is called a motion in arrest of judgment.

Arrest'ment. In *Scotch law*, 1. The detention of a criminal till he finds bail.——2. An order of a judge, by which a debtor to the arrestor's debtor is prohibited to make payment till the debt due to the arrestor is paid or secured.

Arres'ts, in *farriery*, mangy tumours upon a horse's hind legs.

Arriere, the rear of an army. The *arrière-ban* of the old French kings was a proclamation (*ban*) by which their vassals were summoned to take the field for war (*arrière*, the last). *Arrière-fief* or *fee*, a fee or fief held of a feudatory. *Arrière-vassal*, the vassal of a vassal.

Ar'ris, probably from *risega*, Ital., at the projection. The intersecting line of two planes cutting one another, and presenting a salient angle.

Arronde'e. In *heraldry*, the curved cross, the arms of which terminate in the escutcheon.

Arrow-root, a kind of starch, manufactured from the roots of the *Maranta arundinacea*, a native of South America, cultivated both in the East and West Indies; also the popular name of the genus *Maranta* (q. v.); supposed to be an antidote to the poisonous arrows of the Indians.

Ars'chin. 1. A Russian measure of length = 2¼ feet English.——2. A Chinese measure of length = 302 Paris lines. Written also *arskin*.

Arsen'iate, a salt formed by the combination of the arsenic acid with a base.

Ar'senic, ἀρσενικόν. Properly, the name of a metal of a bluish-white or steel-gray colour; brittle, of considerable brilliancy, and sp. gr. 5·76; but more frequently used to designate the white oxide of the metal, called by chemists *arsenious acid*, and in common *white arsenic*. Arsenic is met with abundantly in nature; sometimes in its metallic state, occasionally in the state of an oxide, but more frequently united with sulphur, forming the *native realgar*, or *native orpiment* of mineralogists: with iron and sulphur forming *arsenical pyrites*, and along with cobalt and sulphur forming the mineral called *cobalt pyrites*, in which the arsenic predominates, and from the roasting of which the *arsenious acid* of commerce is obtained.

The term ἀρσενικόν, from which we derive the term *arsenic*, was an epithet applied anciently to those natural substances which possessed strong and acrimonious qualities, as the poisonous quality of arsenic was found to be remarkably powerful; the name was given especially to the yellow sulphuret now called *orpiment*.

Arsen'ic Acid. } The only known
Arse'nious Acid. } compounds of arsenic and oxygen are two, and they both possess acid properties. That which has the least oxygen is called *arsenious acid*, and is the well-known and virulent poison called *white arsenic*, or simply *arsenic*, in commerce; and the other, containing a larger quantity of oxygen, is called *arsenic acid*.

Arsenite, a salt formed by the union of the arsenious acid with a base.

Arsis, ἄρσις, of αἴρω, to raise. The raising of the voice in pronunciation; opposed to *thesis*. In the ancient music, arsis and thesis were applied to the lifting and falling of the hand in beating time.

Ar'son, from Lat. *ardeo, arsum*, to burn. In *law*, the act of wilfully setting fire to a house or other property belonging to another person, which by the law of England is felony, and punishable with death.

Art, Lat. *ars, artis*, the primary sense of which is strength and skill. The application of knowledge to practice; hence we have *useful* or *mechanical* arts; *liberal, polite*, or *fine* arts: the former requiring manual labour principally, the latter requiring the exercise of the mind more than of the body.

The old division of the liberal arts (*artes liberales*) was—grammar, dialectics, rhetoric, music, arithmetic, geometry, and astronomy.

Artemi'sia, wormwood, mugwort, southernwood. An extensive genus of plants. *Syngenesia—Poly. superflua*. Much used in medicine. Named from Queen *Artemesia*; according to others, from *Artémis*, the Grecian Diana.

Arteriot'omy, from ἀρτηρία, an artery, and τέμνω, to cut. The opening of an artery for the purpose of abstracting blood; only practised by modern surgeons on the temporal artery.

Ar'tery, from ἀήρ, air, and τηρέω, to

hold (the ancients supposed that the arteries contained air only). The arteries are strong elastic canals, which convey the blood from the heart to the different parts of the body, and are during life distinguished from the *veins* by pulsation. The original arterial trunks are only two in number, the *aorta* (q. v.) and the *pulmonary artery*, which arises from the right ventricle of the heart.

ARTE'SIAN WELLS, springs of water obtained by boring through strata destitute of water into other strata which contain it. Thus named from the operation having been first practised in Artois, the ancient Artesium of France.

ARTHRI'TIS, from αρθρον, a joint. Any disease that affects the joints, but gout particularly.

ARTHRO'CACE, from αρθρον, a joint, and κακη, vice. A collection of matter within the cavity of a bone.

ARTHRO'DIC, a connection of bones in which the head of one is received into the hollow of another so as to admit motion in all directions.

ARTHRODI'EÆ, Gr., from αρθρον, a joint, name given to those algæ which have an articulated structure.

ARTHRODY'NIC, Gr., from αρθρον, a joint, and οδυνη, pain—rheumatic and other painful affections of the joints.

AR'TICHOKE, the popular name of the *Cynara scolymus* which is extensively cultivated for culinary purposes. The *Jerusalem Artichoke* is a species of helianthus or sun-flower.

The popular etymology of this word is, that any one unfortunate enough to get the artichoke into his throat would certainly be choked! The word occurs, with little variation of orthography, in most modern European languages. The Italians write *carciofala*, probably from Lat. *carduus*.

AR'TICLE, from Lat. *articulus*, a little joint. In *law*, to article is, 1. To acquire or charge by an exhibition of articles (e. g.) "He shall be *articled* against in the High Court of Admiralty," 33 Geo. III.——2. In *war*, the code of military law embodied in the Mutiny Act, which is passed each year.——3. In *theology*, a point of Christian doctrine established by the church (e. g.), the 39 Articles of the Church of England, which are founded upon certain *articles* compiled and published in the reign of Edward VI.

ARTIC'ULAR, jointed, Lat. *articularis*, appertaining to the joints.

ARTICULA'TA, one of the great divisions of the animal kingdom. A primary division of the animal kingdom, characterised by an external skeleton consisting of a series of rings, articulated and surrounding the body. The third in the arrangement of Cuvier, embracing four classes: annulata, crustacea, arachnoides, and insecta.

ARTIC'ULATE, Lat. *articulatus*, jointed. Applied, 1. In *grammar*, to the sounds made by opening and shutting the organs of speech; the junction of the organs forming a joint or articulation.——2. In *botany*, to roots, stems, and other parts which are so united as if one piece grew out of another.

ARTIC'ULATED, Lat. *articulus*, a joint. Connected by moveable joints, and in plants applied to parts so slightly connected, as finally to fall asunder, as in the case of a withered leaf.

ARTIC'ULATING, fitting by means of joints.

ARTICULA'TION, Lat. *articulatio*, of *articulus*. The junction of bones, of which there are three kinds: synthrosis, diarthrosis, and amphi-arthrosis. In *botany*, the connection of the parts of a plant by joints, also the nodes or joints. In *grammar*, the distinct utterance of syllables and words by the human voice.

ARTICULA'TION, the connections of the bones of a skeleton by joints.

ARTIC'ULUS, a joint, Lat. dim. of *artus*. In *botany*, a part lying between two knots in an articulated stem. The knots are also called *articuli*.

ARTI'FICER, Lat. *ars*, art, and *facio*, I make. One who requires intellectual refinement in the exercise of his profession, in distinction from an artisan, who may practise either the fine or useful arts without knowing more than the general rules of his art.

ARTIFICIAL, contrived by art (*ars* and *facio*). *Artificial lines* on a sector or scale are lines so contrived as to represent the logarithmic sines and tangents. *Artificial numbers* are the same with logarithms.

ARTILLERY, from Fr. *artillérie*, archery (primitively). Artillery denotes all cannon, mortars, howitzers, petards, &c., together with all apparatus thereto belonging; as also the art or science of managing the same, (more commonly called gunnery.) The same name is also given to the troops by whom these arms are served, being subsidiary to the instruments. The *artillery park* is the place appointed for the encampment of the artillery apparatus and troops for its service and defence. *Flying artillery* consists of light pieces, and is thus distinguished from *field artillery*.

ARTOCA'RPEÆ, a tribe of dicotyledonous plants, of which the genus *Artocarpus* is the type.

ARTOCAR'PUS, the bread-fruit tree: a genus of several species, of which the *A. incisa*, which grows to about the size of a small oak, is the most celebrated. It is a native of the South Sea Islands, but is

now cultivated in other parts of the world. The fruit, which is contained in a round catkin, is often as large as a man's head; it is baked in an oven, and the rind being removed, the internal parts resemble the crumb of bread. It forms a substitute for bread in the countries where it grows. *Monœcia—Monandria.* Name, αρτος, bread, and καρπος, fruit.

ARTOT'YRITES, a sect of the second century, in Galatia, which used bread and cheese in the eucharist; hence the name, αρτος, bread, and τυρος, cheese.

ARTS, plural of *Art* (q. v.)

A'RUM, an extensive genus of perennials, of which the only British type is the cuckow-pint or wake-robin (*A. maculatum*). Common in hedges. *Monœcia—Polyandria.* Name, Αρον, supposed to be an Egyptian word by which one of the tribe was known.

ARUNDE'LIAN MARBLES, a series of ancient sculptured marbles, procured from the ruins of Greece, by William Petty, at the expense of the Earl of Arundel (1627), from whom they take their appellation. Their authenticity has been questioned.

ARUNDINA'CEÆ, a natural tribe of plants, of which the genus *Arundo* is the type.

ARUN'DO, a Latin word meaning generally a reed, but applied permanently by botanists to denote the reed-grass, an extensive genus of perennials of the class *triandria*, and order *digynia*.

ARUS'PICES, plural of *aruspex*. The Roman priests, whose business it was to predict events by examination of the entrails of sacrificed animals.

ARVI'COLA, Lat. *arvum*, a field, and *colere*, to inhabit. A genus of rodent or gnawing animals, of the family of the rat and mouse.

ARYTÆ'NOID, from αρυταινα, a funnel, and ειδος, likeness. Funnel-shaped. Applied to two cartilages of the larynx, and to the muscles and glands connected with these cartilages.

As, a word used by the Romans to denote, 1. Any unit considered as divisible. —2. The unit of weight, or their pound (*libra*) divided into twelve ounces.—3. Their most ancient coin, originally a pound, but reduced finally to half-an-ounce.

A'SAFŒTIDA, from *asa* and *fœtidus*, fetid. A strongly fetid resinous gum, procured from the root of a large umbelliferous plant (*Ferula assafœtida*), which grows in some parts of Persia. It is much used in medicine.

ASARABAC'CA, a popular name of the *Asarum* (q. v.); but more especially of the *A. Europæum*, the root and leaves of which are had from the shops under this name. The powdered leaves form the basis of most cephalic snuffs. Name, *asarum*, and *bacca*, berries.

AS'ARINE, the name given by Götz to the emetic principle of the *asarabacca*.

AS'ARUM, the *asarabacca*. A genus of perennials. *Dodecandria — Monogynia.* Name, α, not, and σαιρω, to adorn, being rejected from the ancient coronal wreaths. *Asarum* is also the pharmacopœial name of the asarabacca or *Asarum Europæum*.

ASBES'TOS, } a mineral of which there
ASBES'TUS, } are several varieties, all marked by their fibrous and flexible qualities. The most celebrated are the *amianthus* (q. v.), the *mountain-cork*, *rock-wood*, and *mountain-wood*. Asbestos is itself a variety of hornblende. Named from ασβεστος, of α, not, and σβιννυω, to perish, in allusion to its incombustibility.

ASCAL'APHUS, a Fabrician genus of insects, characterised by having nearly equal palpi, distinct from the ant-lions o. Linnæus.

AS'CARIS, the thread-worm, a genus of intestinal worms, found in all animals. The ascarides (plural of *ascaris*), are placed by Cuvier in the order Nematoridæ, and class Entozoa. Name, ασκαριζω, to leap.

ASCEND'ANT, in *astrology*, the degree of the ecliptic above the horizon at one's birth. In *law*, ascendants are opposed to the descendants in succession; e.g. when a father succeeds his son, an uncle his nephew, &c., the inheritance is said to *ascend*, or go to *ascendants*.

ASCEND'ING, Lat. *ascendens*, rising. Applied, 1. In *botany*, to leaves, stalks, &c. —2. In *astronomy*, to such stars as are rising above the horizon in any parallel of the equator. *Ascending latitude*, the latitude of a planet when moving towards the north pole. *Ascending node*, that point of a planet's orbit wherein it passes the ecliptic to proceed northward; otherwise called the *northern node*. The symbol is ☊.

ASCEN'SION, Lat. *ascensio*, a rising. In *astronomy*, the *right ascension* of a star, &c. is that degree of the equator, reckoned from the beginning of Aries, which comes to the meridian with the star in a right sphere. *Oblique ascension* is an arc of the equator, intercepted between the first point of Aries, and of the point of the equator which rises with a star in an oblique sphere. The *ascensional difference* is the difference between the right and oblique ascension.

ASCET'ICS, a name given in old times to persons who devoted themselves to severe exercises of piety and penance. The term is taken from ασκησις, exercise, used by

the Greeks to signify the meagre diet of the athletæ, who, to prepare themselves for the combat, abstained from many of the ordinary indulgences. Hence, also, many writings on the spiritual exercise of piety are called *ascetic* writings.

As'ci, Gr. from ἀσκὸς, a bottle. Small membranous bladders, in which are inclosed the seed-like, reproductive particles of lichens, fungi, &c.

As'cians, Lat. *ascii*, from α, without, and σκία, shadow. The inhabitants of the torrid zone, who at Meridian have no shadow.

As'cidi, } a genus of naked acephalous
Ascid'ia, } mollusca, found adhering to rocks, and other bodies in the oceanl Name, ἀσκὸς, a bottle, which the anima. in some degree resembles.

Ascid'ium, Lat. of ασκιδιον, a bottle. Used in *botany* to express a hollow appendage resembling a small bottle, which occurs on the stem, leaves, &c. of some plants.

Asclepiadæ'an verse, so called from its inventor Asclepias, consists of *four* feet and a *half*, of this kind, and in this order, viz. a spondee, a dactyl, a long syllable, then two dactyls, as :—

1	2	½	3	4
Mæcē	*nās dtū*	*vīs*	*sdī-tē*	*rē-gī-būs.*

Ascle'pias, the *swallow-wort*, or *tame-poison*. A genus of plants—*Pentandria—Digynia*. Named after *Asclepias* or *Æsculapius*. Several species are used in medicine.

Ash, Ash-tree, the *fraxinus excelsior* of botanists. A forest tree of which there are many varieties. The *mountain-ash* is the *pyrus aucuparia* of the botanist.

Ashes, the residuum of any substance after it has been burnt; but in commerce the term is used to denote the ashes of vegetable substances, from which are extracted the alkaline matters called potash, pearl-ash, barilla, kelp, &c. The term is Sax. aṛca, from Goth. *azga*, and has no singular number.

Ash'lar. 1. Free stones as they are brought from the quarry.——2. The facing of squared stones on the front of a building. This facing when smooth is called *plane ashlar*; when wrought so as to exhibit parallel flutes, it is termed *tooled ashlar*; when the surfaces of the stones are cut with a broad tool, without regularity, it is said to be *random-tooled*; when wrought with a narrow tool, *chiselled* or *boasted*, or if the tool be very narrow, the facing is said to be *pointed*; and when the stones project from the joints, the ashlar is said to be *rusticated*.

Ash'lering, in *carpentry*, the fixing of short upright quarterings in garrets, between the rafters and the floor, in order to cut off the acute angles at the bottom.

Asil'ici, a family of dipterous insects, of which the genus *asilus* is the type.

As'ilus, the *hornet-fly*. A genus of diptera, of which there are about 60 European species, many of which are known in Britain from their voracious habits. Name given by the ancients to the *horse-fly*.

As'lan, } a name given to the Dutch
Asla'ni, } dollar in some parts of the Levant: it is worth from 115 to 120 aspers. The word is of Turkish origin, signifying a *lion*, the figure stamped upon the coin. Written also *asselani*.

Asmo'dai, the destroying angel of the Hebrew mythology, written *Abaddon*.

Asp, } a species of viper found in
Aspic, } Egypt resembling the *cobra da capello*, or spectacle serpent of the East Indies: it is the *coluber haje* of Lin., and *vipera haje* of Geoff. When the cervical spine is compressed between the finger and the thumb, the animal becomes stiff and motionless: the trick is practised by the jugglers, and is called *changing the serpent into a rod*.

Aspal'athus, the *African broom*. A genus of shrubby plants which are natives of tropical countries. *Diadelphia—Decandria*. Name ασπαλαθος, a thorny shrub, mentioned by the Greek and Roman writers.

Aspar'agin, } a peculiar principle ob-
Aspar'agine, } tained from the juice of the asparagus by evaporation. It crystallises in white transparent rhomboidal prisms. It consists of 8 Car + 8 H + 6 O + 2 N, but the crystals included 2 atoms of water. It is identical with the substance called *agedoite*, obtained by Robiquet from liquorice root, and also with the *althein* discovered by Bacon.

Asparagi'neæ, a natural family of plants, the genus asparagus is the type.

Asparaginous plants. Those culinary vegetables, of which the points of the tender shoots are eaten.

Aspar'agus, popularly named *sparrow-grass*. A genus of many species. *Hexandria—Monogynia*. Name ασπαραγος, which denotes generally a young shoot before it unfolds its leaves. The only British type of this genus is the *A. officinalis*, the favourite culinary vegetable.

As'pect, Lat. *aspectus*, of *ad* and *specio*. 1. In *astronomy*, the situation of the planets and stars with respect to each other. There are five aspects: 1st, sextile, marked ⚹, when the planets are 60° distant; 2nd, quadrile, □, at 90°; 3rd, trine, △, when 120°; 4th, opposition, ☍, when 180°; and 5th, conjunction, ☌, when both in the same degree. The aspects were

introduced into astronomy by the old astrologers, and were distinguished by them into benign, malignant, and indifferent.——2. In *architecture*, the direction towards the point of the compass in which a building is placed.——3. In *horticulture*, used in reference to the inclination of the ground with respect to the sun.

As'pen, aspen-tree, called also the trembling poplar, from the trembling of its leaves when moved by the slightest impulse of air, is the *populus tremula* of the botanist. The name is Sax. æſpe, restless. The aspen grows in all soils, but especially moist.

Aspergel'lum, a genus of testaceous acephala: animal lives in the sand, and inhabits a calcareous tube seven or eight inches in length; hence the name *aspergillum*, "a holy water-stick" (to sprinkle holy water), and *aspergilliform*, applied to any shaped like that instrument.

As'perifo'liæ, a natural family of plants characterised as asperifolious.

As'perifo'lious, Lat. *asperifolius*, rough-leaved, *asper* and *folius*, a leaf.

Aspe'rmous, α, without, and $\sigma\pi\epsilon\rho\mu\alpha$, seed. Destitute of seed.

Asphalt,-os,-um, native bitumen, so called because anciently procured only from the Lake Asphaltites (Dead Sea) in Judea. Hence called also Jew's Pitch (*bitumen Judaicum*). *See* Bitumen.

Instead, however, of the lake giving name to the bitumen, it is probable that the bitumen gave name to the lake, and that $\grave{\alpha}\sigma\phi\alpha\lambda\tau\circ\varsigma$, the general Greek word for bitumen, is derived from $\grave{\alpha}\sigma\phi\alpha\lambda\iota\zeta\omega$, to make secure, the substance being used as pitch is with us for ships.

Asphode'leæ, a natural order of plants of which the genus *asphodelus* is the type.

Asphode'lus, the *asphodel*, a genus of hardy exotic perennials, the best known of which is the branched asphodel or king's spear (*A. ramosus*), used medicinally. *Hexandria—Monogynia*. Name, $\alpha\sigma\phi\circ\delta\iota\lambda\circ\varsigma$, of uncertain origin.

Asphy'xy, Lat. *asphyxia*, of α, without, and $\sigma\phi\upsilon\xi\iota\varsigma$, pulse. Literally, absence of pulse, but applied usually to that state in which the vital phenomena are suspended, from some cause interrupting respiration, but in which life is not actually extinct.

Aspic. 1. The *asp* (q.v.)——2. A gun which carries 12lb. shot.

Aspid'ium, the shield-fern, an extensive genus of ferns of which there are upwards of 15 British species. Name $\grave{\alpha}\sigma\pi\iota\delta\grave{\eta}\varsigma$, a shield, which the involucres resemble.

As'pirate, spiritus asper. In *grammar*, an accent peculiar to the Greek language, marked ' and denoting that the letter over which it is placed should be strongly aspirated, i. e. pronounced as if *h* were prefixed.

Asple'nium, the spleenwort, an extensive genus of perennials of which there are 10 British species. *Cryptogamia—Filices*. Name of α, not, and $\sigma\pi\lambda\eta\nu$, the spleen, some of the plants being supposed useful in removing disorders of the spleen. Leek-fern or black maiden hair, milt-waste, mule's-fern, wall-rue or tent-fern, &c., are species.

As'rael, an angel in the Mohammedan mythology, who watches the souls of the dying.

Ass, this well-known animal is a native of the deserts of central Asia. It belongs to the equine genus of the solipede family of pachydermata: Cuvier. Latin name *asinus*, native name *onager*.

As'sai, an Italian term used in music, which, when annexed to a word meaning slow, signifies *a little more lively*, and when annexed to a word meaning quick, it indicates *a little slower*.

As'sart, in the old laws. 1. A tree plucked up by the roots.——2. The offence of grubbing up trees.——3. A piece of forest land cleared. *Assart rents* were paid to the crown for lands assarted. Assart is from the old Fr. word *assartir*, which was latinised *assartum*.

Assas'sins, a tribe or clan of Ismaelites which took possession of the mountains of Lebanon about 1090, and became famous for their assassinations.

Assau'lt, *assultus*. 1. In *law*, an attempt or offer to do corporeal hurt to another, as by striking at him with or without a weapon, without touching his person. If the person be actually struck it is *battery*.——2. In *war*, an effort made to carry a fortified post, camp, or fortress, wherein the assailants do not screen themselves by any works.——3. In *fencing*, a mock engagement with single foils.

Assa'y, Assa'ying. The process by which the quantity of gold or silver in any mineral or metallic compound is determined. It differs from analysis in this:—the analysis is instituted for the purpose of ascertaining the exact proportions of all the ingredients in the compound, whereas the whole object of the assay is to determine the precise amount of the particular metal in question, contained in the specimen under examination. The purposes of assaying were, till lately, confined to the valuation of the alloys of gold and silver, but are now extended to determine the quantity of palladium and platinum in certain bullion and gold dust brought from Brazil. The term is from Fr. *assayer*, to try.

Assa'y ba'lance, a very delicate balance employed in chemical analysis, and so called from its being first employed in assaying metals. It ought to indicate $\frac{1}{100}$ gr.

Assem'bly, Fr. *assemblée*, any convocation. The *general assembly* of the church of Scotland is an ecclesiastical court composed of delegates from every Presbytery, university, and royal burgh in Scotland. In *military language*, assembly means the second beating of the drum before a march.

Assess'or, in *Scotch law*, a person who sits along with the judges in the inferior courts, and assists with his professional knowledge in the decisions pronounced.

Asse'ts, from Fr. *assez*, enough. 1. Property placed for the discharge of some particular obligation or trust in the hands of executors, assignees, &c.——2. The stock in trade and the entire available property belonging to a merchant or trading company.

Assien'to, a Spanish word signifying a contract or treaty, and used to denote the contract or agreement by which the Spanish government ceded, first to the French, and afterwards (by the treaty of Utrecht) to a company of English merchants, called the *assiento company*, the right of importing slaves into the Spanish colonies in America, on payment of certain duties. Ships so employed were called *assiento ships*.

Assig'nat, the name of the French paper currency in the time of the French revolution, which by over-issue (40,000 millions), after a while, became of no value.

Assigna'tion, a Russian paper money used since 1769. There are assignations for 5, 10, 25, 50, and 100 rubles, but the nominal and real values are such that, in 1809, four assignation-rubles were paid for one ruble silver money.

Assigne'e, a person appointed by competent authority to transact some business, or exercise some particular privilege or power, on account of some specified person or persons. The term is most commonly applied to the creditor of a bankrupt appointed to manage for the rest of the creditors, and who has the bankrupt's estate assigned over to him. This person is called *trustee* in Scotland.

Assize, Fr. *assizes*, of Lat. *ad* and *sedeo*. 1. In the *middle ages*, the name given to assemblies, and especially to courts for the administration of justice to vassals and freemen.——2. In *England*, the sessions of the court of justice held by the judges in the counties are called *assizes*. At these assizes the judges sit under five different commissions, some of which relate to civil and others to criminal causes. The first is the commission of *assize*, from which the session derives its name, and by which they are authorised to take *assizes* in the several counties; that is, to take the verdict of the particular kind of jury called an *assize*, and summoned to decide certain cases respecting the titles of land.——3. In *Scotch law*, a jury of fifteen sworn men, picked out from the court by a greater number, not exceeding forty-five, who have been summoned by the sheriff for that purpose A list of these is given to the defender when a copy of the libel is served upon him. ——*Assize of Novel Disseisin*, a writ given to recover possession of lands, tenements &c., of which the tenant has been lately disseised.——*Assize of Mort d'Ancestor*, lies against an abator, who enters upon land after the death of the tenant and before the heir enters.——*Assize of darrein Presentment*, lies against a stranger who presents a clerk to a benefice.——*Assize of Bread*, the price of bread as formerly regulated by statute, in proportion to the price of wheat.

Associa'tion. 1. In *psychology*, a name given to that property of the mind, by which any object or state of consciousness has a tendency to recall other states or objects of consciousness with which it has been formerly connected.——2. In *politics*, a society formed of a number of individuals acting under common rules and an elective government, for the accomplishment of some definite object.

As'sonance. In *rhetoric* and *poetry*, a resemblance in termination without making rhyme, called by the Romans *similiter desinens*, and by the Greeks ὁμοιοτέλευτον.

As'sonant Rhymes, in *Spanish poetry*, are those in which the vowels only are required to rhyme, as *ligera*, *tierra*,

Assum'psit, a Latin word meaning *he undertook*, used in English law to denote an action to recover a compensation in damages for the non-performance of a *parol* promise; i. e. a promise whether verbal or written, not contained in a deed under seal. The word is taken as the name of the action, from its occurrence in declarations of the plaintiff's cause of action when these were in Latin.—— Assumpsits are either *express* or *implied*, according as the contract is actually expressed by words, or inferrable from some benefit accruing to one person from the acts (as the labour) of another.

Assum'ption, Lat. *assumptio*. The festival by which the Roman and Greek Catholic Churches celebrate the miraculous ascent of the Virgin Mary on the 15th of August.

Assum'ptive, Lat. *assumptius*, can be assumed. In *heraldry*, assumptive arms are such as a person has a right, with the approbation of his sovereign and the heralds, to assume in consequence of some exploit.

Assu'rance, insurance; a contract to make good a loss (*See* Insurance).— In *law*, legal evidence of the conveyance of property.—In *theology*, full confidence in possessing an actual interest in the divine favour. The root of this class of words is, Fr. *sûr*, sure, certain

As'tacus, ἀσταχὸς, *Cancer marinus* (Plin. 9. 31). A genus of Crustacea, constituting Cuvier's family Macroura (long-tailed), and divided into four sections, each consisting of numerous sub-genera. In one of these (the *Pagurus*) we find the Hermit (*Cancer Bernhardus*, Lin.), which inhabits a univalve shell: it is common in the European seas. In another (the *Astacus*, Fab.) is the common lobster (*A. marinus*). The fresh-water species are known by the name of *Craw-fish*. Among these are also the shrimp (*Crangon*), and the prawn (*Palæmon*). *See* Cancer.

Astar'te, a Syrian goddess, probably corresponding to the *Semele* of the Greeks, the *Astaroth* of the Hebrews, and the *Juno* of the Romans.

Astat'ic, from ἄστατος, *balanced*. The *Astatic needle* is a double magnetic needle, not affected by the earth's magnetism.

As'teism, from αστιος, *polite*. In *rhetoric*, "polite irony," "genteel derision."

As'ter, a genus of syngenesious plants, of the order *Poly. superflua*, containing upwards of 150 species, mostly hardy perennials. The sea Starwort or Michaelmas daisy (*A. tripolium*), found in salt-marshes, is a bad type, and the only one which inhabits Britain. Name, *aster*, a star, which the flowers resemble.

Aste'ria, from *aster*, a star. 1. A variety of sapphire, not perfectly transparent, and showing a star-like opalescence in the direction of the axis, if cut round. It is sometimes called *cat's eye* and *bastard opal*.——2. The generic name of the star-fish or sea-star, so called because the body is divided into rays (usually five), in the centre of which, and underneath, is the mouth. The asterias have the power of reproducing the rays which have been removed, even if only the centre and one of the rays remain: for this reason their figure is often irregular. They are placed by Cuvier in the order *Pendicellata* and class *Echinodermata*, of the radiated animals or zoophytes. They inhabit the ocean, and are frequently found fossilised.

Aster'ialite, fossilised asterias or star-fish: ἀστὴρ, a star, and λίθος, stone.

Aste'rion and Chara (*canes venatici*), the greyhounds. A constellation occupying the space between Boötes and the hind legs of Ursa Major, particularly distinguished by a star of the third magnitude (called *Cor Caroli*, in honour of Charles I.), in the neck of Chara.

As'terite, As'trite, As'troite, star-stone, ἀστὴρ, a star, and λίθος, stone. 1. The same with asteria. *See* Asteria, 1st def.——2. Used to denote detached articulations of encrites. This is especially the application of the French word *astroite*.

Astern', in *nautical language*, towards the after-part of the ship, opposed to *ahead* (q. v.).

As'teroids, from ἀστὴρ, a star, and εἶδος, likeness. The name given by Herschel to the little planets between the orbits of Mars and Jupiter, now called Planetoids, q. v.

Asthenol'ogy, from ασθενος, weakness, and λογος, discussion. The doctrine of diseases arising from debility.

As'thny, Lat. *asthenia*, debility; α, without, and σθενος, strength.

As'thma (ασθμα). A disease characterised by difficulty of breathing, recurring in paroxysms, accompanied with cough and a sense of constriction in the chest.

As'tragal, in *architecture*, a small moulding, having a semicircular profile, usually surrounding the top or bottom of a column, and representing a ring, to prevent the splitting of the part which it binds.—The ring or moulding near the mouth of a canon.—In *anatomy* and *botany*—*See* Astragalus.

Astrag'alus, Gr of ἀστράγαλος, the ankle-bone. 1. That bone of the *tarsus* upon which the tibia moves, called popularly the sling-bone.——2. In *botany*, a genus of plants of which there are three British species, known by the popular name of the milk-vetch: perennials. *Diadelphia—Decandria*. The seeds are supposed to bear some resemblance to the astragalus of the foot.—The gum tragacanth or gum dragon is derived from a Persian species, the goat's horn (*A. verus*).

Astran'tia, the *black-master-wort*. A genus of hardy European perennials. *Pentandria—Digynia*. Named from *astrum*, a star, from the star-like shape of the flowers.

Astrin'gent, Lat. *astringens*, binding. Applied to medicines, which when applied to the body, renders the solids denser, by contracting the fibres. The astringent principle of vegetable substances is tannin.

As'trolabe, from αστρον, a star, and λαβειν, to take. 1. An instrument for measuring angles, and formerly used for taking the altitude of the sun or stars. It consists of a circular plate with the degrees and minutes marked round the edge, and a moveable index, with a sight glass at each end. The instrument is suspended when used.——2. An old ster-

ographic projection of the celestial sphere, equivalent to the modern armillary sphere.

ASTROL'OGY, from *αστρον*, a star, and *λογος*, discussion. This term, in its more extended sense, is synonymous with astronomy, but it has generally been employed to denote the pseudo-science which professes to explain the phenomena of nature by astral influences, and to predict future events, especially the character and fate of persons, from the aspects or relative positions of the heavenly bodies. This latter department was called *judicial astrology*.

ASTRON'OMY, from *αστρον*, a star, and *νομος*, law. The science which treats of the heavenly bodies, their motions, positions, magnitudes, and all consequent phenomena. It is founded on observation, and perfected by calculation. *See* TABLE *below*.

AS'TROSCOPE, from *αστρον*, a star, and *σκοπεω*, to view. An astronomical instrument consisting of two cones, on the surfaces of which the constellations are delineated according to their respective positions in the heavens, so that by observing any particular star, and the position of another with regard to it, that other may be known by reference to the astroscope.

AS'TUR, a genus of accipitrine birds, including the goshawks and sparrowhawks. Name anciently applied to the buzzard.

ASY'LUM, from *ασυλον*, of *α*, not, and *συλαω*, to plunder. A place where persons find protection. The name was anciently given to temples, statues of the gods, and altars where criminals and debtors sheltered themselves from justice, it being sacrilege forcibly to remove them. In modern times the name is given to many charitable institutions, for the relief of orphans, and persons who are blind, dumb and deaf, lunatic, &c.

ASYM'METRY, from *α*, not, and *συμμετρια*, symmetry. A want of proportion between parts. Applied in *mathematics* in the same sense as incommensurability, e.g. $1 : \sqrt{2}$.

ASYM'PTOTE, from *α*, not, and *συμπιπτω*, to fall together (coincide). A right or straight line which continually approaches a curve, but which, though both were infinitely extended, would never meet it; or it may be regarded as a tangent to the curve, when infinitely produced, or at an infinite distance. *See* HYPERBOLE.

ASYN'DETON, from *α*, not, and *συνδεω*, to bind together. A grammatical figure, which omits the connective, in order to render the expression more forcible and lively, as *veni, vidi, vici*.

AT'ABAL, a Spanish word, meaning a kettle-drum, and used to designate a kind of tabor.

ATAC'AMITE, prismatoidal green malachite; a native muriate of copper. It takes its name from its being found in alluvial sand in the river of Lipas, in the

TABLE OF THE SOLAR SYSTEM.

Name.	Sidereal Revolutions in mean Solar days.	Mean Distance from the Sun.	Inclinationof Orbits to Plane of Ecliptic. 1800.	Mean Orbital Velocity per hour in miles.	Mean Equatorial Diameter. (New value parallax 8"90")	Density.	Volume.
VULCAN(?)	.. ..	..	..	..	..	..	..
MERCURY.	87·9692824	0.387098	7° 0′ 4″·51	100·0	3·67	1·225	0·0595
VENUS .	224·7007754	0·723331	3° 23′ 28″·1	80·0	7814	0·908	0·9. 60
EARTH ..	365·2563744	1·000·000	0° 0′ 0″	68·0	7901	1·000	1·000·0
MARS	686·9, 94561	1·523691	1° 51′ 5″·8	55·0	4178	0·972	0·1 64
*Planetoids**	.. ..	..	..	..	..	..	..
JUPITER .	4332·5848042	5·202·67	1° 18′ 51″·06	30·0	87890	0·237	1491·0000
SATURN ..	10759·2197106	9·538850	2° 29′ 36″·89	22·0	74327	0·131	722·0000
URANUS ..	30686·8205556	19·182390	0° 46′ 2″·44	15·6	32200	0·167	86·5000
NEPTUNE..	60126·722	30·036270	1° 47′ 17″·8	12·7	36100	0·321	70·6000

* Vesta, Juno, Ceres, and Pallas were discovered in the early part of the 19th century, and a numerous set of discoveries of other planetoids, or *small planets*, forming with these part of the remarkable group between Mars and Jupiter with orbits at a great deviation from the plane of the ecliptic, have since been made. An attempt to give them names failed, as up to 1876 they had reached the vast number of about 156, and the simpler method has been adopted of indicating them by an easily remembered distinction and a symbol, *i.e.*, by placing their number in the order of discovery within a small circle.

desert of Atac'ama, in Peru. Primitive form, octohedron.

A'TAR. When the petals of roses are immersed in water and distilled, there separates a small portion of fragrant butyraceous oil, which liquefies by heat, and appears yellow, but concretes in the cold into a white mass. This is called *atar of roses*, and is highly prized as a perfume.

ATELES, *ἀτελὴς*, *irritus*, *imperfectus*. Brande has it, "A genus of South American monkeys, characterised by the absence of the thumb of the anterior hand, for the want of which they are sufficiently compensated by a very efficient prehensile tail."

ATELLA'NÆ FABULÆ, a species of comedy, which originated among the Oscan inhabitants of Campania, from the town Atella, which gave it its name.

A TEMPO GIUSTO. (*In tempore justo*). An Italian phrase used in music to signify in equal time, or just time. *A tempo*, at the same time.

ATEN'CHUS, a genus of pentamerous coleoptera, two of the species of which were worshipped by the ancient Egyptians, and form a conspicuous feature in their system of hieroglyphics. They were also figured on all their monuments, and separately on the most precious metals, and were used as seals and as amulets, which were suspended to the neck, and buried with the mummies. Atenchi are also found in some of their coffins. One of the species, *A. sacer*, is an object of superstitious distinction, even in Europe.

ATHAL'AMOUS, Gr. from *α*, without, and *θαλαμος*, a bed. Lichens whose thallus is not furnished with shields or beds for the spores, but whose reproductive matter is supposed to be dispersed through the absence of the crust, as in *lepraria*.

ATHAMAN'TA, a genus of European perennials, of which the Candy carrot (brought from the island of Candy), and the black mountain parsley, used in medicine, are species. *Pentandria—Digynia*. Named from the country of the Athamanes, in Epirus.

ATHANA'SIAN CREED, the exposition of faith composed by Hilary, bishop of Arles (430), and formerly attributed to Athanasius, bishop of Alexandria.

A'THEISM, from *α*, without, and *θεος*, God. The doctrine which teaches the non-existence of a Supreme Intelligent Being. Opposed to *theism* and *deism*. As a manner of thinking with regard to religion, it is the opposite of *faith* and *belief*.

ATHE'NÆUM. *Αθηναιον*. In *antiquity*, 1. The school which Adrian established on the Capitoline Mount.——2. A gymnasium at Athens.——In *modern times*, a name given to different establishments connected with literature or the sciences.

ATHERIC'ERA, a family of dipterous insects in the system of Cuvier, generally found on foliage, comprehending the modern families Syrphidæ, Astridæ, Conopidæ, and Muscidæ. Name from *αθηρ*, acute, and *κερα*, a horn.

ATHERI'NA, a genus of abdominal fishes, the best known of which, Hepsetus, is found abundantly in the Mediterranean.

ATHER'OMA, } *αθερομα* of *αθαρα*, pap.
ATHERO'ME, } An encysted tumour, which contains a substance of a pulpy consistence.

ATHLE'TÆ, combatants who took part in the public games of Greece, and made wrestling and boxing their business. From *αεθλος*, contest.

ATHWA'RT (from *a* and *twert*, traverse), in *nautical language*, across the line of a ship's course. *Athwart ships*, reaching across the ship from side to side, or in that direction.

ATHWA'RT-HAWSE, the situation of a ship when she is driven by the wind, tide, or other accident, across the forepart of another. *Athwart the fore-foot*, denotes the flight of a cannon-ball from one ship across the course of another to intercept that other, and make her shorten sail.

ATLAN'TIDES. 1. In *astronomy*, the Pleiades (q. v.).——2. In *architecture*, statues of men used to support entablatures with mutules, otherwise called *altases*.

AT'LAS. 1. In the *Greek mythology*, a Titan condemned by Jupiter to bear the vault of heaven.——2. In *anatomy*, the first vertebra of the neck which supports the head, as Atlas did the heavens!——3. A collection of maps to which a picture of the fable is usually prefixed.——4. In *commerce*, a beautiful silk manufacture of the East Indies.——5. In *architecture*, *see* ATLANTIDES (2nd def.).

ATMOM'ETER, from *ἀτμὸς*, vapour, and *μετρεω*, to measure. An instrument contrived by Sir J. Leslie to measure the quantity of vapour exhaled from a humid surface in a given time.

AT'MOSPHERE, from *ἀτμὸς*, vapour, and *σφαῖρα*, a sphere. The body of air which surrounds the earth. (*See* AIR.) In a wider sense, it is that mass of elastic fluid with which any body is surrounded. Hence we speak of an atmosphere of the sun, of the moon, of electric bodies, &c. *Atmosphere, one, two*, &c., means a pressure of 15 lbs., 30 lbs., &c., on the square inch, resulting from condensation. The force of steam, weight of fluids, &c., are often so estimated.

AT'OM, *Ατομος* (from *α*, not, and *τεμνω* to cut), one of the elementary particles of matter, and so small as to be incapable of further division. *See* MOLECULE and COR-

PUSCULE. *Component atoms*, are those atoms which, being different in their nature, united form a third or *compound atom*. Thus the atoms of sulphur and oxygen are the component atoms of sulphuric acid. *Organic atoms* are the atoms of substances found only in organic bodies.

ATOM'IC PHILOSOPHY. *See* CORPUSCULE.

ATOM'IC THEORY. *See* EQUIVALENTS.

ATRAC'TYLES, the distaff-thistle, a genus of European plants of five species. *Syngenesia—Poly. æqualis.* Name from ατρακτος, a distaff. A species, called the pine-thistle, is used for diseases of the gums.

ATRIP, a nautical term applicable to the anchor when it is drawn perpendicularly out of the ground, and to the sails when hoisted to the top of the mast.

ATRIP'LEX, the *orache*. A genus of plants of which there are seven British species, mostly inhabiting muddy sea-shores and salt-marshes. *Polygamia — Monœcia.* Name from α, not, and τρεφειν, to nourish, and written by the Greeks ατραφαξις.

A'TRIUM, αιθριος, exposed. In ancient architecture considered the same as the vestibule.

ATRO'PA, a genus of plants of which the deadly nightshade or dwall (*A. belladonna*), is a species. *Pentandria—Monogynia.* Named from Ατροπος, the eldest of the *Parcæ* or Fates, in allusion to its deadly quality.

AT'ROPHY, from α, not, and τρεφω, to nourish. A wasting of the body or any particular part of it, in consequence of some derangements of the functions of assimilation and absorption.

AT'ROPIA, } a peculiar vegetable salt,
AT'ROPINE, } obtained from the *Atropa belladonna*. It is tasteless, alkaline, and *highly* poisonous, and is soluble in boiling alcohol.

AT'TA, a subgenus of *formica* (q. v.), including some of the largest species of ants (some an inch in length of body). The visiting ant (*formica cephalotes*, Lin.), of South America, is the type of the genus, and receives its name from its habit of visiting in troops the houses of the residents, who open their doors and receive it gladly, as it consumes or drives away not only the cockroaches and spiders, but even mice and rats.

ATTAC'CA, an Italian word meaning attach, and used in music to signify that a passage is to follow another immediately; e. g., *attacca allegro.*

ATTACH', ATTACHMENT. (Fr. *attacher*, to fasten.) In *English law*, to attach, means to take or apprehend a person by virtue of a writ or precept. Attachment differs from *arrest* by proceeding out of a higher court, by precept or writ, whereas the latter proceeds out of an inferior court by precept only; and further, an arrest lies only against the body of a man, whereas the attachment often lies only against the goods, and may lie against both body and goods. *Attachment* is also a mode of punishing contempts. (*See* CONTEMPT.) The first notice to appear in a Court of Equity is by summons. If the defendant disobeys this monition, a writ of attachment issues, commanding the sheriff to *attach* him, by taking gage or security of goods, which he forfeits by non-appearance, or by making him find securities for his appearance. Attachment for this cause is not made in courts of law, for should the defendant not appear when summoned, his default is noted and judgment is given against him. Attachments are issued by courts of law for various kinds of contempts, but in all the use is to bring the offender into court.——*Foreign Attachment* is the attachment, by a creditor, of a debt due to his debtor from a third party; it is so called from its being one of the modes of securing debts due by foreigners. In Scotland, it is called *assisting* the debt. In London the process is called *garnishment* or *warning*, the person summoned being the *garnishee.*

ATTAIN'DER, (Nor. Fr. *atteindre*, to corrupt). In *law*, the corruption of blood consequent upon a person's being adjudged guilty of a capital offence; the law thereby sets a mark of infamy upon him, and takes no further concern about him than to have him executed. A statute attainting a person is called an *act of attainder.*

ATTAINT', a writ at the common law which lies to inquire whether a jury have given a false verdict: it is so called because the party who obtains it endeavours to *taint* the character of the jury.

ATTEND'ANT, accompanying. In *law*, depending on or owing service to. In *music*, applied to the keys on the fifth above, and the fifth (or fourth) above any given key.

ATTEN'UATED, Lat. *attenuatus*, tapering: applied to parts of plants &c.: disproportionably slender; thinned.

ATTENUA'TUS. When the thickness of a part diminishes in some direction, it is often used in the sense of narrowed or angustate.

ATTIC, Lat. *Atticus*, of Αττικος. Pertaining to Attica, or its capital Athens.

AT'TIC SALT, a delicate, poignant kind of wit peculiar to the old Athenians. In *architecture*, an *attic* denotes a low story erected over an order of architecture by way of crowning.—An *Attic base* consists of an upper and lower torsus, a scotia

and fillets between them, used by ancient architects in the Ionic order, and sometimes in the Doric.—*Attic order* is a term sometimes used to denote the pilasters employed in the decoration of an attic story.—An *attic story* is the upper story of a house.

ATTI'RE. 1. Dress.——2. Horns of a deer.——3. The sexual parts of plants.

ATTOL'LENT, Lat. *attollens*, lifting up; applied to muscles which raise the parts they are affixed to.

ATTO'RNEY, Lat. *attornatus;* one appointed by another to transact some business in his name and stead. An attorney is either *public* or *special;* the former is one who is authorized by the rules of the court to represent suitors without any especial written authority for the particular case—a special attorney is appointed by a deed called a *power, warrant*, or *letter of attorney*, which is a commission from the principal specifying the acts for which he, the principal, will hold himself liable on their being performed by the attorney.

ATTOR'NEY-GEN'ERAL, a principal law-officer appointed to manage all law affairs on the part of the government.

ATTORN'MENT, } Lat. *attornamentum*,
ATTOURN'MENT, } (from Fr. *tourner*). In *English law*, the act of a feudatory vassal or tenant, by which he consents, on the alienation of an estate, to receive a new lord or superior.

ATTRAC'TION, Lat. *attractio*, a drawing to. *ad* and *traho*. The tendency which bodies have to come together, or the principle which inclines them to unite and remain in union. (*See* AFFINITY.)

The terms attraction and repulsion in the language of modern philosophy are employed merely as the expression of the general facts that the masses or particles of matter have a tendency to approach or recede from each other under certain circumstances. The term affinity has been used synonymously with attraction, but it is now generally restricted to chemical attraction, while the term *gravity* is used to designate that influence which one mass of matter exerts over another at sensible distances (*See* GRAVITY). Whether the several kinds of attraction are referable to one and the same cause is still an open question; all that is at present known is, that they give rise to different phenomena, and appear to operate according to different laws.

ATUS, is a Latin termination; Anglicised *ate* or *ated*, and denotes the presence of something general; e. g. *alatus*, Ang. *alate*, winged. The same applies to *itus*.

AU'BAINE, Fr. *aubain*, an alien. The *droit d'Aubaine* was a French law, by which the king became heir to an alien dying within his jurisdiction.

AUCHE'NIA, a genus of ruminant animals allied to the camel: the species are two, the Lama and the Paco, both natives of America.

AUCU'BA, the *Gold-Plant*, shrub; native of Japan. *Monœcia—Tetrandria.*

AUDE'ANISM, anthropomorphism; the doctrine of Audeus.

AU'DIENCE, Lat. *audientia*, of *audio*, to hear. 1. The ceremonies practised in courts at the admission of ambassadors and public ministers to a hearing.——2. A court held in England by an archbishop whenever he chooses to call up a cause to be argued before himself.——3. In *Spain*, a court of oyer and terminer.

AU'DITOR, a Latin word denoting a *hearer;* and in the language of the ancient law, an officer of courts whose duty it was to interrogate the parties. In England, the term is employed as the designation of certain officers who examine accounts, compare the charges with the vouchers, interrogate parties, allow or reject charges, and state the balance. Accounts so examined are said to be *audited*, and the process is called *auditing.*

AU'DITORY, Lat. *auditorium*. 1. A seat or bench where a magistrate or judge hears causes.——2. That part of an ancient church where the people sate, now called the *nave.*——3. Belonging to the parts connected with the sense of hearing; e. g. the auditory nerves.

AU'GITE, a mineral of a dark green, brown or black colour, of which the most remarkable varieties are Diopside, Sahlite, Coccolite and Omphazite; the Zillerthal, used in jewelry, is also a variety. It occurs in volcanic rocks, crystallised in six or eight sided prisms, terminated by dihedral summits. Name from αὐγὴ (Pin. 37, 16), *splendour*. It is the pyroxène of Haüy, and the paratomous augite-spar of Mohs.

AUGMENTA'TION, from Lat. *augmen*, increase. In *music*, a doubling the value of the notes of the subject of a fugue or canon. In *heraldry*, additional charges to a coat-armour. The *Augmentation Court* was a court erected by 27 Hen. VIII., to augment the revenues of the crown by the suppression of monasteries; *abolished.*

AUGURS were certain priests among the Romans, who from the flight and cries of birds, from lightning, &c., pretended to foretell future events, and announce the will of the gods.

AU'GUST, the eighth month of the year, having 31 days. The name was changed by the Romans from *Sextilis* (the *sixth* month from March), in honour of the emperor Oct. Augustus.

AUGUSTAN CONFESSION, a memorial drawn up at Augsburg (Lat. *Augusta*), by Luther and Melancthon in 1530, setting

forth their reasons of separation from the Romish church.

AUGUS'TIANS, } an order of monks so
AU'GUSTINS, } called from St. Augustin. They made one of the four orders of Mendicants, and were originally called Austin friars.

AULA'RIAN, belonging to *aula*, a hall. A member of a hall, at Oxford, in distinction to a *collegian*.

AU'LIC, pertaining to *aula*, a court. An epithet generally given to one of the two supreme courts of the ci-devant German empire—the *Reichshofrath*.

AULOS'TOMA, Gr. from αὐλος, a pipe, and στομα, a mouth. A genus of acanthopterygians, belonging to the family called by Cuvier *bouches en flute;* including the pipe-fishes, or those species whose mouth is elongated into a kind of tube or pipe.

AURANTIA'CEÆ, a natural family of plants, of which the orange (*aurantium*) is the type.

AURAN'TIUM, the orange (*citrus aurantium*), so called *ab aureo colore*.

AURE'LIA, some of the two-winged tribe of insects. Butterflies and moths when in their pupa state are inclosed in a membraneous envelope, and as these pupæ are often tinged of a gold colour, they were called from this circumstance *chrysalides* by the Greeks, and *aureliæ* by the Romans, both which terms are in some measure become Anglicised, and though not strictly applicable to ungilded pupæ, are often given to those of all lepidopterous insects. These by Linné are denominated *obtected* pupæ.

AURE'OLA, of the colour of gold. In *painting*, the glory with which the ancient painters decorated the heads of the saints, martyrs, and confessors, which they executed.

AU'REUS, a Roman gold coin worth about 16 shillings, according to Tacitus, and weighing about 2½ oz. avoird.

AU'RICLE, Lat. *auricula*, a little ear (*auris*). Applied, 1. In *anatomy*, to the external ear, and to two cavities of the heart, which have some resemblance to ears.——2. In *botany*, to plants whose leaves or other parts more or less resemble ears.

AURICC'LA, a subgenus of bulimi. *See* BULIMUS.

AURI'CULAR CONFESSION. Confession of sins to a priest in private, distinguished from public confession.

AURICU'LATE, Lat. *auriculatus*, having ears or appendages resembling ears. Applied, 1. In *botany*, to leaves which are furnished with a pair of leaflets, generally distinct, but sometimes joining them at the base.——2. In *conchology*, to a few bivalves which have a flat angulated projection on one or both sides of the umbones or bosses: most developed in the *pecten*.

AURI'GA, in *astronomy*, the *waggoner*. A constellation of the northern hemisphere, containing 66 stars according to the British catalogue.

AU'ROCHS, Germ. *urochs*, the ure-ox. A name given to an animal of the bovine kind, found fossil in alluvion.

AUR'ORA BOREA'LIS, literally *northern dawn*. The name given to that extraordinary luminous appearance or meteor which shows itself in northern latitudes after sunset, called also *northern light* (Germ. *nordlicht*), and popularly *streamers* and *merry dancers*.

This appearance is from our position on the earth regarded as peculiar to the north, but a similar phenomenon is also observable in the southern hemisphere, called with like propriety *Aurora Australis*. It was witnessed in 1773 between 58° and 60° S. lat. by Cooke's sailors, and later travellers have observed the same. These phenomena therefore, as they are common to both poles, ought properly to be called *Polar lights*.

AU'RUM MUSI'VUM, or MOSAICUM. Mosaic gold, composed of 100 tin + 54 sulphur.

AUSCULTA'TION, Lat. *auscultatio* (of *auscultо*, to listen). This term is applied to the several methods of detecting the nature and seat of disease by means of the sense of hearing, but particularly to the exploration of the thorax by means of the sounds in that part, rendered more distinct to the ear by the intervention of an instrument called a *stethoscope* (q. v.).

AUSPICES, the observations taken by the Roman augurs from the flight of birds and other natural appearances. An *auspex* was any one who interpreted omens; an *augur* was a member of the sacred college.

AUS'TER, the south-wind. *Austral*, south, southern.

AU'TERFOITS, from Fr. *autre*, another, and *foits*, *fois*, time. A term introduced into law phraseology under the Norman princes of England, to signify at another time, formerly; as *auterfoits acquit*, formerly acquitted, which, being specially pleaded, bars a second prosecution for the same offence.

AUTHEN'TIC (αυθεντικος), of genuine origin. Applied in *music*, 1. To chords which have the 4th uppermost.——2. In melodies whose principal notes lie between the key-note and its octave.

AUTHEN'TIC MELODIES, in *music*, such as have their principal notes contained between the key-note and its octave.

AUTHEN'TICS, in *civil law*, a name given to an extract from the Novels (q. v.), by which a law of the code is either changed

or abolished. So called, because first extracted from a MS. copy of the Novel (*liber authenticus*), put among the altered passages of the code, and have thus remained in the editions of the *Corpus Juris*.

AUTOCAR'POUS, Gr. from *αὐτὸς*, himself, and *καρπος*, fruit. A name given to such fruit as consists of nothing but pericarp, without any additional organ.

AUTOCH'THON (*αυτοχθων*), one produced from the ground. Several ancient nations assumed the name of *autochthones*, to indicate the antiquity of their origin.

AU'TO DA FÉ', Port. } literally, *act of*
AU'TO DE FE', Span. } *faith*. A sentence given by the Inquisition, and read to a criminal (*heretic*) on the scaffold just before he is executed.

AUTOM'ALITE, } octahedral corundum.
AUTOM'OLITE, } A variety of corundum containing oxide of zinc (thence called *pinelle zincifère* by Haüy) and alumina. It is sometimes called *fahlunite*, because found in a talcose rock at Fahlun, and *gahnite*, from Gahn, its discoverer.

AUTOMAT'IC, self-acting. Applied to machinery which in some measure supersedes manual labour and attention.

AUTOM'ATON, from *αυτοματος* (of *αυτος*, self, and *μαω*, to move Any mechanical contrivance which, by some concealed force (springs or weights), can carry on for some time certain movements, more or less resembling animal exertion. In this respect all kinds of clocks, watches, and numerous other machines employed in cotton and other factories, are denominated *automata*; but the term is more commonly restricted to that class of mechanism in which the power is made to imitate the voluntary motions of living beings. When such automata represent human figures and actions, they are termed *androides* (man-like).

AU'TUMN, Lat. *autumnus*. That one of the seasons, which, in the N. temperate zone, begins when the sun, in its apparent descent to the southern hemisphere, touches the equator, and enters Libra (23rd September), and ends at the winter solstice (20th December): from this astronomical autumn, the popular autumn differs according to climate.

AUTUM'NAL POINT, the point where the equator cuts the ecliptic: the sun reaches it on the 23rd September. It is said to be at the beginning of Libra, but the point has really long since receded from this constellation: it is now near the stars on the left shoulder of Virgo.

AUTUM'NAL SIGNS, the signs Libra, Scorpio, and Sagittarius.

A'VA-A'VA, a plant of Otaheite, from which the inhabitants obtain a species of arack.

AV'ALANCHE, the name given to those vast snow-slips which roll down the Alps and often overwhelm forests, villages, &c., in their course. The term is from Fr. *avaler*, to swallow.

AVA'ST, with *seamen*, cease, stop, stay; Germ. *basta*, stop.

AVELLA'NA, the hazel-nut: a species of corylus. Named from *Avella*, a town of Campania.

A'VE MAR'IA, Ave Mary. Among *Catholics*, the beginning of a prayer to the Holy Virgin is *Ave Maria*, whence the whole prayer takes that name (*Ave* means *hail*). The name *Ave Maria* is also given to the little balls in rosaries, each of which denotes a prayer called *Ave Maria*, while the larger balls denote a *Pater-noster*.

AVE'NA, the *oat-grass*. A genus of which the plant that produces the grain, well known under the name of *oats*, is a species (*A. sativa*). *Triandria—Digynia*. Name applied by the ancients to the Brome-grass.

AV'ENAGE, oats (*avena*). Paid by a tenant in lieu of rent or other duty.

AV'ENER, -OR, in *feudal law*, an officer of the king's stables, whose duty it was to provide oats.

AV'ERAGE, a term used in commerce and navigation, to signify a general contribution to make up a particular loss; as when the goods of a particular merchant are thrown overboard to prevent the ship from sinking, or where the masts, cables, anchors, or other furniture of the ship, are cut away or destroyed for the preservation of the whole, or money or goods are given to pirates to save the rest, or where any expense is deliberately and voluntarily made, or any expense fairly and *bonâ fide* incurred, to prevent a total loss—such sacrifice or expense ought to be rateably borne by the owners of the ship, freight, and cargo, so that the loss, for the good of all, may fall equally on all.—There are also some small charges called *petty* or *accustomed* averages: it is usual to charge one-third of them to the ship, and two-thirds to the cargo. Hence the expression in bills of lading, "freight with primage and *average* accustomed."

AVER'NUS, a lake of Italy, 10 miles west of Naples, celebrated in antiquity as the entrance to the infernal regions.

AVERRUNCA'TOR, Lat. *averrunco*, I dress or weed; in *arboriculture*, an instrument for cutting off the branches of trees, consisting of two blades fixed on the end of a rod; one of which has a moveable joint, which, by means of a line fixed to it, operates like a pair of scissors.

AVER'SE, Lat. *aversus*, turned back. In ornithology, when the posterior extremities are attached to the trunk near the anus, so that the body is held erect, as in the penguin.

AVICEN'NA, the generic name of the *Mangrove-tree*. *Didynamia—Angiosperma*.

Named in honour of an Arabian physician. Native of the hot parts of both Eastern and Western continents.

Avic'ula, a genus of equivalve shell with a rectilinear hinge: it belongs to the oyster family, and is known popularly as the Mother-of-pearl oyster. The species which produces the fine pearls of Ceylon is the *Mytilus Margaritifera*, Lin.

Aviou'lidæ, a family of shell-fish comprehending the muscles and pearl oysters. *Swainson.*

Avoi'dance. In ecclesiastical law, signifies the condition of a benefice when void of an incumbent, and is opposed to plenarty.

Avoirdupo'is, Fr. *avoir du pois*, to have weight. The weight commonly used for bulky and coarse commodities. The pound contains 16 oz., and is to the troy pound as 17 to 14.

Avoset'ta, the *Avoset*, a species of grallæ placed by Pennant among the palmipedes. The bird is of the size of the lapwing, and is common to Europe and America.

Avo'wry, in *law*, the act of the distrainer of goods who in an action of replevin *avows* and justifies the taking; the act of maintaining the right to distrain.

A-weigh, in *nautical language*, the same with *a-trip*.

Awl'wort, the *Subularia aquatica*, an indigenous aquatic perennial, so named from its awl-shaped (*subulate*) leaves.

Awn'ing. 1. A covering of canvas extended over the decks of a ship to give shelter from the sun, rain or wind.——2. That part of the poop deck which is continued forward beyond the bulk head of the cabin.

Awnless, without awn or arista.

Axaya'cat, a Mexican fly whose eggs, deposited on rushes, &c. in large quantities, are collected and used as a sort of caviare, called *ahuauhtli*.

Axe'stone, a mineral; a sub-species of jade, which in some respects resembles nephrite. It occurs in New Zealand and the isles of the Pacific, where it is made into axes and other cutting instruments by the natives, from which circumstance it has obtained its name.

Axif'erous, Lat. *axis*, a centre, and *fero*, I bear. Said of those plants which consist solely of an axis with foliage or other appendage.

Ax'il, Lat. *axilla*. 1. In *anatomy*, the arm-pit.——2. In *botany*, the angle formed by the stalk of a leaf with the stem.

Ax'ile, Lat. *axis*, lying in the axis of anything, as an embryo in the axis of a seed; viz., from the base to the end diametrically opposite.

Ax'illary, Lat. *axillaris*, pertaining to *axilla*, the arm-pit. In *botany*, applied to leaves, &c. which proceed from the angle formed by the stem and branch. *Generally*, applied to parts which spring from the point of union of two or more other parts.

Ax'inite, thunderstone, (*thumerstein*, Werner). A mineral commonly found in crystals of four-sided prisms, so flattened that some of its edges become thin and sharp; hence its name from ἀξινη an *ax*, and λίθος *stone*. Colours, brown, grey, black and violet.

Ax'is, ἄξων. This term is applied in the language of science to a right line passing through the centre of a body on which it may revolve. The axis may either be real or imaginary, as: 1. In *mathematics*, the straight line which divides the area of a figure and about which it revolves to produce a solid. Further, the straight line drawn from a point in the periphery through the centre of a sphere is its axis; and a straight line drawn from the vertex of a cone through the centre of its base is the axis of the cone. *See* Cone *and* Conic Sections.——2. In *mechanics*, the line about which a balance moves or rather turns is the axis of the balance; the *axis of oscillation* is a right line parallel to the horizon, about which a pendulum vibrates; the *axis in peritrochio* is another name for the mechanical contrivance called the *wheel and axle*.——3. In *optics*, that ray of light which passing from the eye falls perpendicularly on the eye.——4. In *astronomy*, an imaginary right line passing through the two poles and the centre of the sphere, is called the *axis of the sphere*, and similarly the sun and all the planets are each conceived to revolve about their respective axes.——5. In *botany*, a taper column in the centre of some flowers about which the other parts are disposed.——6. In *anatomy*, the second vertebra of the neck: the atlas rotates on its tooth-like process as on an axis.

Axot'omous, from ἄξων an *axis*, and τέμνω, to *cut*. A mineralogical term, signifying cleavable in one particular direction.

Aye-Aye, the name given by the natives to an animal of Madagascar, *Cheiromys Madagascariensis*, for its peculiar cry. It is a nocturnal quadruped, size of a hare, burrows, and motion seems painful to it.

Aza'lea, an extensive genus of plants of the class *pentandria*, and order *monogynia*. Name from ἀζαλεος, arid, because found only in such places. The trailing azalea, a low shrub with very woody tortuous stems, and crowded leafy branches, found plentifully on the Scottish Highland mountains, is the only British type.

Az'imuth, from Ar. *al* and *samath*, path. In *astronomy*, the arc of the horizon inter-

cepted between the meridian of the observer and a vertical circle passing through the celestial object whose azimuth is measured. *Azimuth circles*, are great circles of the sphere, intersecting each other in the zenith and nadir, and cutting the horizon at right angles. The *magnetic azimuth* is an arc of the horizon, intercepted between the vertical circle passing through the centre of the celestial body and the magnetic meridian. It is found by the *azimuth compass*.

Az'imuth Dial, a dial of which the style or gnomon is perpendicular to the plane of the horizon.

Azoga Ships were those Spanish government ships, called also *quicksilver ships* (Sp. *azogue*, quicksilver) because employed to carry mercury to the Spanish West Indies, to extract the silver from the ores of the mines of Mexico and Peru.

Az'ote, from α, not, and ζωη, life. A gas otherwise called nitrogen (q. v.), which when breathed alone destroys life.

Az'otized, containing azote, said of some vegetables which contain much azote, and therefore in some measure partake of the nature of animal matter.

A'zure. 1. The fine blue pigment commonly called *smalt*. It is a glass coloured with oxide of cobalt, and ground to an impalpable powder.——2. In *heraldry*, the blue colour in coats of all persons under the rank of baron.

Az'ygos. Αξυγος, an anatomical term applied to muscles, veins, &c., which have no corresponding muscle, vein, &c.

Az'ymites (from αζυμος, *unleavened*). Christians who administer the eucharist with unleavened bread (*azyme*).

B.

B is the first letter of all known alphabets except the Ethiopic, in which it is the ninth. As a numeral B was used by the Hebrews and Greeks, as now by the Arabians, for 2: by the Romans for 300, and with a dash over it, thus, $\overline{B}$, for 3000. It is often used as an abbreviation: thus, B.A., stands for bachelor of arts; B.L., for bachelor of laws; B.D., for bachelor of divinity; B.F., before the decrees of the old Romans, for *bonum factum*. In *music*, B is the designation of the seventh note in the natural diatonic scale of C; but anciently it denoted the second interval in the scale beginning with A. B♭ stands for B flat, or the semitone major above A. B also stands for base, and B.C., for thorough base (*basso continuo*). In *chronology* B is one of the dominical letters, and in the *old chemical alphabet* it denotes mercury.

Baal, a name common to the male, as *Ashtaroth* was to the female idols of the East. The name is common to several of the oriental languages, and signifies *lord* or *master*.

Bae'lah, the rind or shell which surrounds the fruit of the *mimosa cineraria*, and which is brought from the East under the name of *neb-nab*. It is used in dyeing cotton for proving various shades of drab.

Baboo'n, a name common to several of the larger species of the monkey tribe, which have short tails, and more or less approximate to the human figure. They are peculiar to the eastern continent. The term is Fr. *babouin*, from the resembles which the animals bear to a child.

Babyrou'ssa, the Indian hog; a species of the genus *sus*. It is a native of Celebes and Bourou.

Bac. 1. In *navigation*, a praam or ferry-boat.——2. In *brewing*, a large flat vessel in which wort is cooled before boiling, hence called a *cooler*.——3. In *distilleries*, a tub in which liquor to be fermented is pumped from the cooler in order to be worked with the yeast.

Bac'ca, a berry. A fruit which consists of a pulpy pericarp without valves, inclosing several naked seeds.

Baccalau'reus, Lat., the lowest academical degree in the English and French Universities.

Baccaula'ris, a fruit consisting of distinct carpels, seated upon a short receptacle.

Bacchana'lia, festivals at Rome in honour of Bacchus, the god of wine. They were ultimately suppressed for their licentiousness.

Bacchus, the god of wine, and son of Jupiter and Semele.

Bacchi'us, a foot in ancient poetry composed of one short and two long syllables; e. g., *dōlōrēs*, employed much in hymns to Bacchus.

Baccif'erous, Lat. *bacciferus*, berry-bearing, applied to plants which produce berries.

Bacciv'orous, berry-eating, *bacca* and *voro* to eat.

Bache'lor, Lat. *baccalaureus*, from *baculus*, a shoot. 1. A person who has taken the first degree in the liberal arts and sciences, at a college or university. The honour or degree is called the *baccalaureate*.——2. In the *middle ages*, a knight of the lowest order, or rather a young knight, called a knight bachelor (*bachelier*).——3. A canon of the lowest rank.

Bacilla'reæ, a small group of algaceous plants, much the same as those called *cymbelleæ*. They are said to possess the power of spontaneous motion.

Back, a nautical term. 1. To *back an anchor*. *See* Anchor.——2. To *back sails* is to arrange them so that the ship shall

move astern.——3. To *back astern* is to manage a boat in rowing so that it shall move stern foremost. Back is here used as an abbreviation of backwards.

Bac'ker. In *architecture*, used to denote a narrow slate laid on the back of a broad, square-headed slate when the slates begin to diminish in width.

Backgam'mon, a game played with dice by two persons on a table divided into two parts, upon which there are 24 black and white spaces called *points*. Each player has 15 men, black and white, to distinguish them. The term is from Welsh *bac*, little, and *cammaun* battle. The little battle.

Back'quadrant, a quadrant *formerly* used at sea for taking the sun's altitude; so called from the back being turned towards the sun in using it.

Back'set. In *Scotland*, a sublease, in which possession is restored to those having the primary interest in it. From *back* and *set*, a lease.

Back'staff, the backquadrant (q. v.); called also, from its inventor, Davis's Quadrant, and by the French, the English Quadrant.

Back'stays, ropes or stays extending from the topmast heads to both sides of a ship, to assist the shrouds in supporting the mast, when strained by a weight of sail.

Back'sword. In *England*, a stick with a basket-handle, used in rustic fencing.

Back'tack. In *Scotland*, a deed by which a wadsetter, instead of himself possessing the lands which he has in wadset, gives a lease of them to the reverser, to continue in force till they are redeemed, on condition of the payment of the wadset-interest as rent. From *back* and *tack*, lease.

Baco'nian Philosophy. The system propounded by Francis Bacon, Lord Verulam.

Bacula'res, a sect of anabaptists is so named from *baculum*, because they held it unchristian to carry any other weapon than a staff.

Baculom'etry, the art of measuring heights with a staff—*baculus* and *metrum*.

Badger. In *old law*, a person licensed to buy corn in one place and sell it in another, without incurring the penalties of engrossing. In *zoology*, a genus of quadrupeds belonging to the plantigrade tribe, and placed by Linnæus with the raccoons, in the genus Ursus.

In the first sense, *badger* is from Sax. bycgan, to buy. In the second, from Gothic *baydga*, to fight, to beat.

Badia'ga, a marine plant of the order Algæ, used in Russia to remove the livid marks of bruises.

Badige'on, a mixture of plaister and freestone well sifted and ground together. Used by statuaries to fill up the little holes, and repair the defects in stones of which their work is made. Joiners also give this name to a mixture of sawdust and glue, with which they fill up the chaps and other defects of wood after it has been wrought.

Bad'inage, a method of hunting wild-ducks practised in France. It consists in covering a boat with foliage, and sailing it cautiously towards the birds, when a small dog, trained to the sport, is silently put out; the birds seek shelter about the insidious island, and are generally speared, but sometimes shot.

Bælyl'ia, certain anointed stones worshipped by the Phœnicians. Βαίτολος, the stone which Saturn devoured instead of Jupiter!

Bæ'toen, an exceedingly venomous serpent of Africa, described by Foskal.

Bag. 1. In *commerce*, a certain quantity of a commodity, such as it is common to carry to market in a sack; e. g. a bag of meal is 240 lbs. avoir.——2. In *farriery*, a bag or list of one oz. asafœtida, with as much powder of savin, tied to the bit of a horse's bridle, to restore his appetite. Norm. *bage*.

Baga'sse, the sugar-cane in its dry and crushed state, as delivered from the sugar-mill. Used for fuel.

Bag'ging, a mode of reaping corn or pulse with a hook by chopping, instead of by a drawing-cut.

Bag'lafecht, a variety of the Philippine Grosbeak (*Loxia Philippiana*) found in Abyssinia.

Bagn'io, an Italian term for a bath. Applied to a house provided with conveniences for bathing, &c.

Bag'pipe, the ασκαυλος of the Greeks, and the *tibia utricularis* of the Romans, is a musical wind-instrument of high antiquity, especially among the northern nations. Its peculiarity consists in collecting the air into a leathern bag, from which it is forced, by the pressure of the performer's arm, into the *pipes*. The base pipe is very appropriately called the *drone*, and the tenor or treble is called the *chanter*. This has eight holes, like those of a flute, which the performer opens and stops at pleasure. Air is supplied either with bellows, as in the Irish bagpipe, or with the mouth, as in the Scottish or Highland bagpipe.

This instrument has so long been a favourite in Scotland and Ireland, that it is regarded as the national music of those countries; but it is by no means peculiar to them. It is found on Grecian and Roman sculptures, and in several other countries it is a popular instrument at the present time. It is, besides, one of the few things on which time has wrought no improvement. It

is still exceedingly defective. The range of the Irish or soft pipe does not exceed twelve tolerable notes, and that of the Scottish or Highland pipe nine; and it can hardly be said that the music of either is a "pleasant noise," unless when filtered through a stone-wall of two feet thick.

BAGUET'TE, an architectural term, from the French, denoting a small round moulding, somewhat less than an astragal, which, when enriched with ornaments, is called a *chaplet*, and when plain, it is a *bead*.

BAH'AR BARRE, a weight used in various parts of the East Indies. That of Acheen = 490 lbs., that of Bencoolen = 560 lbs., that of Junkseylon = 485 lbs. 5½ oz., that of Malacca = 405 lbs., and that of Mocha = 445 lbs. avoirdupois.

BAIL, from Fr. *bailler*, to deliver. In *law*, to bail is to liberate from arrest and imprisonment. Thus the magistrate *bails* a man when he sets him at liberty upon bond given with securities; and the surety *bails* a man when he procures his release by giving bond for his appearance. When a person has procured his liberty on bond given for his appearance when cited, he is said to be *out on bail*; the persons who are surety for him are his *bail*, and the bond of surety is the *bail-bond*. When the securities are mere fictitious names, a John Doe and Richard Roe, the bail is called *common*; when the bail-bond is *bonâ fide* a bond of surety, the bail is called *special*.——The word *bail* is used by seamen to signify the process of clearing a boat of water; but in this sense it is usually written, though improperly, *bale*.

BA'ILEE, the person to whom a *bailment* (q. v.) is made.—*Bailer*, the person making the bailment.

BAI'LIE, in *Scotland*, a magistrate of a royal burgh, possessed of certain jurisdiction by common law as well as by statute: the title is analogous to alderman in England.

BAILIFF, Fr. *bailif*, of Lat. *baila*, authority. This name was anciently used to signify an officer appointed for the administration of justice within a certain district, and comprehended sheriffs of counties (called *bailiwicks* or *ballivæ*), as well as bailiffs of hundreds. There are now many sorts of bailiffs: 1. *Sheriff's-bailiffs*, who are either special, and appointed for their adroitness to apprehend defaulters; or bailiffs of hundreds, who collect fines, summon juries, attend the assizes, and execute writs and processes. The *special-bailiffs* are more commonly in Scotland called *sheriff-officers*, and the bailiffs of hundreds have in England got the homely appellation of *bum-bailiffs* (an odd corruption of *bound-bailiff*. *See* ARREST).——2. *Bailiffs of liberties*, are appointed by the lords of their respective jurisdictions, to execute processes and perform other duties.——3. *Bailiffs of courts baron*, summon these courts and execute the process thereof.——4. *Water-bailiffs*, are appointed in seaport towns to search vessels, gather toll for anchorage, arrest debtors on the water, &c.——5. In some provincial towns of England the principal magistrates are called *bailiffs*; there is a *high-bailiff* of Westminster; the lord mayor of London sits under his title of *bailiff* (which title he bore before the present became usual), in the court of Old Bailey; the sheriff is the Queen's *bailiff*, and there are *bailiffs* of castles, as that of Dover, and *bailiffs* on estates, who have charge of the inferior servants and direct their work.

BAI'LIWICK (*baili*, and Sax. ꝑıc, jurisdiction). The jurisdiction of a *bailiff* (q. v.). Under William I., the counties of England were called bailiwicks (Lat. *ballivæ*), and the subdivisions *hundreds*. The courts of the latter have long since ceased.

BAIL'MENT, from *bail*. A delivery of goods, in trust, upon a contract expressed or implied that the trust shall be faithfully executed. It comprehends: (1.) Deposit. (2.) Loan. (3.) Hire. (4.) Pledge. (5.) Carriage of goods for reward. (6.) Mandate.

BAIL'PIECE, a slip of parchment or paper, containing a recognisance of bail *above* or bail to *the action*.

BAIR'AM, an annual festival among the Mohammedans. It may be called the *Easter*, as the rhamadân is the Lent of the followers of Mahomet. *See* RHAMADAN.

BAIRMAN, *bair* and *man*. An old law term, denoting a debtor sworn in court not to be in possession of property worth five shillings and fivepence. Synonymous with *dyvour*.

BAJ'ADERES, the Portuguese name of the Indian dancing girls, employed partly as priestesses, and partly as means of entertainment and pleasure to the grandees of India.

BAJ'ULUS, Lat. *bajulare*, to carry. In the lower Greek empire, the officer intrusted with the education of a prince.

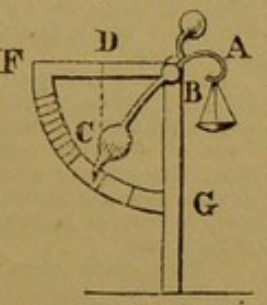
BA'KER'S-ITCH, a species of psoriasis is so called when it is confined to the back of the hand, where it often appears among bakers.

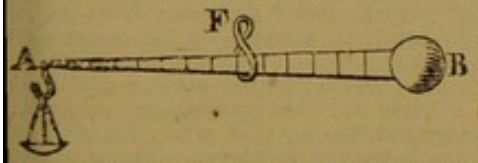
BALÆ'NA, from βαλαινα, a whale (of βαλλω, to throw, in allusion to its power of spouting the water, technically called *blowing*). A genus of mammalia belonging to the order *cetacea* of Cuvier; and to that tribe popularly called the *blowers*. *See* CETACEA and WHALE.

BALALA'IKA, a musical instrument of the guitar kind, of very ancient Sclavonian origin, and common among the Russians

and Tartars, and also found in Egypt and Arabia.

Bal'ance, Fr. *balance*, Sp. *balanza*, Lat. *bilanx*; of *bis*, double, and *lanx*, a dish, scale. A well-known mechanical contrivance which serves to find out the equality or difference of weight in ponderable bodies. It is commonly reckoned among the mechanical powers, but it is only a particular species of the lever, in which the arms are equal, and which must therefore be in equilibrio when the power or weight are equal. Beside the common, there are various other kinds of balances, as: 1. The *Bent-lever balance*, is a bent lever A B C, to whose extremity, C, a weight is fixed, and at its extremity, A, a hook, carrying a scale-pan, is moveable about an axis, B. Every different weight placed in the scale-pan varies the perpendicular, CD, and therefore the inclination of BC and these positions are noted upon the quadrant, FG, usually in lbs. and oz.——2. The *Danish balance* differs from the steelyard or Roman statera, in having a





moveable fulcrum instead of a moveable weight. It is often nothing more than a batten of hard wood AB, with a knob of lead B, and a shifting fulcrum F, often a piece of cord, by which to suspend it in weighing. The weight is read off on a division marked along the arm for the purpose.——3. The *Hydrostatic balance* is a delicate balance of the common form, used in determing the specific gravities of bodies.——4. *Roman balance. See* Steelyard *and* Statera.——5 *Torsion balance. See* Torsion.——*Balance*, in *commerce*, is the term used to denote the difference in value between the exports from and imports into a country. The balance is said to be favourable when the value of exports exceeds that of the imports, and unfavorable when the value of the imports is the greater.——*Balance of power*, in *politics*, a system by which the relative power of different states and alliances is so maintained as to render any extensive derangement improbable.——*Balance*, among *watch-makers*, that part of a watch or clock which regulates its beats. It is a sort of wheel, the circumference of which is called the *rim*, and its spindle the *verge*. It answers the purposes of a pendulum.

Balance-Fish, a species of squalus or shark, weighing about 500 lbs.

Balance-Reef, a reef-band crossing a sail diagonally, used in *balancing* (q. v.)

Bal'ancing, in *nautical language*, the contracting a sail into narrower compass by folding up a part of it at one corner, by which it is distinguished from *reefing*.

Bal'anus, a genus of mollusca; order *Cirrhopoda*, Cuv. The principal part of the shell of the balani consists of a testaceous tube attached to various bodies, as rocks, shells, and the bottoms of ships. One species, the barnacle, (*Lepas balanus*, Lin.) is exceedingly numerous on the coasts of Europe. They often penetrate into the flesh of large fish, as the whale. Name βάλανος, a *nut*.

Bal'ass-Ruby, } A sub-species of Cor-
Bal'lass-Ruby, } undum, which being found chiefly in Ceylon has obtained the name of Ceylonite. It is called also *Spinelle Ruby*. The name *balass* is the Fr. *balais*, and Lat. *balasius lapis*.

Balc'ony, Fr. and Sp. *balcon*, from Ar. *balkana*. 1. A projection in front of a building supported by pillars, and usually encompassed with a balustrade.——2. A gallery in a ship, either open or covered, made abaft the captain's cabin for convenience or ornament.

Baldach'in, } A term derived from the
Baldaqu'in, } Italian *baldachino*, and applied to a building in the form of a canopy, supported by columns, and serving as the crowning or covering to an altar.

Bal'derick, Ir. *balta*, a belt, and *rick*, rich. 1. A richly ornamented belt.——2. The zodiac. (*obsolete*).

Baldwin's Phosphorus, ignited nitrate of lime.

Bale-Goods, are such as are imported or exported in bales.

Bal'een, Fr. *baleine*, a name given by the whale-fishers to the whalebone of commerce. The term is a corruption of *balæna*, the generic name of the common whale.

Balenop'tera, the jubarta; a sub-genus of the whale-tribe, from *balæna* (q. v.) and *ptera*, a fin, the animal being provided with dorsal fins.

Bal'ister, a cross-bow, named from the ancient *ballista*, a warlike engine, used in besieging fortified places, for projecting stones, arrows and other missiles. Root, βαλλω, *to throw*.

Bali'va, in *old statutes*, a bailiwick, (q. v.) *Balivous*, a bailiff. *Balivo amovendo* is the name of a writ to remove a bailiff from his office.

Balize, Fr. *balise*, Sp. *baliza*, a beacon, a sea-mark or pole raised on a bank

Balk, (D. *balk*.) Balks are large pieces

of timber or beams, of from 5 to 12 inches square, as imported; the larger are accounted timber. *Balk* is also a provincial name of the summer-beam of a building; and in some parts of Scotland it is synonymous with *Cubber*. Among *bricklayers*, the term denotes the pieces of timber used in making scaffolds. In *agriculture*, a balk is a ridge of land passed over in ploughing and not turned.

Balk'ers, in *fishery*, persons stationed on rocks and eminences to espy the shoals of herrings, and give notice to the men in the boats which way they pass.

Ball, is a popular name of any spherical body, whether natural or artificial; found in most European languages with little variation of meaning or orthography.——In *heraldry*, balls are common bearings, called, according to their different colours, ogresses, besants, golpes, guzes, hurts, pellets, plates, pomeys, oranges, torteaux.——*A printer's ball* consists of hair or wool covered with leather, fixed into a stock called the *ball-stock*, somewhat hollow at one end, and serving as a handle: used (formerly) to put ink on the types in the forms (instead of the roller now used).——*Puff-ball* is a popular name of the lycoperdon; and *ball-vein*, a miner's name for a species of iron ore which occurs in loose nodular masses.

Ball and Socket, an instrument made usually of brass, with a perpetual screw, so as to move horizontally, vertically, and obliquely: used in managing surveying and astronomical instruments.

Ball-cock, a hollow globe of metal attached to the end of a lever which turns the stop-cock of a cistern pipe, by floating on the surface of the water, thereby regulating the supply.

Bal'let, a Fr. term, dim. of *bal*, a dance. 1. A dramatic dance, the object of which is to express by the different movements some subject, sentiment, passion, or action.——2. A species of dramatic poem representing some fabulous subject.——3. In *heraldry*, the term is used in the same sense as *ball* (q. v.).

Balliage, a small duty paid to the city of London by aliens, and even by denizens, for certain commodities exported by them.

Ballista, written also *balista*. *See* Balister.

Ballistic Pendulum, a machine for ascertaining the force of military projectiles, and consequently of gunpowder. It consists of a large block of wood, suspended vertically by a horizontal iron axis, to which it is connected by an iron stem. The ball impinges against the block, and causes it to vibrate through a certain arc proportional to the force of the impact, and this arc being accurately observed, the force of the projectile is consequently known.

Bal'lium, in the architecture of the middle ages, the open space or court of a fortified castle.

Ball'on is a French term, meaning a large ball or balloon; used to denote a globe on the top of a pillar.

Bal'loon, from *ballon* (q. v.). 1. A chemical glass receiver in the form of a hollow globe with a short neck.——2. A spherical silk bag filled with hydrogen gas or with heated air, by the buoyancy of which it ascends into the atmosphere: sometimes called for distinction an *air-balloon*.——3. A ball of pasteboard filled with combustibles to be played off when fired, either in the air or in water, bursting like a bomb, and throwing out sparks like stars.

Bal'lot, a ball used in voting: Fr. *ballote*; Sp. *balota*, a little ball. Voting by ballot signifies voting by putting little balls of different colours into a box or urn: the greater number of one colour determines the result. Tickets are also used instead of ballots, and called by the same name.

> Most clubs elect their members by ballot—a white ball indicating assent, and a black one dissent: hence when an applicant is rejected, he is said to be *blackballed*.

Ballota, the *stinking-horehound*. A genus of perennials. *Didynamia—Gymnosperma*. Name βαλλωτη, from βαλλω, to repel, in allusion to its disagreeable smell.

Bal'lotade, in the *ménage*, the leap of a horse between two pillars or upon a straight line, so that when his fore feet are in the air, he shows nothing but the shoes of his hind feet, without jerking out: it is thus distinguished from *capriole*.

Balm, contraction of *balsam* (q. v.). In *botany*, the popular name of several plants, especially the Melissa, the species of which are aromatic.——*Balm of Gilead*, the balsamic produce of the *amyris gileadensis*, a low tree or shrub indigenous to Arabia and Abyssinia, and transplanted at an early period to Judea. This is the most valuable of all the balsams, but it rarely finds its way to this country. The *balm of Canada*, which is merely a fine turpentine, obtained from an American species of fir-tree (*pinus balsamea*), is usually substituted for it, and the tree itself is in consequence popularly called the *balm of Gilead*. *See* Opobalsam.

Bal'sam, Lat. *balsamum*, of βαλσαμον, from the oriental *baal samen*, prince of oils. Balsams are vegetable juices either liquid, or which spontaneously become concrete, consisting of a substance of a resinous nature, combined with benzoic-acid, or which are capable of affording benzoic acid by being heated alone or with

water. The liquid balsams are copaiva, opobalsam, balsam of Peru, storax and tolu; the concrete are benzoin, dragon's blood, and red storax—(which see).—The *balsam of Peru* is viscid, of a deep reddish brown colour, and of the consistency of honey: it is the produce of the *myroxylon pomiiferum*, a tree which grows in the warmest parts of South America.—*Balsam* is also the popular name of the *impatiens* (q. v.), of which the *noli me tangere* or touch-me-not is a species.—The name of *balsam-tree* is common to three genera, the *amyris*, the *clusia*, and the *copaifera*.—The *balsam-apple* is an East India annual (*momordica balsamina*).—The preparation sold under the name of *balsam of honey*, is a tincture either of benzoin or of tolu.—*Balsam of sulphur*, solution of sulphur in olive oil; a brown fetid liquor.

Balsamin'eæ, a natural order of herbaceous and succulent plants. Type *Impatiens*.

Balte'us, Lat., a girdle. In *architecture*, the wide step in theatres and amphitheatres which afforded a passage round, without disturbing the sitters. In the Greek and Roman theatres every eighth step was a balteus. Nobody sat on these; but they served as a landing or resting-place.

Bal'timore-Bird, a beautiful American bird (*Oriolus Baltimore*, Wilson) called also, *hanging-nest*, *fire-bird*, *golden robin*. It is distinguished by its black and orange plumage, which being the colours of Calvert, Lord Baltimore, proprietary of the province of Maryland, gave it the name of the Baltimore bird.

Bal'uster. 1. A small column or pillar belonging to a balustrade.——2. The lateral part of the volute of the Ionic capital, called by Vitruvius, *pulvinata*.

Balustra'de, from Lat. *balustrum*, a space in the ancient baths which was railed in with *pali* or poles. The term is now used to denote a row of pilasters or balusters, which are generally for real use in buildings, but sometimes for ornament merely. The balusters of the balustrade are usually joined by a rail as in balconies.

Bamboo', } a species of cane, the *bam-*
Bambu', } *busa arundinaceæ* of botanists. It grows everywhere within the tropics, and is of the utmost utility to the inhabitants of those climates. It serves all the purposes of wood, is manufactured into cordage, cloth, and paper, and the grain makes tolerable bread. It is properly a gigantic grass.

Bambu'sa, the generic name of the bamboo-cane, of which there are two species. *Hexandria — Digynia*. Name latinized from *bambu*, the Indian name.

Ban. 1. A proclamation, hence *bans*, a notification of marriage proposed.——2. A declaration of outlawry, equivalent in political matters to *excommunication* among ecclesiastics.——3. In *military affairs*, an order given by beat of drum or sounding the trumpet, requiring the strict observance of discipline, announcing the appointment of an officer, &c.——4. A mulct paid to a bishop by one guilty of sacrilege.——5. The name of a smooth fine muslin imported from the East Indies.——6. A title of the governor of Croatia, who has the third place among the secular nobles of Hungary. Ban is the Sclavonic word for *master*, hence provinces over which a ban was placed were called *bannats*.

Bana'na, an Indian name of the *musa sapientium*, which grows in the West Indies and other tropical countries. The leaves are six feet long by one foot broad; the fruit, which grows in bunches, is about five inches, and yields a soft and luscious pulp frequently used in desserts, and made into a sort of bread,

Ban'co, Ital. 1. In *commerce*, a word signifying a bank, and commonly applied to the bank of Venice. —— 2. In *law*, superior courts are said to sit in banco during term, the judges occupying the benches of their respective courts.

Band. In *architecture*, the word *band* is applied to narrow members, somewhat wider than fillets and smaller than the facia. The cincture round the shaft of a rusticated column is called a band. *Banded column*, a column encircled with bands. The word *band* is frequently used to denote a narrow belt; e. g. the narrow belts or rather *bands* which give motion to the wheelwork, &c. The *bands* of a saddle are two pieces of iron nailed upon the bows to hold them in their proper places. The *band of pensioners* is a company of 120 gentlemen, who receive a yearly allowance of 100*l*. for attending the sovereign on solemn occasions.

Bandaleer, } a large leather belt
Bandoleer, } (thrown over the right shoulder, and hanging under the left arm) worn by the old musqueteers for sustaining their fire-arms and musket-charges. From *band* and D. *leer*, leather.

Banda'na, } a style of calico print-
Banda'nna, } ing in which white or brightly-coloured spots are produced upon a red or dark ground. The term is the name of those silk handkerchiefs, generally red spotted with white, formerly manufactured only in India, where the art appears to have been practised from time immemorial.

Banded, when a body is striated with coloured bands.

Bandelet', Bandlet. In *architecture*, dim. of *band* (q. v.), used to designate any small flat moulding greater than a *list*, and less than a *plat-band*; e. g. that which crowns the Doric architrave

BANDERO'LE, a Fr. term meaning a narrow flag or streamer, used in heraldry to denote the streamer affixed under the crook of a crosier and folding over the staff.

BAND'ORE, Sp. *bandurria*. A musical-stringed instrument resembling the lute.

BANDROL, a little flag or streamer affixed to the top of masts, from *banderole* (q. v.).

BANGUE, an opiate much used throughout the east to produce intoxication. It is obtained in several ways from a kind of hemp. The Persians call it *beng*.

BA'NIANS, a name formerly given by Europeans to all Hindus, because *baniya*, the term whence it is derived, signifies a *banker*, the class with which Europeans had most frequent intercourse. *Banian* is with us the name of a sort of morning dress resembling the loose gown worn by the Banians of India. The *banian-days* of the sailors are those upon which no flesh meat is allowed, also borrowed from the habits of the Banians, who, being metempsychosists, refrain not only from eating flesh, but even from killing noxious animals.

BAN'IAN-TREE, } the Indian-fig or God-
BAN'YAN-TREE, } tree, the (*Ficus Indica*). The branches of this famous tree descend, take root, and are in time converted into great trunks, so that a single tree, with all its props and stems, may cover a space of 2000 feet circumference.

BANK. 1. In *carpentry*, a piece of fir-wood unslit of about six inches square, and of any length.——2. In *nautical language*, a bench of rowers in a galley, so called from their seat, *bench* and *bank* being radically the same word. —— 3. In *commerce*, an establishment for the custody and issue of money. *Bank for savings*, a bank established for the receipt of small sums deposited by the poorer class, and for their accumulation at compound interest.

BANK-CREDITS are credits peculiar to Scottish banking, by which, on proper security being given to the bank, a person is entitled to draw money to the extent agreed upon.

BANK'ER. 1. Among *masons*, the stone bench on which they cut and square their work.——2. Among *seamen*, a vessel employed in the cod-fishery, on the banks of Newfoundland.——3. The individual who manages a bank, or who carries on the business of banking.

BANK'ET. In *bricklaying*, a piece of wood of about eight inches square, and nine feet in length, on which to cut the bricks.

BANK'RUPTCY, the state of an insolvent merchant. From *bancus*, a bench (whence bank), and *ruptus*, broken, in allusion to the benches formerly used by the money-lenders of Italy, which were broken in case of their failure. No person but a trader can be a bankrupt.

BANK'SIA, a very extensive genus of greenhouse shrubs, natives of New Holland.

BAN'LIEUE, Fr. The territory without the walls, but comprised within the legal limits of the city.

BAN'NER. 1. In *military language*, the colours, or square standard.——2. In *botany*, the upper large petal of a papilionaceous flower.

The origin of this term, which occurs in all modern languages of Western Europe, is, perhaps, the Persian *band*, a standard, from *bandan*, to bind. Qu. Goth. *bannan*, to summon, proclaim?

BAN'NERET, a knight made on the field, with the ceremony of cutting off the point of his standard, and making it a square. The custom is obsolete. He was then called a knight of the *square flag*, and held a rank between a baron and simple knight.

BAN'QUET, BANQUETTE. 1. The footpath of a bridge.——2. The elevation of earth behind a parapet, on which the garrison of a fortress may stand in order to fire upon an approaching enemy.

BAN'SHEE, BANSHI, an Irish fairy.

BAN'STICKLE, a small fish called also *stickle-back*, and *bantickle* in some parts of Scotland.

BAN'YAN, a kind of Indian fig, forming a very large tree, which sends down roots from its branches, which in their turn become trunks, and prop the extending branches.

BAPHOMET, the imaginary symbol which the Templars were accused of employing in their mysterious rites.

BAP'TISTERY. In *architecture*, a building destined for the purpose of administering the rite of baptism.

BAP'TISTS, a protestant sect, distinguished by opinions regarding the *mode* and *subjects* of baptism. As to the *mode*, the Baptists maintain the necessity of immersion, from the literal translation of the word βαπτιζω; and the *subjects*, they maintain, should only be those who profess repentance and faith. Hence, they are often called *antipædobaptists*, because they consider infants unfit subjects for baptism.

BAR, literally that which obstructs. 1. In *law-courts*, an inclosure made with a strong partition of timber, three or four feet high, where the counsel are placed to plead causes. Hence, lawyers licensed to plead, are called *barristers*. The benches where the lawyers are seated are also called *bars*, and the lawyers themselves are collectively called the *bar*. A *trial at bar* is a trial at the courts of Westminster, in distinction to a trial at *nisi prius*,

in the circuits.——2. In *law*, a peremptory exception sufficient to destroy the plaintiff's action, either for the time being, or for ever, according as it is *temporary* or *perpetual*.——3. A bank of sand or gravel, or both, forming a shoal at the mouth of a river or harbour, obstructing entrance, or rendering it difficult.——4. In *music*, a stroke or line drawn perpendicularly across the lines of a piece, to divide the notes into equal portions with respect to time.——5. In *heraldry*, one of the honourable ordinances, consisting of two horizontal lines drawn across the escutcheon. The space inclosed is the *bar*.——6. In the *ménage*, the highest part of the place in a horse's mouth between the tusks and grinders, so that the part of the mouth which lies under and at the side of the bars retains the name of the gum. The upper part of the gums which bears no teeth, and to which the bit is applied.——7. A *bar* of gold or silver is an ingot, wedge, or mass that has been cast in a mould, and unwrought. A *bar* of iron is a long piece wrought in the forge, and hammered from a pig. Iron when first formed into bars is called *bar-iron*, and is marked No. 2; but when cut up, piled, and worked over again, it is denominated No. 3, or best iron.——8. To *bar a vein* is an operation in farriery, which consists in opening the skin over a vein, disengaging it, and tying it in two places, and striking between the two ligatures.

Baralip'ton, an arbitrary term, used in logic, to denote the first indirect mode of the first figure of syllogism.

Barallots, a sect of Manicheans, at Bologna, who had all things in common, even their wives and children. The name is the compound *bar-all-lots*.

Baratry, in *commerce*, is the act of a master of a vessel, or of the mariners, when they cheat the owners or shippers, by running away with the ship to embezzle their goods. From Ital. *baratare*, to cheat.

Barb, Lat. *barba*, beard. 1. The beard, or that which grows in the place of it, as the *barb* of a fish.——2. In *botany*, the hairy tufts which are found on various parts of plants; a sort of pubescence.——3. The points that stand backwards in an arrow, fish-hook, &c. are called *barbs*, and are intended to prevent easy extraction. Barb is also the common name of the Barbary pigeon and Barbary horse.

Bar'ba, Lat. a beard. In *mammalogy*, the long tuft of hair dependent from the under-jaw. In *ornithology*, the setiform or simple feathers which depend from the skin covering the gullet or crop. In *Ichthyology*, a kind of spine, with the teeth pointing backward. In *botany*, any collection of long loose hairs forming a tuft or crest, as on the petals of the iris.

Bar'bacan, Barbican, Fr. *barbacane*. In *fortification*. 1. An outwork or defence of a city or castle, consisting of an elevation of earth along the foot of the rampart.——2. A fort at the entrance of a bridge, or the outlet of a city having a double wall with towers.——3. An opening in the wall of a tower or fortress, through which to fire upon an enemy; called also an *embrasure*.

Barbadoes-leg is a disease indigenous to Barbadoes, in which the limb becomes tumid, hard, and misshapen.

Barbadoes-tar, a mineral fluid which trickles down the sides of the mountains in some parts of America, and sometimes is found on the surface of the waters.

Bar'bara, an arbitrary term used in logic to denote the first mode of the first figure of syllogism. A syllogism in *barbara*, is one in which all the propositions are universal and affirmative, as, mice eat cheese; *mouse* is a syllable; ergo, syllables eat cheese!

Barba'rea, *the winter-cress*. A genus of which there are two British types. *Tetradynamia—Siliquosa*. Named in honour of *St. Barbara*.

Bar'bate, } Lat. *barbatus*, having beard
Bar'bed, } (*barba*), bearded. Applied to leaves, &c., terminated by a pubescence of strong hairs: awned.

Barbe, in the *military art*. To *fire in barbe*, is to fire the cannon over the parapet, instead of firing them through the embrasures. Anciently, armour with which horses were covered.

Bar'becue. 1. In the *West Indies*, a hog roasted whole.——2. At home, any animal dressed whole.

Bar'bed, bearded. In *botany*, the same with barbate.—In *heraldry*, applied to extremities pointed with barbs, and also used synonymously with *crested*.

Bar'bel, a fish, a species of cyprinus (q. v.). Its dorsal fin is armed with strong spines, whence its name from *barb*.

Bar'bellate. When the pappus of composite plants is bearded by short, stiff, straight bristles. When the roughness is caused by short points, it is termed barbellulate.

Bar'bels, small cylindrical processes appended to the mouths of certain fishes, subservient to the sense of touch.

Bar'berry, a popular name of the genus *berberis*, of which there is one British species, common in hedges, and well known for its oblong, red berries. It is called also *pipperidgebush*.

Bar'bet, the *bucco* (q. v.), of ornithologists, is so named from its beak being barbed or furnished with bundles (five) of stiff hairs directed forwards, one behind the nostril, one on each side of the lower jaw, and a fifth under its symphysis.

Barbet'te, a Fr. term meaning *a flat*

form; used to denote a breastwork of a fortification, from which the cannon may be fired over the parapet.

Bar'biton, a musical instrument of the lyre kind.

Bar'bles, a white excrescence that grows under the tongue in cattle: called *barbes* by the French.

Bar'bula, Lat. dim. a *little beard*. A finely divided beard-like apex to the peristome of some mosses, as in the genus tortula.

Bar'carolle, a Venetian boat song.

Bar'con, a luggage vessel used in the Mediterranean.

Bardigli'one, a blue variety of anhydrite, cut and polished for ornamental purposes.

Bar'din, in *military antiquities*, a complete set of armorial trapping for a horse. This word is written in the plural *bardynges*, and is derived by Grose from Fr. *bardé*, covered; but it is more probable that the term was primarily used to denote the pikes or spears fixed in the horse's trappings, and consequently may be from the Teut. *barde*, a pole-axe.

Bards, the ancient Celtic poets are so termed by Roman writers. The etymology of the word is uncertain. They were the priests as well as the instructors of the people, and were greatly venerated.

Bare-poles, the masts of a ship at sea without sails.

Bar'-fee, a fee of 1*s*. 8*d*. which every prisoner acquitted (at the bar) of felony pays to the gaoler.

Bar'gain, from Welsh, *bargen*, to engage. *Bargain* and *sale* is a species of conveyance by which the bargainer contracts to convey certain lands to the bargainee, and becomes by such contract a trustee for and seised to the use of the bargainee. The statute then completes the purchase, that is, the bargain vests the use, and the statute vests the possession.

Barge-boards, in *architecture*, the inclined boards placed at the gable of a building, to hide the horizontal timbers of the roof, and frequently ornamental.

Barge-couples, in *architecture*, a beam mortised into another to strengthen the building.

Barge-course, in *bricklaying*, that part of the tilting which projects over the gable or kirkinhead of a building, and is made up below with mortar.

Bargh'mote, a court which takes cognisance of causes and disputes among miners: also *barmote*.

Baril'la, the name given in commerce to the impure carbonate of soda imported from Spain and the Levant. It is procured by the incineration of various plants which grow on the sea-shore, but especially the *salsola soda*, which is extensively cultivated for the purpose. Kelp (q. v.) is sometimes called *British barilla*. The term *barilla* is Spanish, probably from an Arabic root.

Bar'itone, in *music*, a voice the compass of which partakes of the bass and tenor: βαρος, heavy, and τονος, tone.

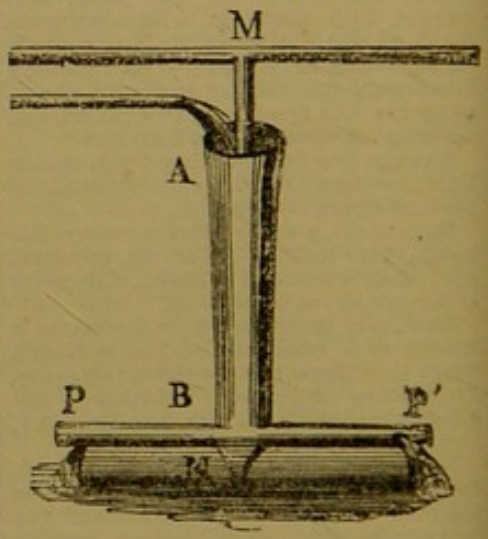
Ba'rium, the metallic basis of the earth, *baryta* (q. v.)

Bark. 1. The exterior part of trees, &c., corresponding to the skin of animals: it consists of *a cuticle* and *epidermis*.—2. *Cinchona* (q. v.).

In medicine many kinds of bark are used; but the *Peruvian* or *Jesuit's bark* is especially called *bark* by way of eminence. It is the produce of a Peruvian tree (*cinchona lancifolia*), and was introduced into Europe by the Jesuits. Among tanners, oak bark is *bark par excellence*.

——3. A particular form of rig of vessels, namely, that of a ship, but having a gaff top-sail instead of the square mizen top-sail.

Bark'er's Mill, a valuable hydraulic machine, of which A B is a hollow cylinder moveable about a vertical axis M N; P P′ another hollow cylinder placed at



right angles to the former, and communicating internally with it. Near its extremities, which are closed, two apertures are made—the sides of this horizontal cylinder opening in opposite directions. The cylinders being filled with water, the pressure on the portions opposite the orifices P and P′ being unsustained, the cylinder will tend to move in the direction of that pressure that is round its axis M N; and being free to move about that axis, it will continue to revolve about it in a direction opposite to the efflux as long as any fluid remains in the cylinders, and being connected with a system of

machinery, it operates as a powerful moving principle.

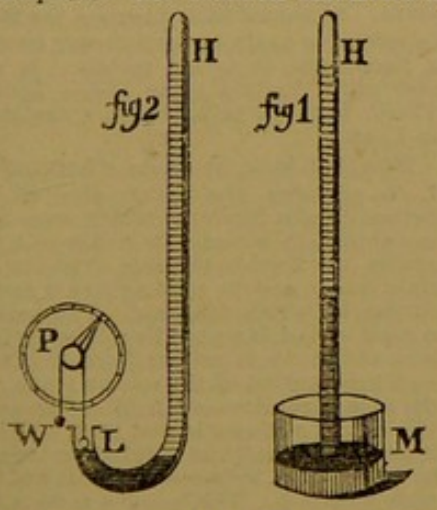
Bar'ley, strictly the grain, but popularly the grain and plants indifferently which produce it. The English barley is that with two-rowed ears (*hordeum distichon*): the Scotch *beer* or *bigg* is two-rowed, but has the appearance of being six-ear: it is the *hordeum hexastichon* of the botanists.

Barleycorn, a grain of barley. The third part of an inch in length, and the least of our long measures.

Bar'nacle, the popular name applied to Cuvier's class of *cirrhipodes*, but especially used to designate the *Lepas balanus*, Lin. In *ornithology*, the name barnacle is popularly applied to two species of the goose tribe, the brant and Egyptian goose. *See* Bernacle.

Baro'co, an arbitrary term used by logicians to denote the fourth mode of the figure of syllogism; the first proposition is universal and affirmative, the other two particular and negative.

Barom'eter, from *βαρος*, *weight*, and *μετρον*, *measure*. An instrument for measuring the variation in the weight of the atmosphere. The common barometer is



a glass tube somewhat more than 30 ins., hermetically sealed at one end H, and being filled with mercury, the tube is inverted, and the open end placed in a dish M, containing mercury. The mercury in the tube will then stand somewhere between 28 and 30 inches above the level of the mercury in the cup, and the variations in the height denote the variation of atmospherical pressure. The *wheel-barometer* is a tube filled with mercury and inverted as shewn in Figure 2. It differs nothing in principle from the common barometer. A float is placed upon the surface of the mercury at L; and to this a thread is attached, which is brought over a pulley at P, so that as the float rises or falls in the tube the pulley will move towards the left or right, and these variations are rendered more perceptible by attaching an index to the pulley. The common barometer is preferable for accuracy.

Bar'ometz, the hairy stem of a species of aspidium which looks like an animal crouching, from its procumbent position; hence it has been called the *Scythian lamb*

Bar'on. 1. A title of nobility next below that of viscount and above that of baronet. The title was introduced into England by William I., and used to signify an immediate vassal of the crown who had a seat and vote in the royal court and tribunals, and subsequently in the house of peers. Hence in old records the whole nobility are included in the word *barons*, which is equivalent to landholders, manor-holders, or royal feudatories; and as every manor had its court, these courts were called *courts-baron*. The title is not now attached to a manor, but is conveyed by letters patent, and the privileges of the courts-baron are merged in the house of peers, as the representatives of the ancient barons.——2. *Baron* is also a title of certain officers:—*Barons of Exchequer* are the four judges who try cases between the sovereign and the subjects relative to revenue.—The *Barons of the Cinque Ports* are members of the House of Commons, elected for the seven Cinque ports, two for each. These ports are Dover, Sandwich, Romney, Hastings, Hythe, Winchelsea and Rye.——3. In *law*, a husband, as *baron* and *feme*, husband and wife.

Bar'onet, dim. of *baron*, a title next below a baron and above a knight. It is hereditary, and was originally instituted by James I., in 1611.

Barony, a term used both of the territory over which the jurisdiction of a baron extended, and the jurisdiction itself. This lordship was held in chief of the sovereign.

Barou'che, a light open summer carriage on four wheels.

Barrac'uba, a Sp. name for a marine fish of the pike tribe, about 10 ft. in length.

Bar'ras, a resinous juice which exudes from the *pinus maritima*, and concretes on the bark in yellow masses; called also *galipot*.

Barra'tor, from old Fr. *barat*, strife. In *law*, a person who stirs up strife between other persons is called a *common barrator*, and the offence *common barratry*.

Bar'ratry, 1. In *commerce*. *See* Barratry.——2. In *law*. *See* Barrator.

Bar'rel. 1. A cask or vessel of cylindrical form, bulged in the middle and bound with hoops.——2. The quantity

which a barrel contains:—A barrel of beer is 36 Imp. gal.; a barrel of Essex butter is 106 lbs., of Suffolk butter 256; a barrel of soap is also 256 lbs.; and a barrel of herrings should measure 32 gals. W. meas., and contain 1000 herrings; a barrel of flour should weigh 226 lbs. gross, and contain 196 lbs. of flour. Among workmen, the terms *barrel* and *drum* are used to designate a cylinder, e. g. the barrel of a watch.

Bar'ren. A barren flower, *flos abortivus*, is one which produces no perfect seeds. Barren flowers are generally such as have stamens, but no pistils; they are called perhaps more commonly male flowers.

Bar'ricade. a Fr. word signifying a series of *bars* or *barriers*, and used to denote, 1. In *fortification*, a defence made in a narrow passage with such things as can be hastily collected, as trees, waggons, &c., to obstruct the progress of an enemy.——2. In *Naval architecture*, a strong wooden rail supported by stanchions, extending across the foremost part of the quarter-deck in ships of war, and filled with ropes, mats, pieces of old cable, and full hammocks to prevent the effect of small shot in time of action.

Barrier-treaty. In 1713, a negotiation between the Dutch and the French, by which the former reserved the right to hold garrisons in certain fortresses in the Spanish Netherlands.

Bar'rows, or Tumuli, are said to be the most ancient monuments in the world. They were generally raised as sepulchres for the heroes of war, though not uniformly so. Barrow-burial is said by Sir R. Hoare to have existed from a period of unknown antiquity till the eighth century.

Bar'rulet, in *heraldry*, the fourth part of the bar, or the one half of the closet.

Bar'ruly, in *heraldry*, means that the field is divided *barways*, i. e. into several parts from side to side.

Bar'ry-bendy, in *heraldry*, means that the escutcheon is divided evenly *barways* and *bendways*, i. e. by lines drawn traversely and diagonally, interchangeably and varying the tinctures of which it is composed.

Bar'ry-pily, in *heraldry*, is when a coat is divided by several lines drawn obliquely from side to side, where they form acute angles.

Bar'ton, means literally *barley-town* (bare-ton), and is taken to denote: (1.) The demesne lands of a manor. (2.) The manor-house. (3.) The manor itself.

Bary'ta, Bary'te, Bary'tes, } from βαρὺς, heavy. A mineral which occurs abundantly in nature in the form of sulphate and carbonate, well known under the name of *heavy spar*, in allusion to its great specific gravity: but the baryta of the chemist is only obtained artificially, e. g. by subjecting the nitrate to a red heat, or the carbonate to an intense white heat, which drives off the acid, and a protoxide of barium is obtained. This is the simple earth baryta; it is alkaline, and all its salts are poisonous except the sulphate. Hence the best antidote is dilute sulphuric acid (or a solution of sulphate of soda).

Bas'alt, a variety of trap-rock, usually of a dark green or brownish black colour; composed of augite and felspar, with some iron and olivine. It occurs sometimes in veins or dykes, traversing all formations, sometimes in layers spreading over the surface of strata, and sometimes it forms hills of considerable magnitude. It has usually a columnar structure, e. g. the Giants Causeway, and bears so close a resemblance to recent lavas, as to leave no doubt of its igneous origin. The name is derived by Cuvier from Ethiopic, *basal*, iron, and Pliny informs us that the Egyptians found in Ethiopia a species of marble called *basaltes*, of an iron colour and hardness, whence it received its name.

Bas'anite, a variety of schistose hornstone. So named from βάσανος, the trier, in reference to its being formerly used as a touchstone in trying metals. It was also called Lydian stone (*Lapis Lydius*, Plin.), from its being found abundantly in Lydia.

Base, Lat. *basis*, Gr. βασις, a foundation. 1. In *geometry*, the lowest side of the perimeter of a figure, in which sense *base* is opposed to *vertex*. In rectangled triangles the base is the side opposite the right angle, and in solid figures it is the surface on which they rest. The base of a conic section is a right line in the hyperbola and parabola arising from the common intersection of the secant plane and the base of the cone.——2. In *architecture*. The *base of a column* is that part which is between the shaft and pedestal, or if there be no pedestal, between the shaft and the zocle or plinth. The *base of a room* is the lower projecting part of a room, consisting of a plain board which adjoins the floor, called the plinth, and one or two mouldings above it called the base-mouldings. ——3. In *surveying*, a line measured with the greatest possible exactness, on which a series of triangles are constructed, in order to determine the position of objects and places.——4. In *fortification*, the exterior side of the polygon, or an imaginary line drawn from the flanked angle of a bastion to the angle opposite.——5. In *tactics*, a tract of country well protected by fortresses, or possessing certain natural advantages, and from which the operations of an army may proceed.——6. In

gunnery, the smallest piece of ordnance used: bore 1¼ in., length, 4 ft., load 5 lb. ——7. In *conchology*, that part of the shell in univalves by which they are attached to rocks or other substances: in multivalves, the opposite extremity to the apex. The last whorl of a spiral shell is called the *base* or *basal whorl*. In unattached bivalves the term cannot be properly applied.—*Base* and *basis* are often used indifferently, the latter generally in professions, and especially in chemistry, pharmacy, and anatomy. *See* BASIS.

BASE-FEE. In *law*, to hold in base-fee is to hold at the will of the Lord: opposed to *socage tenure*.

BASE-LINE. In *perspective*, the common section of a picture, and the geometrical plane.

BASE'MENT. In *architecture*, the ground floor on which an order is placed with a base or plinth, die and cornice.

BA'SENET, a helmet. Sometimes written basinet and bascinet.

BASHAW', a title of honour in the Turkish dominions, which ought to be written and pronounced *pashah*. It is often written *pasha*. The Ar. is *bashá*, and the Per. *pashá*.

BASI'ATOR, the orbicularis oris, a muscle of the mouth: from *basio*, to kiss.

BASIGY'NIUM, Gr. from *βασις*, *the base*, and *γυνη*, *female*. A stalk rising above the origin of the calyx, and bearing an ovary at its apex, as in Capparis.

BA'SIL. 1. A word used by carpenters and joiners, who pronounce it *bazil*, to denote the angle to which the edge of an iron tool is ground.——2. The popular name of the *Ocymum* of botanists, especially the *Ocymum basilicum* or citron basil, an Indian plant much used as a condiment to season dishes, to which it imparts a grateful odor and taste. Hence the name from *basilic* (q. v.)

BAS'ILARY-MONKS, are an existing order of monks of the order of St. Basil, who founded the order in Pontus.

BASIL'IC, royal, from *βασιλευς*, a *king*. This word, or its Latin type *basilica*, is used by architects to denote a spacious building; e.g. a church, cathedral, royal palace.

BA'SIL-LEATHER, tanned sheep-skin: written also *basan*.

Anciently, the term *basilica* was used to designate a public hall or court of judicature, where the magistrates sat to administer justice; but from the circumstance of Constantine giving the use of some basilica to the Christians for their worship, the term became with them synonymous with *Church*.

——*Basilic* is applied, in *anatomy*, to parts supposed to be pre-eminently important in their functions; and in *pharmacy*, to compositions highly esteemed for their efficacy.

BAS'ILISK, from *βασιλευς*, a *king*. A highly poisonous serpent, which was so called, according to Pliny, from a white spot upon its head, which resembled a crown. Many extravagances were believed by the ancients regarding this serpent; the moderns added more wonders, and made it a monster sprung from a cock's egg! whence it got the name of *cockatrice*. The animal at present known by the name of *basilisk*, is a harmless lizard. *Basilisk* is also a name given to a large piece of ordnance from its supposed resemblance in deadly effect to the wonderful serpent of that name. The old basilisk carried a ball of 200 lbs. The Dutch basilisk is 15 ft., the French 10 ft., and carry a ball of 48 lbs.

BASILOSAU'RUS, an enormous fossil saurine, described by Dr. Harlan of Philadelphia. Neither its relations to other species, nor its geological position, are yet determined.

BA'SIS, Lat. from *βασις*, from *βαινω*, to *go*. originally the step or walk of an animal on the sole of the foot on which the body is supported in walking, and hence, analogically, that part of the body which supports all the rest, viz., the lowest part: Anglicè, *base*. In *anatomy*, the term is used to denote a part from which other parts appear, as it were, to proceed, or by which they are supported. In *chemistry*, the term is usually applied to alkalies, earths, and metallic oxides, in their relations to the acids and salts. It is sometimes also applied to the particular constituents of an acid or oxide, on the supposition that the substance combined with the oxygen &c. is the basis of the compound to which it owes its particular qualities. In *pharmacy*, the basis is the principal ingredient in a compound. For other significations, *see* BASE.

BASIS'OLUTE, Lat. *basis* and *solutus*, *free*. Applied to leaves prolonged at the base below the point of origin.

BAS'KET, from W. *basged*, of *basq*, a netting. 1. A vessel made of twigs, &c. &c.—— 2. As much as a basket will contain. In *military affairs* the term is used to designate small baskets of earth, which serve as a defence against small shot: called by the French *corbeilles*. In *architecture*, the term denotes a carving in the form of a basket filled with flowers and fruits.

BAS'KING-SHARK, a species of Squali. (*See* SQUALUS.) It is the largest of all the shark tribe, and has nothing of the ferocity of the shark. It inhabits the Arctic seas, and lies much on the surface, basking in the sun.

BAS-RELIEF. *See* BASSO RELIEVO.

BASS, in *music*, the deepest or gravest

part of a tune. The word is thus written in imitation of the Ital. *basso*, which is the Engl. *base*, low. The bass is the foundation of the harmony, and the *base* or support of the whole composition. Figured bass is a bass which, while a certain chord of harmony is continued by the parts above, moves in notes of the same harmony. *Fundamental bass* is that which forms the tone or natural foundation of the harmony, and from which that harmony is derived. *Ground bass* starts with some subject of its own, and continues to be repeated throughout the movement, while the upper parts pursue a separate air and supply the harmony. *See* THOROUGH-BASS. Bass is the name of several species of fishes. In England it is a name of the fish otherwise called the *Sea-wolf* (the *Anarrhichus lupus*, Lin.), and in America of the *perca ocillata*, Lin. Another species of the same tribe is called the *sea-bass*.

BAS'SANET, } A kind of helmet, a hat or
BAC'SANAT. } casque of steel, very light, made in the form of a basin. The soldiers in the French army who wore *bassanets* were called *bascinets* or *bacinets*.

BASS-CLIFF, called also the F. CLIFF. The character here represented, and placed at the beginning of a stave, in which the base or lower notes are placed.

BASS-COUNTER, the under bass or *contra-bass*. That part which, when there are two bass parts in a musical composition, is performed by the double basses, the violincellos taking the upper bass or *basso concertante*.

BASS-HORN, a modification of the bassoon, much lower and deeper in its tones; it is now generally substituted in field music for the serpent.

BASSET, a term used by miners to express an upward slanting direction of a vein from below the surface. *Basseting*, slanting upwards, opposed to *dipping*.

BAS'SET-HORN, the richest of all musical wind instruments; it is properly an enlarged clarionet. Although differing in form, its intonations, the mode of holding and fingering it are such, that any clarionet-player can perform on it without practice. It has the name *cornet* from its curvature.

BAS'SO, the Italian word for *bass* (q. v.). *Basso-concertante*, the bass of the little chorus, usually taken by the violincellos, called also *basso recitante*, and opposed to *basso repieno*, the bass of the great chorus. The former plays throughout the piece, the latter only at full parts.

BAS'SO-RELIE'VO, Ital. } The terms are
BASS-RELIEF, Eng. } used to denote sculptured representations raised upon a flat surface, or back-ground, in such a manner as to project from it less than one-half the general depth of the figures, distinguished from *alto relievo*, in which the figures project more than a half, and *mezzo-relievo*, in which they project a half. Popularly, however, the first term includes the other two.

BASSOO'N, Fr. *bas son*, low sound. A musical instrument which forms the natural bass to the hautboy. It is played like that instrument, with a reed, and forms a continuation of its scale downwards, hence called by the French *basson de hautbois*. It consists of four tubes bound together like a faggot, hence its Italian name *faggotte*, which the Germans write *faggott*.

BAS'SUS, a genus of terebrantian hymenoptera.

BASS VIOL, a stringed instrument resembling the viol in form, but much larger. It has four strings and eight stops, and is played with a bow.

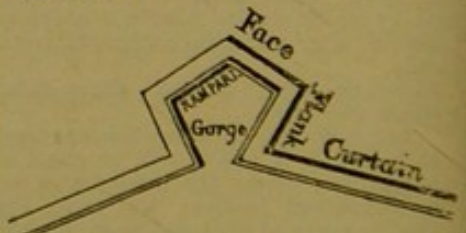
BAS'TARD, Lat. *bastardus*, an individual born out of wedlock. The subsequent marriage of the parents legitimises the bastard according to the common law of Scotland. *Bastar eigné*, bastard elder, is when a man has a bastard son, and afterwards weds the mother, and has a legitimate son, *mulier puisne*, or younger. The term *bastard* is otherwise used in the sense of *spurious*, and especially in botany, thus: *bastard balm* is the *melittis* of botanists, as distinguished from *melissa* or true balm. *Bastard cabbage-tree*, is the genus *Geoffroya* in distinction to the *calcalia kleinia*, or cabbage-tree of the Canary Islands, &c. &c.

BASTARD STUCCO. In *architecture*, plastering of three coats: first, the roughing-in, second, the floating; the third or finishing coat, contains a small quantity of hair additional.

BASTARD WING, three or five feathers, placed at a small joint at the middle of the wing.

BASTINA'DO, } a punishment used among
BASTONA'DO, } the Turks, consisting in beating the offender on the soles of the feet with a *baston* or wooden club.

BAS'TION, a bulwark, from old Fr. *bastir*, to build. The bastion, formerly



called a *bulwark*, is an erection by which the line of fortification is broken so as to obtain lateral defences and due command of every point at the bottom of the ramparts, and in the ditch before the citadel. They are built in very different ways

lome are solid, being entirely filled with earth, some have a void space inside, ome are straight, some curved, some ouble, that is, one raised on the plane f another, some are *composed*, or have hree or four flanks one over the other; ome have fausse-brays; some casemates or retreat of the garrison or for batteries; ome cavaliers, orillons, &c. The parts enerally considered essential are marked n the figure.

Bas'ton, Batoon. *See* Torus.

Bat, a name common to a large tribe f mammiferous quadrupeds, characterzed by a fold of skin, which commences t the sides of the neck, and, extending etween their front feet and toes, constiutes wings capable of supporting them n the air, and in many species so comlete as to enable the creature to fly with reat rapidity. They are all nocturnal, nd in our climate pass the winter in stuor. During the day they suspend themelves in obscure places by the thumbails. The bats belong to Primates of in., and constitute the family Cheirotera of Cuvier. *See* Vespertilio and Galeopithecus.

Bata'tas, the name given by the naives of Peru to the potato, *solanum tuberosum*, and also to the root of a species of onvolvulus. *Batatas* is also the name of mite found in the potatoes of Surinam.

Batea'u, Fr. from Lat. *batillum*. A ght boat long in proportion to its readth.

Bath-stone, } a species of limestone,
Bath-oolite, } consisting of minute lobules, cemented together by yellowish arthy calcareous matter, and presenting omewhat the appearance of the roe of a sh, hence called *roe-stone*. This member f the oolite formation affords excellent reestone for building. The quarries at ath are well known. *See* Oolite.

Ba'tist, Batiste. A very fine, thick, hite linen cloth, manufactured in vaous parts of the Continent. Different inds of it are called *linons*, *clairs*, and *ambrics*. With us, *cambric* is the general ame. The manufacture takes its name om Baptista Chambrai, who brought it to vogue in Flanders, in the 13th cenury.

Bat'on. Fr. In *music*, a rest of four mibreves. Also the staff of a fieldarshal.

Batra'chia, the name given by Cuvier the fourth order of reptilia, from βατράχος, a frog, the batrachians being nalogous to frogs. It comprises frogs, ads, salamanders, and sirens, all of hich have two equal lungs, and a heart mposed of one auricle and one ventricle.

Bat'rachomy'omachi'a, composed of βατράχος, a frog, μυς, a mouse, and μαχη, a battle; the battle of the frogs and mice. A mock-heroic poem, which has been ascribed to Homer.

Battal'ion, a body of infantry, usually from five to eight hundred strong. So called because originally a body of men arrayed in order of battle (*battalia*).

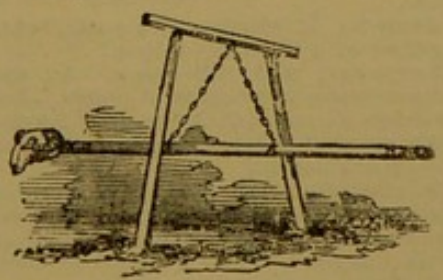
Bat'tel. In *old law*, the wager of battel was a species of trial for the decision of causes between parties, introduced into England by William the Norman Conqueror, and used in three cases:—in courts of honour; in appeals of felony; and in issues joined upon a writ of right. The contest took place before judges, and the combatants were bound to fight till the stars appeared, unless the death of one party, or victory, sooner decided the contest. At Oxford the word battel is used to designate the account of expenses of a student in the college books. *Batteler* there is the same with *sizer* at Cambridge.

Bat'ten. In *carpentry*, a scantling of stuff from 2 to 6 inches broad, and from ⅝ to 2 inches thick. Used in the boarding of floors; also upon walls, in order to secure the lath on which the plaster is laid. The act of fixing the battens is called *battening*. The name *batten* is also used in *commerce*, to designate wood 2½ inches thick, and 7 wide: if more than 7 inches, it is called *deal*.

Bat'tened down. The hatches of a ship covered down in bad weather with strong gratings nailed to battens.

Bat'ter, Fr. *battre*. 1. Among *masons*, when a wall is built in a direction that is not perpendicular to its base, it is said to *batter*, and the amount of deviation from the perpendicular is called its *batter*. Walls are made to batter in order to resist the weight of a body of water, mound of earth, or other pressure that may rest against it.

Bat'tering Ram, a warlike instrument used by the ancients to beat down the



walls of fortified places. These were of two kinds, the *swinging* and the *rolling* ram, and when worked under a cover, to protect the assailants, they were denominated *tortoise-rams*, from the shed being assimilated to a tortoise-shell. The nature of the swinging-ram is obvious from the figure; and the only difference of the

rolling-ram was, that it was mounted on wheels instead of being suspended. Some of these machines, from accounts, must have weighed little short of 100,000 lbs. They were wrought by human force.

Bat'tery, Fr. *batterie*. In *law*, *see* Assault. In *experimental physics*, a combination of Leyden jars forms an *electrical battery;* and a combination of metallic plates (one set of which consists of oxidizable metal) constitutes a *galvanic battery*. *See* Leyden Jar, and Galvanic Trough and Pile. In *fortification*, a parapet thrown up to cover the gunners from the enemy's shot, and in which embrasures are made, through which the cannon are projected to be fired. *Cross batteries* are two batteries which play athwart each other. A *battery d'enfilade* is one which scours the whole line. A *battery en echarpe* is one which plays obliquely. A *battery de revers* is one which plays upon the enemy's back.

Bat'tle-ax, } a weapon much used by
Bat'tle-axe, } the people who fought on foot, during the middle ages. It was especially a cutting instrument, but had usually a point for thrusting. It was much used in England, Ireland, and Scotland, and, indeed, the *Lochaber-axe* remained a formidable weapon of destruction in the hands of the Highlanders till very recently.

Bat'tle-piece, a painting which represents a battle, exhibiting large masses of men in action.

Bat'ton, in *commerce* and *carpentry*. *See* Batten.

Bat'ton, Baton, Batoon. 1. The staff of a marshal.——2. A truncheon used in coats of arms to denote illegitimacy.

Bat'tue, Fr. In *sporting*, a practice of huntsmen, consisting of surrounding a portion of the forest, and, by beating the bushes and shouting, endeavouring to bring out wolves or other animals for the chase.

Battu'ta, It. *abeatius*. In *music*, beating time with the hand or foot.

Bau'hinia, mountain-ebony. An extensive genus of arborescent plants. *Decandria—Monogynia*. All the species inhabit warm climates. Named in honour of Gaspard Bauhin.

Baul'k, from the Dutch. A piece of timber from four to ten inches square. *Baulk-roofing* is roofing constructed of baulk timber.

Baw'rel, a species of hawk.

Baxte'rians, the followers of Richard Baxter, on the subject of grace and free-will, whose opinions were midway between Calvinism and Arminianism.

Bay, the wood of the bay-tree. *See* Laurus. The term is likewise used to designate the colour of horses when reddish and inclined to chestnut, like the leaves of the bay-tree. The shades of this colour are *light-bay, dark-bay, dapple-bay, gilded-bay, chestnut-bay*. Commonly all bay horses are called *brown*.

Bay, from Teut. *baeye*, synonymous with *bulge*. 1. An arm of the sea smaller than a gulf and larger than a creek. The term is used very indefinitely, as will be observed in its application in *Hudson's Bay* and the *Bay of Biscay*.——2. Among *builders*, any kind of opening in a building, as a door, window, or chimney.—A *bay of joists* consists of the joists between two binding joists, or between two girders where there are no binding joists.—*Bay of roofing*, the small rafters and purlins between principal rafters.—*Bay*, as applied to windows, is the same with *bow*.—The *bay* of a barn is a part often about 15 feet, at the end where corn, &c., is laid: when a barn consists of a floor and two heads, it is called a barn of *two bays*.——3. In *ships* (of war), that part on each side between decks which lies between the bitts.

Bay-cher'ry, } the *prunus lauro-cerasus*
Bay-laurel, } of botanists; called also poison-laurel, and Alexandrian-laurel. The leaves yield prussic acid.

Ba'yonet, the iron blade for affixing on the muzzle of the musket, to transform it into a thrusting instrument: takes its name from Bayonne, where bayonets were first made.

Bay-salt, salt obtained by evaporating sea water in shallow ponds by the heat of the sun—whence its name. It is of a dark-grey colour, and contains iodine.

Bay'-tree, a name common to the whole genus *Laurus* (q. v.), consisting of 17 species.

Baza'ar, Bazar, a market-place. The word is borrowed from the Orientals, among whom *bazars* have been common from time immemorial: it signifies *sale*.

Baz'at, a long, fine spun cotton from Jerusalem, hence called *Jerusalem cotton*.

Bdella (βδέλλα). The horse leech.

Bdel'lium (βδέλλιον). A gum-resin produced by an unknown plant, which grows in Persia and Arabia. It is imported in semi-pellucid, yellowish-brown pieces, which smell feebly like myrrh. It contains 59 resin, 9·2 gum, 30·6 cerasin, and 1·2 etherous oil.

Bdellos'tomes, } Gr. from βδαλλω, I
Bdellos'toma, } suck, and στομα, a mouth, i. e. *a mouth formed for suction*. A genus of cyclostomous fishes.

Bea'conage, dues levied for maintenance of beacons.

Bead, from Sax. beaδ, a praying. Beads are the small globules or balls used as necklaces, and made of different materials, as pearl, amber, steel, &c. The Catholics use strings of beads in rehearsing their prayers; hence the phrases, *to tell*

eads and *to be at beads*, means to be at prayers.

Bead, among *builders* and *wrights*, is a round moulding (originally and often yet carved in short embossments like beads in necklaces), frequently set on the edge of each facia of an architrave; also used as the mouldings of doors, shutters, skirtings, impost and cornices. When the bead is flush with the surface, it is called *quirk-bead*, and when raised, *cock-bead*.

The term is frequently used by carpenters, thus: *Bead and butt work*, a piece of framing in which the panels are flush, having beads upon the two edges.—*Bead, butt, and square work*, framing with bead and butt on one side, and square on the other, used chiefly in doors.—*Bead and flush work*, a piece of framed work with beads run on each edge of the inclined panel.—*Bead, flush, and square work*, framing with bead and flush on one side, and square on the other.—*Bead and quirk*, a bead stuck on the edge of a piece of stuff, flush with its surface, with only one quirk.—*Bead and double quirk*. *See* Return Bead.

Bead-proof, a rude method of determining the strength of spirituous liquors from the continuance of the bubbles (*beads*) on the surface, produced by shaking.

Beads, a number of glass globules for trying the strength of spirits, which is denominated by the number of the bead. Thus if the bead marked 22 be exactly suspended, while those which are heavier sink, and those which are lighter stand above the surface, the spirit is said to be of bead 22.

Bead-tree, the popular name of the genus *melia*, but used to denote especially the species *azedarach* and *azedarachta*, both Asiatic arborescent plants. The fruit is a nut, which, being bored, is strong, and worn as beads, especially in Spain and Portugal.

Beak, the bill or nib of a bird, from the same root as *peak*. In *architecture*, a small fillet left on the edge of a larmier, which forms a canal, and makes a kind of pendant chin, answering to what is otherwise called the *mentum*.—In *farriery*, a little shoe, at the toe, about one inch long, turned up and fastened upon the fore part of the hoof.

Beam, from Goth. *bagm*, a tree; Sax. beam. Among *builders*, a piece of timber or metal of a rectangular section, laid across the walls, and serving to support the principal rafters. When the word is technically used, it is commonly compounded with another word used adjectively, as *tie beam collar-beam, camber-beam*. There are also *scarfing* and *truss beams* (q. v.). The *beam of a ship* is a great cross timber which holds the sides of a ship from falling together. The beams support the deck and orlops—the *main-beam* is that nearest the main-mast.—*Beam-ends:* a vessel is said to be on her beam-ends when she inclines so much on one side, that her beams approach a vertical position.—*On the beam* signifies at any distance from the ship on a line with the beams, or at right angles with the keel.—*Before the beam* is an arc of the horizon intercepted crossing the ship at right angles, and the point of the compass on which she steers.—The *anchor-beam* is the shank of the anchor.—The word *beam* is also used to signify: 1. The pole of a carriage, which runs between the horses. ——2. The lever or rod of a balance is termed the beam, and the parts on each side of the pivot are its *arms*.——3. The main horn of a stag, which bears the antlers, royal and tops.——4. The cylinders of a loom on which the warp and cloth are rolled, are called, the one the *back* and the other the *fore-beam*.——5. The main piece of a plough, in which the plough-tails are fixed, and by which it is drawn.

Beam-bird, a species of the genus *Motacilla*, Lin.; called also petty-chaps and hay-bird. The name is also given in some parts to the spotted fly-catcher, a species of *muscicapa*.

Beam-compass, an instrument consisting of a square wooden or brass beam, having sliding sockets that carry steel or pencil-points. Used for describing large circles.

Bea'm-filling, the filling in masonry or brickwork between beams or joists, its height being equal to the depth of the timbers filled in.

Beam-tree, White Beam. The *Pyrus aria* of botanists.

Bear, a name common to all the animals of the genus *Ursus* (q. v.). There are various species of the Bear, as the Polar Bear, Thibet Bear, Malay Bear, and the Grisly Bear. The thick-lipped Bear (*U. labiatus*. Lin.) is peculiar to India, where it is a great favourite with the jugglers on account of its blackness and general ugliness. The name is from the Goth. *biörn*, Icelandic, *bearn*, *beorn*, the primary sense of which is *rough*.

Bear (*Great* and *Little*). In *astronomy*, *see* Ursa.

Beard, Sax. beard, Lat. *barba* (q. v.). 1. In *botany*, the awn which grows from the glume or chaff, in corn and grasses; and sometimes the lower lip of a ringent corolla.——2. In *conchology*, the processes by which some univalves adhere to rocks, &c.——3. In *farriery*, the chuck of a horse,

or that part which bears the curb of the bridle under the lower jaw or mandible, on the outside and above the chin.——4. In *astronomy*, *see* COMET.

BEAR'ER, that which supports. Among *builders*, &c. whatever supports a body in its place, as a post, a strut. Among *heralds*, a figure in an achievement, placed by the side of a shield, and seeming to support it; generally the figure of a beast. A human figure similarly placed is called a *tenant*.

BEAR'ING, the situation of an object or place with regard to another, as estimated by the points of the compass; as A bears S. by SE. of B or the bearing of A is, &c. In *heraldry*, whatever is borne in, or fills the escutcheon is called a *bearing*. Among *builders*, the *bearing* of a piece of timber is the unsupported part between two fixed extremities or supports, which are likewise called *bearings*. When a wall or partition is made to support another, it is called a *bearing-wall* or *partition*, and the supported wall, if built in the same direction, is said to have a *solid bearing*; if built in a traverse direction a *false bearing*, or as many false bearings as there are intervals below the wall or partition.

BEAT. In the *manège*, a horse *beats the dust*, when at each motion he does not take in ground enough with his forelegs: at curvets, when he does them too precipitately or too low. He *beats upon a walk* when he walks too short. In *seamanship*, a ship *beats up*, when she sails against the direction of the wind, in a zigzag line. In *music*, a *beat* is a small transient grace-note, struck immediately before the note it is intended to ornament.

BEAU IDEAL, Fr. In *painting*, that beauty which is freed from the deformity and the peculiarity found in nature in all individuals of a species.

BEAVER, the Castor, Lin. A genus of aquatic animals, highly interesting from their habits, industry, and ingenuity. The animal is about two feet long, its body thick and heavy, and its fur, which is in great demand with hatters, is of a reddish brown colour, but sometimes flaxen-coloured, and at others black, or even white. The beaver is easily tamed, lives on bark and other hard substances, and builds huts on the banks of some solitary river for winter habitation, each hut serving for several families, which separate in summer and live solitarily. *See* CASTOR.

BED. 1. In *geology*, a stratum of two yards or more in thickness.——2. In *masonry*, the horizontal courses of a wall are called *beds*: that at the under surface of any particular stone is the *under-bed*, and that at the upper surface, the *upper-bed*. ——3. In *gunnery*, the frame of timber in which cannon, mortars, &c. are placed to give them a steady and even position.

BED-CHAM'BER, Lords of the. Officers of the royal household, under the groom of the stole; they are 12 in number.

BED-MOULDING. In *architecture*, the members of a cornice which are placed below the coronet, consisting of an ogee, a list, and boultine.

BED-STRAW, a popular name. 1. Of the *Pharnaceum mollugo*, an Indian shrub. ——2. Of all the plants of the genus *Galium*, of which there are sixteen British species, known by many other names, as mug-wort, goose-grass, goose-share, cleavers, hayriff, cheese-rennet, ladies' bed-straw.

BEE, a name common to all the insects of the genus *Apis*, Lin., but particularly applied to the *Apis mellifica*, Lin., or honey-bee (*Apis*, Latreille). There are several other species, however, which deserve the name nearly as well. The bee-communities consist of neuters (barren females), usually from 1500 to 2000, but sometimes exceeding 3000, with 600 or 800 *males*, about 1000 *drones*, and commonly a single female styled *king* by the ancients, and *queen* by us. When the hive becomes overstocked, a young colony is sent out under the direction of a queen-bee; this is called *swarming*, and *casting* in some parts of Scotland.

BEE-BREAD, the pollen of flowers collected by bees as food for their *larvæ* or young.

BEE-EATER, a bird of which there are several species closely allied to the swallows: it feeds on insects, chiefly bees. The name is common to all the species of the genus *Merops* (Lin.), but especially denotes the apiaster.

BEE-GLUE, a soft unctuous matter with which bees cement the combs to the hives and close up the cells: called also *propolis*.

BEECH, a name common to all the species of the genus *Fagus* (q. v.). The beech-tree, well known in England as the *Fagus sylvatica*, a valuable forest-tree. The name is Sax. bece, *boc*, probably the name of the bark, and this being used by our ancestors as the material for writing on, the word came to signify a *book*.

BEEF-EATERS. 1. The yeomen of the Queen's guard, corrupted from Fr. *buffetiers*, of *buffet*, a sideboard, in allusion to their being stationed by the sideboard at royal dinners.——2. A genus of African bird of one species (*Buphaga Africana*), so named from the popular notion, that in extracting the larvæ of the œstrus, on which it feeds, from the skin of cattle, it really feeds on the cattle themselves. The bird is brownish, has a cuneiform tail, and is as large as a thrush.

BEER Fr. *bière*, Germ. *bier*. The fer-

ented infusion of malted barley, fla-oured with hops, constitutes the best pecies of beer, but there are many beve-ages of inferior quality to which this ame is given, as spruce-beer, ginger-eer, molasses-beer, &c., all of which nsist of a saccharine liquor, partially dvanced into the vinous fermentation, nd flavoured with peculiar substances. he Romans gave beer the appropriate ame of *Cerevisia*, as being the product of rn, the gift of Ceres.

Beet, a name common to all the plants f the genus *Beta*, but especially the *Beta ulgaris*, cultivated throughout the reater part of Europe for its succulent ot (*beet root*), from which sugar has been retty extensively manufactured, espe-ally in France, and more recently used the manufacture of beer. Nitre is btained from the leaves of the same lant. There are three varieties known our kitchen-garden, the red, white, nd green.

Bee'tle. 1. A name common to all the sects of the genus *Scarabæus* (Lin.) *See* carabæus. Beetles are for some reason, none, called *clocks* in Scotland.——2. *architecture*, a large wooden hammer, mallet, with one, two, or three han-es for as many persons, for driving les, stakes, &c.

Beg, a Turkish title equivalent to *prince lord:* written *begh*, and pronounced y or *bec*, by the Turks themselves.

Beg'lerbeg, a title of a high officer nong the Turks, next in dignity to the and vizier. The title *beglerbeg* means *ince of princes* or *lord of lords*, and im-ies that the bearer is the governor of a rovince, called a *beglerbeglic*, and having veral *begs* under him

Be'guines, certain female societies in ermany and the Netherlands, whose embers united themselves for the pur-ses of devotion and charity, without king the monastic vows. The name eans *suppliants;* and in Germany several eemosynary institutions are called *be-inages*, in imitation of the beguinages houses inhabited by the beguines.

Be'hemoth, the scriptural name of an imal which Bochart endeavours to ove to be the hippopotamus. The He-ew word is from an Arabic root signify-g a *beast*, but indefinitely.

Beju'io, the bean of Carthagena. A nall bean of South America, famous as antidote against the poison of all ser-nts, when eaten immediately.

Belem'nites, an extinct genus of mol-sca, the shells of which are found plen-fully in the chalk rocks. They are ssed with the cephalopods: about 90 ecies are known. The name is from λεμνον, a dart, in allusion to the straight pering form of the shell.

Belem'noid, in *anatomy*, a term applied to the styloid processes in general: from βελεμνον, a dart, and εἶδος, likeness, in allusion to their shape.

Bel-esprit, naturalised from the French. An agreeable vivacity in writing or conversation.

Bel'frey, Fr. *béffroy*, or rather, Sax. bell, and Lat. *ferre*, to carry. In the middle ages this term denoted a tower raised by the besiegers to overlook the place besieged, in which sentinels were stationed to watch the avenues, and to prevent surprise by parties of the enemy, and to give notice of fires by ringing a bell.—The name has since been transferred to that part of a steeple in which the bell is hung. This was called in the middle ages the *campanile*.

Bell. A bell consists of three parts—the *barrel* or body, the *clapper* or hammer called also the *tongue*, and the *ear* or *cannon*, which is the enlarged mouth.—Church-bells originated in Italy, and were introduced into England in the eighth century.—The word *bell* is used to designate many instruments and parts of machines of forms similar to that of a bell. The word is also used popularly to denote the calyx of a flower, from its shape.

Bell-flow'er, a name common to all the plants of the genus *Campanula*, of which there are nine British species. The name is synonymous with *harebell*.

Bell-met'al, a composition of tin and copper, usually consisting of three parts of copper and one of tin. Less tin is used for church-bells, than for clock-bells, and for very small bells a small quantity of zinc is added to the alloy.

Bell-pepper, the *Capsicum grossum*, a biennial plant of both Indies. It is the red pepper of the gardens, and pepper of Guinea used in pickling.

Belladonna, the deadly nightshade (*Atropa belladonna*), said to be named *belladonna*, because the Italian ladies use the juice of its berries as a cosmetic.

Belles-Lettres (Anglicè, *bell-letter*). A French term meaning *polite literature*.

It is impossible to give a satisfactory explanation of what is or has been called *belles-lettres;* in fact, the vaguest definition is the best, as almost every branch of knowledge has at one time been included in, at another excluded from, this denomination. The most correct definition, therefore, would be, perhaps, such as embrace all knowledge and every science not merely abstract, nor simply useful; but there is a general understanding, at present, that the name ought to be restricted to poetry, rhetoric, and such prose writings as lay claim to elegance of style.

Bel'lis, the daisy. A genus of the class *Syngenesia*, and order *Poly. superflua*. Named from *bellus*, pretty. There is only one British type, *B. perennis*, called also bruisewort.

Belo'mancy, Gr. from βελος, javelin, and μαντεια, prophecy, divination by a flight of arrows, quite common among the Arabians. The inscription on the label on the arrow first found, generally serves as a guide.

Bel'one, the generic name of the gar-fish, of which there are several species. Name from βελονη, a point, in reference to the pointed snout. The gar-fish are placed by Cuvier among the pikes (*esoces*), in the soft-finned order of abdominales (*Malacopterygii abdominales*), and were first formed by him into a distinct genus.

Belt, Sax. belt, Lat. *balteus*. A girdle or band, as that in which a sword is hung. Machinery is often driven by means of *belts*. Those two zones or girdles which surround the planet Jupiter are named *belts*, and surgeons use the same term to denote the broader sort of bands used in dressing wounds. In *masonry*, the term *belt* means a course of bricks or stones projecting from the rest of the wall, generally placed in a line with the sills of the first-floor windows. In *heraldry*, it denotes the badge given to a person when raised to knighthood.

Beltein, an ancient festival in Ireland and Scotland, held on the 21st of June, where fires were kindled on the tops of the hills. It was among the last remains of druidism.

Belu'ga, a Russian term signifying *white-fish*, and used to designate a species of the dolphin found in the Arctic seas, and rivers, and caught for its oil and skin.

Belvede're, an Italian term, which literally means *fine view*, used to designate a turret or lantern raised above a roof, &c. as an observatory; and in Italy and France, a small edifice erected in gardens for enjoying a fine prospect.

Ben, Ben-nut. The fruit of the *Moringa aptera*. It affords an oil by simple pressure, called *oil of ben* and sometimes *ben-oil*.

Bench'ers, in the inns of court, are the senior members of the society. They have been readers, and being admitted to plead within the bar, are called *inner barristers*.

Bend. In *nautical language*, to *bend* is to fasten, as the cable to the ring of an anchor; and the knot by which the fastening is made, is called a *bend*. The *bends* of a ship are the strongest and thickest planks of her sides, more usually called *wales*. They are reckoned from the water, *first*, *second*, &c. *bend*.

Bend. In *heraldry*, an honourable ordinary, formed by lines drawn from the dexter corner to the sinister base. It is supposed to represent a shoulder-belt or scarf, and to signify that the bearer has been valiant in war.

Bend'let, in *heraldry*, dim. of *bend*. It occupies a sixth part of the shield.

Bend'y. In *heraldry*, applied to the field when divided into parts diagonally, and varying in metal and colour.

Bene, the *Sesamum orientale*, an African plant.

Benedic'tines, a celebrated order of monks, called also *Black Friars*. They take their name from professing to follow the rules of St. Benedict.

Ben'efice, from *bene*, well, and *facio*, to make. All church preferments are called *benefices*, except bishoprics, which are called *dignities*; but ordinarily the latter term is applied also to deaneries, archdeaneries, and prebendaries; and *benefices* is appropriated to parsonages, vicarages, and donatives. In the middle ages, *benefice* was used for a fee, or an estate in lands, granted at first for life only, and held *ex mero beneficio* of the donor. The estate afterwards becoming hereditary, took the appellation of *feud*, and *benefice* was transferred to church livings.

Benefit of Clergy, a privilege in law, at first peculiar to clergymen, but afterwards made available to the laity who could read, all such being considered clerks. It consisted in the exemption, wholly or partially, from the jurisdiction of the lay tribunals. The felon, on being convicted by the latter, claimed the *benefit of clergy*, had a book put into his hands, and if the ordinary pronounced these words, "legit ut clericus," he reads like a clergyman, the culprit was handed over to the ecclesiastical court for a new trial or purgation, the pretty uniform result of which was his acquittal. Benefit of clergy was finally abolished in England by 7 & 8 George IV. c. 28.

Benev'olence, a species of tax levied by the sovereign. It was nominally a gratuity; but was in fact exacted as a forced loan, with or without repayment.

Ben'jamin-Tree, a name common to two distinct trees. 1. The *Laurus benzoin*, called also *spice-bush*, native of America.——2. The *Styrax benzoin*, which affords the gum benzoin. *See* Benzoin.

Bent, bent-grass, a name common to all the species of grasses composing the genus *Agrostis*. There are five British species.

Ben'zine, the name applied by Mitscherlick to the bi-carburet of hydrogen, which is procured by heating benzoic acid with lime.

Ben'zoate, a salt formed by the union of the benzoic acid with any salifiable bases.

Benzo'ic Acid, a peculiar vegetable

acid procured in small white needles of a silky lustre, from gum benzoin by sublimation, hence called *flowers of benjamin* or *benzoin*, as well as by more complicated chemical processes. The taste is acrid, hot, acidulous and bitter, its smell slightly aromatic.

Ben'zoin, Ger. *benzöe*, } a substance
Ben'jamin, Fr. *benjoin*, } classed by modern chemists among the balsams and chiefly used in perfumery. It is extracted by incision from the trunk and branches of the *styrax benzoin*, a tree which grows in several parts of the East Indies and adjacent islands. It comes to us in brittle masses, which, when white and of the form of almonds, are called *amygdaloid*, but when coloured and impure are called *sorted benzoin*.

Ben'zoine, a crystalline compound deposited from oil of bitter almonds and some other oils when kept in contact with potassa.

Ben'zone, a volatile fluid procured by Peligot by heating dry benzoate of lime. Syn. C_{13}, H_5.

Berberi'deæ, a natural order of plants of which the genus *berberis* is the type.

Berberis, the barberry or pepperidge-bush, a genus. *Hexandria—Monogynia.*

Ber'dash, a kind of neck dress formerly worn in England. Persons who made and sold berdashes, were called *berdashers*, whence our modern *haberdashers*.

Bere'ans, a sect of Protestant dissenters from the Church of Scotland, who profess to follow the example of the ancient Bereans (Acts xvii.10—13, and xx.4), in building their system of faith and practice upon the scriptures alone, without regard to human authority.

Berenga'rians, the adherents of Berengarius or Berenger of Tours, who declared (1050) against transubstantiation, in which he agreed with John Erigena.

Berени'ce's Hair (*Coma Berenices*), a name given to seven stars in the tail of the constellation *Leo*, in compliment to Berenice, wife of Ptolemy Evergetes, who made an offering of her hair to the gods for the preservation of her husband.

Bergamot, a species of citron (*citrus medica*), of which there are three varieties:—1. The lemon-tree, (*petiolis linearibus*, Lin.,) a native of the upper part of Asia, but cultivated in Spain, Portugal, and France.——2. The citron-tree (*Citrus medica*, Lin.), the fruit of which is the *cedromel*, less succulent than the lemon.——3. The *Citrus mella rosa*, Lam., produced at first by grafting a citron on a stock of a bergamot pear-tree, whence the fruit participates both of the citron and pear. The essential oil, called *essence of bergamotte*, is prepared from this fruit.

Bergmote, a court held on a hill (Sax. beorg, a hill, and mote, meeting) in Derbyshire, to decide controversies among the miners.

Berib'eri. Two perfectly distinct diseases have been confounded under this name, the one a peculiar form of *acute dropsy*, the other a chronic disease of which paralysis is the most prominent feature. The first is the true *beriberi*.

Berlin Blue, Prussian blue.

Berme, in *fortification*, a space of ground, of three or four feet in width, left between the rampart and the moat or foss, designed to receive the ruins of the rampart, and prevent the earth from filling the foss. It is usually palisaded or planted with hedge.

Ber'nacles, a genus of palmipedes, distinguished from the common geese by a shorter and slenderer bill. The brant and Egyptian goose are species. The bernacles were included by Lin. in the genus *anas* (q. v.), and are placed by Cuvier among the *lamellirostres*.

Bernardins, Bernardine monks. *See* Cistercians.

Ber'ry. *See* Bacca. Berries are the fruits or seeds of many plants. The *bay berries* are of the fruit of the *Laurus nobilis*, a tree which is a native of the south of Europe. The *juniper berries* are the fruit of the common juniper, *Juniperus communis*, principally imported from Holland, Germany, and Italy. The *Turkey yellow berries*, the *Persian berries*, and the *berries of Avignon*, are extensively used in dyeing yellow; they are the unripe fruit of the *Rhamnus infectorius*, a plant cultivated in Turkey, Persia, France, and other countries, for the sake of its berries. These are the berries quoted in the London price currents.

Ber'yl, Lat. *beryllus*, Gr. *βηρυλλος*. A beautiful mineral ranked among the gems, usually a green colour of various shades, hence called by jewellers *aquamarine*. *See* Emerald.

Besayle. (Norm. *ayle*, grandfather.) Great grandfather.

> If an abatement happen on the death of one's grandfather or grandmother, a writ of *ayle* lieth; if on the death of the great-grandfather, then a writ of *besayle*, but if it mount one degree higher to the *tresayle*, or grandfather's grandfather, the writ is called a writ of *cosinage*, or *de consanguineo*.

Be'ta, the *beet* (q. v.). A genus of plants. *Pentandria—Trigynia.* Named from the river Bœtus in Spain, or according to Théis, from Celtic, *bett*, red.

Be'tel, the *piper betel* is a species of pepper vine cultivated extensively in India for its leaves, which the natives are in the habit of chewing, either alone

or more commonly when compounded with a little lime obtained from sea-shell (*chunam*), and wrapped round slices of the areca nut (*See* ARECA). This whole compound is called *betel*, of which there is an almost incredible consumption throughout India and other parts of the East as an article of luxury. It is carried about in boxes, and presented, by way of civility, as snuff is in Europe. It reddens the saliva, gives a bright hue to the lips, and renders the teeth quite black.

BETH'LEMITES, an order of monks introduced into England in 1257. They were habited like the Dominicans, only that they wore a star of five rays, in memory of that which conducted the wise men to Bethlehem: hence called also star-bearers (*stelliferi*).

BET'ONICA, the *betony*. A genus of hardy perennials. *Didynamia — Gymnospermia*. Name altered from *bentonic*, in Celtic: *ben*, meaning *head* and *ton*, *good* or *tonic*: Its properties are cephalic. Whole volumes have been written on the virtues of betony, and at the present time, *you have more virtues than betony*, is a proverbial compliment in Italy.—The wood-betony (*B. officinalis*), is the only British type: it is common in Scotland in woods and thickets.

BETROTH'MENT, in *law*, a mutual promise or compact between two parties, by which they bind themselves to marry. The word imports, giving one's *troth*, i. e. true faith or promise. Betrothment amounts to what civilians and canonists call *sponsalia* or *espousals*, sometimes *desponsation*, or what the French call *fiançailles*.

BE'TULA, the *birch*. A genus of hardy trees of about 20 species, besides several varieties. *Monœcia—Polyandria*. Name Latinised from Celtic, *betu*, the birch, which is the badge of the clan Buchanan.

BET'ULINE, a vegetable principle obtained from the bark of the common birch (*Betula alba*). It is of a white colour, very light, and crystallises in the form of long needles; soluble in concentrated sulphuric acid, ether, alcohol, and the fixed and volatile oils, but insoluble in water and alkaline solutions; fusible, volatile and inflammable.

BEV'EL, an instrument used by masons, carpenters, joiners, &c. It differs from a square in having a moveable tongue, so that the instrument may be set to any angle.

BEVEL-ANGLE is a workman's term for any other angle than one of 90° or 45°.—The operation of cutting to a bevel-angle is called *bevelling*.

BEVEL-GEER, in *mechanics*, a species of wheel-work, in which the axes of the two shafts are neither parallel nor at right angles to each other.

BEVELMENT, in *mineralogy*, supposes the removal of two contiguous segments from the edges, angles, or terminal faces of the predominant form, thereby producing new faces inclined to each other at a certain angle, and forming an edge.

BEVILLE, } in *heraldry*, a thing broken
BEVILE, } or opening like a carpenter's bevel; e. g. "He bears argent, a chief bevilé, vert."

BEY. *See* BEG.

BEZANT'S, round flat pieces of pure gold without any impression, supposed to have been the current coin of Byzantium. This coin was probably introduced into coat-armour by the Crusaders. The gold offered by the Queen on the altar at the feast of Epiphany and Purification, is called *bezant*.

BEZEL, the upper part of the collet of a ring which encompasses and fastens the stone. Sw. *betzla*, to curb.

BE'ZOAR, a concretion found in the stomach of an animal of the goat kind (*capra gazella*); hence the name from Pers. *pazar*, a goat. Some however derive the word from Pers. *pazacher*, which means the *poison-destroyer*; the substance being regarded in Oriental countries as an infallible antidote to poison; and hence all alexipharmics were called bezoardics.—The name *bezoar* has latterly been extended to all the concretions found in animals: hence we have the *bovine*, and the camel *bezoar*; the Persian bezoar is however most highly valued: it is of the size of a kidney-bean. The King of Persia sent three as a present to Napoleon: these consisted of woody fibre.

BE'ZOAR-MINERAL, a deutoxide of antimony awkwardly prepared.

BI, a Latin prefix for *bis*, double, twice; e. g. when prefixed to the name of a saline compound, it indicates two equivalents of acid to one of the base.

BIARSEN'IATE, a salt in which there are two primes of the arsenic acid to one of the base.

BIARTIC'ULATE, Lat. *bis* and *articulus*, joint. Applied to the antennæ and the abdomen of insects, consisting of but two joints.

BIAURIC'ULATE, Lat. from *bis*, and *auricula*, an auricle. In comparative anatomy, a heart with two auricles.

BI'BLE, βιβλος. THE BOOK, by way of eminence. The authorised version now in use in England was made by command of James I., and is commonly called *King James' Bible*. It is the work of 47 translators.

BIBLE SOCIETY. A society established in England in 1804, with the sole object of encouraging a wider circulation of the Scriptures without note or comment, as expressed in its regulations.

BIBLIO'GRAPHY, from βιβλος, a book, and γραφη, description. A history or

description of books as to their dates, editions, form, type, and other particulars connected with their publication. The term is now sometimes used to denote the arrangement and classification of the particulars, facts, or objects of some department of science, as the bibliography of the mammalia.

Bibloma'nia, from *βιβλος*, a book, and *μανια*, madness, book-madness, a disease which manifests itself in an over-anxiety to obtain old and scarce editions of books, without much regard to the value of their contents.

Bical'carate, Lat. *bis* and *calcar*, a spur. When a limb or part is armed with two spurs.

Bicap'sular, Lat. *bicapsularis*, having two capsules; e. g. a bicapsular pericarp.

Bicar'bonate, a carbonate containing two equivalents of the acid to one of the base.

Bice, Bise. A blue colour used in painting, and prepared from the *Lapis Armenus* (Armenian stone). It is a smalt reduced to a fine powder by levigation.

Biceps, Lat. *bis* and *caput*, head. Applied to muscles having a double insertion.

Bichromate, a chromate containing two equivalents of the acid, for one of the base.

Bicip'ital, } Lat. *biceps*, having two
Bicip'etous, } heads. A term applied to muscles which have two distinct origins.

Bicol'ligate, Lat. *bis*, and *colligo*, I bind together. In *ornithology*, the connexion of all the anterior toes by a basal web.

Bi'corn, } from Lat. *bis* and *cornu*, a
Bicor'nus, } horn, two-horned. Applied to parts of plants from their shape, as the anthers of the *Erica vulgaris*.

Bicus'pidate, } Lat. *bicuspidatus*, two-
Bicus'pid, } pointed, two-fanged (*cuspis*, a spear). Applied, 1. To leaves that terminate in two points. 2. To teeth which have double fangs.

Bid'ale (*bid* and *ale*). A local custom in some parts, of inviting friends to a poor person's house to drink ale, and make up a *charitable* reckoning.

Biden'tate, Lat. *bidentatus*, furnished with two teeth. Applied to parts of plants.

Bidig'itate, Lat. *bidigitatus* (*bis* and *digitus*, a finger). Applied to leaves, the common petiole of which has two leaflets at its extremity.

Bidigiti-pennate, Lat. *bidigiti-pennatus*. Applied in botany to bidigitate leaves, the leaflets of which are pinnate.

Bidet, a kind of basin supported on legs: used in washing the lower part of the body.

Bier-balk, the church-road for burials.

Bi'fer, Lat. *biferus* (*bis*, twice, and *fero*, to bear). A plant that bears fruit twice a year, which is the case with many tropical plants.

Bif'id, forked, Lat. *bifidus*, divided into two. Applied chiefly in *botany*, as to seed-vessels, petals, &c., which are two-cleft, but not deeply divided.

Biflo'rate, Lat. *biflorus*, two-flowered. Applied to a pedicle having two flowers.

Bif'orate, Lat, *biforatus* (*bis*, and *foris*), a door. Having two apertures or pores.

Bif'ormes, singular bodies, minute oval sacs, lately discovered in the interior of the green pulpy part of the leaves of some plants.

Big, a kind of barley (Scotch barley), more commonly written *bigg*. *See* Barley.

Bi'ga. In *old records*, a cart or vehicle with two wheels, drawn by two horses. *Bis* and *jugum*.

Big'amy, from *bis* and *γαμος*, marriage. A hybrid term meaning double marriage, or the having of two wives at once, which is felony by statute. The term is frequently used synonymously with *polygamy*, and in this sense means the crime of having a plurality of wives. In the *canon law*, the term was formerly applied to marriage with a second wife after the death of the first, or once marrying a widow, which disqualified a man for orders, and holding ecclesiastical offices.

Bigas'ter, from *bis* and *γαστηρ*, a belly. A hybrid term sometimes used for *biventer* (q. v.).

Bigem'inate, Lat. *bigeminatus*, double-paired (*bis* and *gemini*, twins). Applied to a leaf, when near the apex of the common petiole there is a straight pair of secondary petioles, each of which is supported by a pair of opposite leaflets; e. g. *Mimosa unguiscati*.

Bight, Dan. *boyt*, a bend, coil, or turning. 1. The double part of a rope, where it is folded, in distinction to the ends.—— 2. The inward bent of a horse's chambreb, and of the fore knees.

Bigno'nia, the trumpet-flower. A very extensive genus of plants, most of which are shrubs. *Didynamia—Angiospermia*. Inhabit warm climates. Named in honour of Bignon, by Tournefort.

Bignonia'ceæ, a natural family of plants. The genus *Bignonia* is the type.

Bi-hydro-carbon, carburetted hydrogen, or olefiant gas, is sometimes so named. It is composed of two equivalents of carbon, and two of hydrogen.

Bi-hydrog'uret of Carbon, sub-carburetted hydrogen gas, called also heavy *inflammable air*, and *fire-damp*, = C + 2 H. *See* Hydroguret.

Bihirak', } a Persian intercalary
Bihurak' } month, introduced once in 120 years. It serves the same purpose as our leap year intercalations.

Bihydrog'uret, a double hydroguret. *See* Hydroguret.

Bij'ugous, Lat. *bijugus*, twice-paired (*bis* and *jugum*). Applied to leaves composed of two pairs of opposite leaflets on the common petiole.

Bikh, a deleterious plant used by the inhabitants of Nepal to poison their wells, at the time the British troops invaded it. This poison has been ascertained to be the *Aconitum ferox*.

Bil'abiate, Lat. *bilabiatus*, two-lipped (*bis* and *labium*). Applied in botany; e.g. the corols of flowers.

Bilacin'iate, Lat. *bilaciniatus*, double laciniate. Applied to a leaf when the margin is cut into two segments.

Bilam'ellate, Lat. *bilamellatus*, having two layers (*bis* and *lamella*). Used in botany to denote that the part is of the form of a flattened sphere longitudinally bifid.

Bi'lander, *by* and *land*. A small vessel with two masts, distinguished from other two-masted vessels by the form of the mainsail, which is bent to the whole length of a yard, hanging fore and aft, and inclined to the horizon in an angle of about 45°, the foremost lower corner, called the *tack*, being secured by a ring-bolt in the deck, and the aftermost or sheet in the tafferel. It was used chiefly in the canals of the Low Countries: hence its name.

Bilat'eral, Lat. *bilateralis*, two-sided (*bis* and *latus*, a side).

Bil'boes. } In *ships*, long bars of iron
Bil'bows. } with shackles sliding on them, and a lock at the end, used to confine the feet of offenders. Hence, also, the punishment of offenders in this way is called by the same name, and is equivalent to punishment in the stocks on land.

Bile, Lat. *bilis*, the gall; a bitter fluid secreted by the liver, in part flowing into the intestines, and in part regurgitating into the gall-bladder. This fluid is secreted in the minute lobules of the liver from the blood, contained in the extreme branches of the portal vein, and is brought by minute canals, called biliary ducts, into the hepatic duct, which conveys it into the common biliary duct, by which it is carried into the duodenum.

Bile'stones, biliary calculi are popularly so named. *See* Calculus.

Bilge, from Goth. *bulgia*, to swell. The protuberant part of a cask, which is usually in the middle. The *bilge of a ship* is the underpart of her floor which approaches to a horizontal direction, and on which she would rest if aground. When this part of the ship is fractured, she is said to be *bilged*; the water which lies in the bilge, is called the *bilge-water*, and the pump adapted to withdraw it is called the *bilge-pump*.

Bil'iary, Lat *biliarius*, appertaining or relating to bile; e.g. the bile or *biliary ducts*, which are minute canals adapted to convey the bile into the hepatic duct. *Biliary calculi* are concretions which form in the gall bladder or bile ducts.

Bilin'guent, from *bis* and *lingua*. A jury impanelled on a foreigner, part being English and part being natives of the same country with the panel.

Bill. 1. The beak of a bird, from Sax. bille, the primary sense of which is a shoot.——2. A cutting instrument, used by plumbers, basket-makers, and gardeners, made in the form of a bird's mandible, and fitted with a handle; when short it is called a *hand-bill*, when long, a *hedge-bill*, being used for cutting hedges and pruning-trees. From Sax. bille, Ger. *beil*, an axe, a hatchet.

Bill, from Norm. *bille*, a note. In *law*, a declaration in writing expressing some wrong the complainant has suffered from the defendant, or a fault committed by some person against a law. It contains the fact complained of, the damage sustained, and a petition or process against the defendant for redress. In *Scots law*, the term extends to every application in writing, by way of petition to the court of session. The term is also used in England to signify an obligation or security given for money under the hand, and sometimes the seal, of the debtor, without a condition or forfeiture for non-payment, in which circumstance it differs from a bond. This kind of security is very generally called a *note of hand*. In *parliament*, the word *bill* is used to denote a draft or form of a law presented but not enacted. In some instances statutes are called *bills*, but they are usually qualified by some descriptive title, as a *bill of attainder*. When a bill has received the sanction of both houses of parliament and the royal assent, it is generally named an *Act of Parliament*.

Bill of Entry, a written account of goods entered at the custom-house, whether imported or intended for exportation.

Bill of Exchange, a written request or order to one person or company to pay a certain sum of money therein stated to another person or company, on his or their order. The person who makes the bill is called the *drawer*, the person to whom it is addressed, the *drawee*, and the person to whom or to whose order on the face of the bill it is payable, the *payee*. If the drawee accepts the bill, he thereby becomes the *acceptor*. A bill of exchange differs from a *promissory note* in being a request to another person to pay, whereas the latter is a promise on the part of the maker himself

to pay the sum specified to the payee. Bills of exchange are either *inland*, i.e., when both the drawer and drawee reside in the same county; or *foreign*, i.e., when drawn by a person in one country upon one residing in another.

Bill of Health, a certificate or instrument, signed by consuls or other proper authorities delivered to the masters of ships at the time of their clearing out from all ports or places suspected of being particularly liable to infectious disorders, certifying the state of health at the time that such ship sailed. A *clean bill* imports that, at the time the ship sailed no infectious disorder was known to exist there. A *suspected bill*, more commonly called a touched patent or bill, imports that no infectious disorder had actually broken out, but that there were rumours of such. A *foul bill* imports that the place was affected when the vessel left; this is more commonly known by the absence of clean bills, a foul bill not being worth having.

Bill of Lading, a formal receipt signed by the master of a trading vessel in his capacity of carrier, acknowledging that he has received the goods specified in it on board his ship, and binding himself, under certain exceptions, to deliver them in the like good order as received, at the place and to the individual named, &c. There are usually triplicate copies, one for the party sending, another for the party to whom the goods are sent, and the third for the captain.

Bill of Mortality, an account of the number of deaths in a place in a given time. These bills usually contain also a summary of births, christenings, &c.

Bill of Parcels, an account given by the seller to the buyer of the several articles purchased, with the price of each. *See* Invoice.

Bill of Rights, a summary "of that residium of natural liberty which is not required by the laws of society to be sacrificed to public convenience; or else those civil privileges which society has engaged to provide in lieu of those natural liberties so given up by individuals." The name is usually given to the declaration presented by the houses of Lords and Commons to the Prince of Orange in 1688, on his succession to the British throne, wherein they "do claim, demand, and insist upon, all and singular the premises" as their undoubted rights and privileges. A similar declaration was made *in the act of settlement*.

Bill of Sale, a contract under seal, by which an individual conveys away the right and interest he has in the goods and chattels named in the bill, on some consideration given or promised.

Bill of Sight, when a merchant is ignorant of the real nature of the goods assigned to him, so that he is unable to make a perfect entry of them, he must give due notice of the circumstance at the custom-house: the collector is thereupon authorised to take an entry by *bill of sight*, and to grant warrant that the goods be landed and examined by the importer in presence of the officers.

Bill of Store, a license granted by the custom-house to merchants, to carry such stores and provisions as are necessary for a voyage free of duty.

Bil'la Ve'ra, *true bill*. The indorsement of the grand inquest upon any indictment which is found to be probably true.

Billete', *billetee*. A French word used in heraldry to signify that the ground of the escutcheon is strewed with *billets* or rectangular oblong figures—supposed to represent cloth of gold and silver—number of such indefinite.

Bill'iards, an interesting game of French invention, played on a rectangular table covered with green cloth, with ivory balls which are to be driven into holes called *hazard-nets* or *pockets*, at the corners of the table, with sticks, one of which is a *mace*, and the other a *cue*.

Bill'ion, that is, *bi-million*. According to the English system of numeration, a billion means a million times a million, or 1,000,000 × 1,000,000 = 1,000,000,000,000; but in the French sytem it expresses a thousand times a million, or 1000 × 1,000,000 = 1,000,000,000. *See* Numeration.

Bilo'bed, Lat. *bilobus*, two-lobed. Applied in botany to leaves, petals, seed-vessels, &c., which are divided into two rounded portions or lobes; e. g. the capsules of the *veronica biloba*.

Biloc'ular, Lat. *bilocularis*, two-celled. Applied to capsules, &c., which have two cells.

Bimac'ulate, Lat. *bis* and *macula*, a spot. Anything marked with two spots.

Bima'na, Lat. from *bis* and *manus*, a hand: two-handed animals. The bimana constitute the first order of mammalia—comprehends but one genus, and that genus is *man*.

Bimar'ginate, two-margined. A term applied to shells which are furnished with a double margin as far as the lip.

Bime'dial, *bis* and *medial*. If two medial lines, commensurable only in power, and containing a rational rectangle, be compounded, the whole will be irrational with respect to the other too, and is a *first bimedial line*: but if the lines be commensurable only in power and contain a medial rectangle, the whole, when compounded, will be irrational, and constitute a *second bimedial line*. Euclid, B. x. prop 38 and 32

Bin, for *binus*, as a prefix is synonymous with *bi* (q. v.).

Bi'nary, Lat. *binarius*, arranged in twos; e. g. a binary compound is that resulting from the union of two elements; a binary number is one made up of two units; a binary arrangement is made with pairs.

Bi'nary Arithmetic is that wherein unity or 1 and 0 are only used. In this arithmetic the cypher multiplies by 2 instead of 10, as it does in the common arithmetic.

Bi'nary Logarithms were contrived and calculated by M. Euler for facilitating musical calculations. The modulus is two instead of ten, as in the common logarithms, or one in the hyperbolic logarithms.

Bi'nary Measure, in *music*, is that used in common time, wherein the time of rising in beating is equal to the time of falling.

Bi'nate, Lat. *binatus*, in pairs. Applied to a leaf divided into two parts almost its whole length; or to a compound leaf having only two leaflets on a common petiole.

Bind. 1. *Bind and clunch* are names used indifferently by miners to designate the soil upon which the coal strata rest. It is an argillaceous shale, more or less indurated, and sometimes intermixed with sand and resembling sandstone, but almost always passing into a clayey soil on exposure to the action of the atmosphere. ——2. In *music*, a tie for grouping notes together.

Bind'ing-joists, those joists of a floor into which the trimmers of stair-cases, or well-holes of the stairs and chimney-ways, are framed.

Biner'vate, Lat. *binervius*, two-nerved; applied in botany to leaves which have two longitudinal ribs or nerves.

Bin'nacle, a box containing a ship's compass, and light to show it at night. It was formerly called *bittacle*, supposed to be a corruption of Fr. *habitacle*, but more probably *boite d'aiguille*, needle-box.

Bi'nocle, Binoc'ular Telescope, a telescope to which both eyes may be applied, hence the name from *binoculus*, double-eyed. It consists of two tubes with two sets of glasses of the same power, and adjusted to the same axis. The instrument is not now used, being found inconvenient.

Bino'mial, from *binus* and *nomen*. In *algebra*, a quantity consisting of two terms or names, and connected by the sign + or —. When connected by the latter sign the quantity is usually called a *residual*, and by Euclid an *apotome*.

Bino'mial Theorem, a general algebraical expression or formula by which any power or root of a quantity of two terms may be expanded into a series. It is usually called the *Newtonian theorem*, Newton being considered the inventor, as he certainly was, in the case of the fractional and negative exponents, and this includes all the other cases of powers, division, &c.

Bin'oxalate, an oxalate in which there are two (*binus*, twice) equivalents of the acids to one of the base.

Bin'oxide, written incorrectly for *deutoxide*. *See* Oxide.

Bi'nus, a Lat. word meaning by couples, (*bis* and *unus*,) applied to leaves when there are only two upon a plant.

Bio'cellate, Lat. *bis* and *ocellus*, dim. *a small eye*. In *entomology*, when the wing of an insect is marked with two eye-like spots.

Bip'artile, Lat. *bipartilus*, having two corresponding parts, applied to the corolla, leaf, and other parts of plants when divided into two corresponding parts at the base.

Biparti'ti, a tribe of pentamerous coleoptera, composed of carabici which, "in relation to their habits, might be styled *fossores*." These insects all keep on the ground, conceal themselves either in holes or under stones, and frequently leave their retreat only at night, to prey on other insects; they are particularly proper to hot climates, though Britain produces some genera.

Bipec'tinale, Lat., *bis* and *pecten*, a comb; a part having two margins toothed like a comb.

Bipel'tate, Lat. *bis*, and *pelta*, a buckler; an animal or part having a defence like a double shield.

Bipen'nate, Lat. *bipennatus*, doubly pennate, applied to a compound leaf having a common petiole which produces two partial ones, each bearing leaflets of its own.

Bipet'alous having two petals, *bis* and πιταλον, a petal.

Bipinnat'ifid, Lat. *bipinnatifidus*, doubly pinnatified: applied to a pinnatified lea, the segments of which are themselves pinnatified.

Bipu'pillate, Lat. *bis*, and *pupilla*, a pupil. In *entomology*, an eye-like spot on the wing of a butterfly, having two dots or pupils within it of a different colour.

Biquad'rate, Lat. *biquadratus*, doubly-squared. The biquadrate of a number is the square of the square. Thus 4 is the square of 2, and 16 is the square of 4; 16 is therefore the biquadrate of 2.

Biquadratic, from *bis* and *quadratus*, squared. In *algebra*, a biquadratic power, root, or equation, is a power, root, or equation of the fourth degree. *See* Equation, Power, and Root.

Birch, the *betula* of botanists, a genus of arborescent plants of about 20 species, met with in every part of the north of Europe. Two species are found in Bri-

tain, the common and dwarf birch, but there are four varieties of the former. The Scotch name is *birk*, Sax. birc.

The second letter of the Runic alphabet is called *biarkann*, i.e. the birch-leaf, and the second of the Irish is *beit* or *beith*, birch.

Bird'-call, a little stick, cleft at one end, in which is put a leaf of some plant for imitating the cry of birds when blown upon like a whistle. A laurel leaf counterfeits the cry of lapwings, a leek that of nightingales, &c.

Bird'lime, *bird* and *slime*, a vegetable substance generally prepared from the middle bark of the holly, and so called because, from its great viscidity, it is used to entangle birds. It may likewise be obtained from the mistletoe, the viburnum lantana, young shoots of alder, and other vegetables.

Bird of Paradise. The birds of Paradise are natives of New Guinea and the adjoining islands, are said to live on fruits, and are particularly fond of aromatics. *See* Paradisæa.

Bird'-pepper, the *capsicum baccatum*, a shrubby plant of both Indies, bearing an oval fruit, very biting, to which the name of bird-pepper is given.

Birds, in *heraldry*, are emblems of expedition, liberty, readiness, and fear.

Bird's-eye. 1. A species of the primrose, the *primula farinosa*.——2. The *Adonis vera*, and sometimes the whole genus *Adonis*, more usually called pheasant's-eye.

Bird's-eye-view, a view taken from a point considerably above the objects represented.

Bird's-mouth, in *architecture*, an interior angle or notch cut in the end of a piece of timber for its reception on the edge of a pole or plate. It signifies also the internal angle of a polygon.

Bird's-nest. 1. A genus of ferns, the *struthiopteris germanica*.——2. The plants of the genus *monotropa* are distinguished by the name *yellow-bird's-nest*, but are often called simply *bird's-nest*. The British species is the *M. hypopithys*.——3. The *listera nidus avis* of Britain.

Bird's-nests, in *commerce*, the nest of a species of swallow peculiar to the Indian islands (the *hirundo esculenta*), very highly valued in China as an article of luxury. The nest in shape resembles that of other swallows. It is formed of a viscid substance not unlike fibrous, imperfectly, concocted isinglass. These esculent nests are chiefly found in caverns in Java, and the better sorts are sold at Canton at from 6*l*. to 7*l*. per lb.

Bi'reme, Lat. *biremis*, a vessel with two banks or tiers of oars (*bis* and *remus* an oar).

Birhomboi'dal, *bis* and *rhomboid* Having a surface of 12 rhombic faces, which being taken 6 and 6, and prolonged till they intercept each other, would form two different rhombs.

Birth, evidence of By the French civil code it is required that a declaration be made of the birth of every child to the proper officer within three days, with the production of the child.

Birth or Berth, of a ship. The ground in which she is anchored; also, an apartment, as the midshipman's berth; also, the space allotted to a seaman to hang up his hammock in.

Birth'wort, a name common to all the plants of the genus *aristolochia* (q. v.).

Bis, Lat. *twice*. In *music*, a word placed over passages signifying that they are to be played twice over.

Bis'cuit, Lat. *bis* and *cuit*, baked. Earthenware when it has been baked, but not glazed.

Bi'sect, Bisection, Lat. *bis* and *seco*, to cut. To *bisect* is to divide into two equal parts; e.g. the rational horizon bisects the globe; and such division is called a *bisection*.

Biseg'ment, *bis* and *segment*. One of the parts of a line, &c., divided into two equal parts.

Bis'etous, Lat. *bis* and *seta*, a bristle. When an animal is furnished with two bristle-like appendages.

Bisex'ual, when flowers contain both stamens and pistils in the same envelope. It is the same as hermaphrodite.

Bishop, Lat. *episcopus*; Gr. ἐπίσκοπος, of ἐπι, over, and σκοπος, inspector; σκοπέω, to view. This Greek and Latin word accompanied the introduction of Christianity into the west and north of Europe, and has been corrupted into Saxon, biscop, bisceop; Sw. and Dan. *biskop*; D. *bisschop*; Germ. *bischof*. It is the title which the Athenians gave to those whom they sent into the provinces subject to them, to inspect the state of affairs; and the Romans gave the title to those whose business it was to inspect the provisions brought into the markets. In the primitive church the title denoted one who had the pastoral charge of a church. In process of time the maintenance of their ecclesiastical prerogatives, and their extensive ecclesiastical as well as criminal jurisdiction, left the bishops little time or inclination for the discharge of their duties as teachers and spiritual fathers. They therefore attached to themselves particular vicars, called *suffragans*, for the inspection of all that concerned the church. The office now became an object of ambition for the nobility and the sons of kings: it was honourable, profitable, and permitted sensual enjoyments of every

description. The reformation, in some of the Protestant countries, left the higher clergy with the title of *bishop*, but stripped them of many of their privileges and much of their revenues: the English bishops fared the best, and for that reason the English church has received the name of *episcopal*. Her bishops are appointed by the Sovereign, must be thirty years of age, and are, with the exception of the bishop of Sodor and Man, peers of the realm.

Bis'muth, Germ. *bismut*. A metal of a reddish white colour, and almost destitute of taste and smell. It is softer than copper, breaks when struck smartly with a hammer, and consequently is not malleable, neither can it be drawn into wire. Its sp. gr. is 9·82, but its density may be much increased by cautious hammering; it melts at 476° Fah., and, if gradually cooled, it crystallises in octohedrons. At a strong heat it burns with a pale blue flame, and sublimes in the form of the yellow-coloured oxide known by the name of *flowers of bismuth*. It occurs both native and combined with other substances, as oxygen, sulphur, and arsenic, and, in veins of primitive rocks, accompanied by ores of lead, silver, and sometimes cobalt and nickel. When found as an oxide, it is called *bismuth ochre;* as a sulphuret, *bismuth glance;* as a sulphuret with copper, it is *copper bismuth ore;* with copper and lead, it forms *needle ore*. The metal used in the arts is derived chiefly from the mineral called *native bismuth*. It generally contains small proportions of sulphur, iron, and copper. It is known among workmen by the names of *marcasite* and *tin-glass:* the last a corruption of French, *étain de glace*.

Bison. *βισων*. A large, wild, untameable, herbiverous, and gregarious animal of the bovine genus, which inhabits the temperate parts of North America, and which, from its resemblance to the buffalo (*bos bubulus*, Lin.), is often termed the buffalo of America (*Bos Americanus*, Gmel.). It is particularly distinguished by a great hump or projection over its fore-shoulders, and by the length and fineness of its woolly hair.

Bispino'sus, Lat. *bis* and *spina*, a spine, armed with two spines.

Bis'sextile, leap-year. A year consisting of 366 days, the additional day being added to the month of February. This is done every fourth year, on account of the excess of six hours by which the year really exceeds 365 days. It takes its name thus: the Romans, instead of making a 29th day in February, reckoned the 24th twice, and called this 24th day, *sexto calendas Martias*, i. e. the sixth day before the calends of March. This, with the prefix *bis*, to denote that it was reckoned twice, gave the name *bissextilis*, which we write *bissextile*, to the leap-year.

Bistor'ta, snakeweed. A species of polygonum, named from *bis* and *torqueo*, to twist, in allusion to the contortions of its root.

Bis'toury, Fr. *bistouri*, any small knife for surgical purposes.

Bis'tre, Bis'ter, Fr. *bistre*, from *bis*, brown. A brown colour prepared from wood soot, and used in water-colours in the same way as China ink.

Bi'sulphate, a sulphate in which the oxygen of the sulphuric acid is a multiple by two of that of the base.

Bisul'phite, a sulphite in which the oxygen of the sulphurous acid is a multiple by two of that of the base.

Bisul'phuret, a sulphuret with a double proportion of sulphur.

Bit, from Sax. bita, a mouthful, of bitan, to bite. 1. The iron part of a bridle, which is inserted into the mouth of a horse, and its appendages to which the reins are fastened. It includes the bit-mouth, the branches, the curb, the level-holes, the tranchefil, and the cross-chains. There are various kinds; the musrole, snaffle or waterbit, the canon mouth, jointed in the middle, the canon or fast-mouth, all of a piece, kneed in the middle; the scotch-mouth, the masticador or slavering-bit.——2. A boring instrument: the boring end of the stock and bit. *See* Stock.——3. A small coin of the West Indies, half a pistareen, about fivepence sterling.

Biter'nate, Lat. *biternatus*, doubly-ternate. Applied to compound leaves when the common footstalk supports three secondary petioles on its apex, and each of them bears three leaflets.

Bit-Noben (Indian), Salt of Bitumen. A white saline substance prepared by the Hindus, and variously used to improve the appetite, cure diseases of the liver, paralytic disorders, cutaneous affections, rheumatisms, and indeed all chronic disorders of man and beast. It is called in the country *pandanoon*, *soucherloon*, and popularly *khalamimuc*, or black salt—*Hooper*.

Bit'ter-Apple, Bit'ter-Cucumber, Bit'ter-Gourd, The *cucumis colocynthis*. An annual of Turkey and Nubia, and also its fruit, which is a round berry or pepo of the size of a small orange, yellow, and smooth on the outside when ripe. It is gathered, peeled, and dried in a stove, and in this state sent into this country, where it is known popularly by the names given, and scientifically as *coloquintida*. It is intensely bitter, and strikes, with sulphate of iron, a deep olive colour. It is much used in medicine.

Bit'tern. 1. A species of heron, the *ardea stellaris*, a native of Europe.——2. The mother-water which remains after the crystallisation of common salt from sea-water.

Bitter Principle. Applied to certain results of the action of nitric acid upon organised matter, of an intensely bitter taste.

Bit'tersweet, a species of nightshade, the *solanum dulcamara*, a slender climbing plant, whose root, when chewed, produces first a bitter, then a sweet taste.

Bit'terwort, a name common to all the British species of the Gentian. *See* Gentiana.

Bitts, a plural word used to denote a frame of two pieces of timber, fixed perpendicularly in the forepart of a ship, on which to fasten the cables when she rides at anchor. There are several other smaller bitts, as the topsail-sheet-bitts, paul-bitts, carrick-bitts, &c.

Bitu'men, a generic name for a number of inflammable mineral substances known under the names of naphtha, petroleum, mineral tar, mineral pitch, malthu or sea-wax, asphalte, elastic bitumen, or mineral caoutchouc, jet, mellilite or honey-stone, mineral coal, amber, and mineral tallow or adipocire. The four first are liquid, the others are solid at ordinary temperatures. All the varieties of bitumen seem to partake, more or less, both of an oily and resinous nature, and are composed, in a great measure, of carbon and hydrogen, but their origin is not known; the tar-like substance which oozes out of coal when on fire, is a good example of bitumen.

Bitu'minous Cement, } a factitious sub-
Bitu'minous Mastic, } stance which has of late been much used in France for covering roofs, lining water cisterns, &c. It is made by boiling asphaltum, and when hot mixing it with chalk or brick-dust. Boiled coal-tar treated in the same way is equally good.

Bitu'minous Limestone, a limestone of a lamellar structure, more or less charged with bitumen. It is found near Bristol, and abundantly in Galway, hence called Galway marble.

Bitu'minous Springs, properly springs impregnated with petroleum and analogous nominal substances; but the name is commonly used to designate those fountains of almost pure petroleum, so very numerous, especially in Persia, where some of them yield from 1000 to 1500 lbs. of petroleum a day, and seem to be quite inexhaustible.

Bi'valve, Lat. *bivalvis*, two-valved shells.

Biv'alves, one of the three Linnean classes of shell-fish, the shells of which are composed of two pieces or valves joined together by a hinge. The oyster is an example.

Bi'vouac, Ger. *biwacht*. The name given to the modern system by which the soldiers in service lie in the open air without tents, in opposition to the old system of camps and cantonments.

Bix'a, the *arnotto-tree* or *roucou*, a genus of two species, one of which, the *B. orellana*, common to both Indies, produces the *terra orllana*" or *arnotto* of the shops. Class, *polyandria*; order, *monogynia*.

Bix'aceæ, a natural order of plants of which the genus *bixa* is the type.

Black Acts. In *England*, the statutes of 9 George I. and 31 George II. In *Scotland*, the acts or statutes of the five Jameses, with those of Mary's reign and of James VI., down to 1587, all of which were printed in the old English character, or black letter.

Black'amoor's-head', a chemical vessel of a conical form, named from its supposed resemblance to a negro's head. It is now rarely used.

Black' Bar, a plea obliging the plaintiff to assign the place of trespass.

Black'-Bird. In *England*, the *turdus merula*, Lin. In *America*, 1. The *gracula quiscula*, Lin. This is called the crow black-bird.——2. The *sturnus predatorius*, Wilson; *oriolus phœnicus*, Lin. This is called the red-winged black-bird.

Black'-book. 1. A book kept in the Exchequer of England, and containing the orders of that court, its officers, their ranks and privileges, wages, perquisites and jurisdiction, with the revenues of the Crown in money, grain, and cattle. It is supposed to have been composed in 1175, by Gervais of Tilbury.——2. A book compiled by order of the visitors of monasteries under Henry VIII., containing an account of the enormitie spractised in those houses.——3. Any book which treats of necromancy or the black art.

Black-Cap, a little bird, the *motacilla atricapilla*, Lin.; called otherwise the mock nightingale; it has obtained its name from the fine black crown on its head.

Black Cattle, a general name for all cattle of the bovine genus, reared expressly for slaughter, in distinction from dairy-cattle.

Black Cock, the heath cock, *tetrao tetrix*, Lin., named from its black plumage. In some places it is called *black grouse*, and in others *black game*.

Black Dye, the principal ingredients of black dye are logwood, Aleppo galls, verdigris, and sulphate of iron or green vitriol, but the process is intricate, and varies with the stuff to be dyed.

Black Fish, the *tautog*, a dark coloured species of *labrus* (q.v.). Fish newly

spawned are in Scotland called *black* or *foul fish*; and the practice of taking salmon in the rivers when they come up to spawn, is called *black fishing*.

Black Flux, a mixture of carbonate of potash and charcoal, made by deflagrating tartar with half its weight of nitre.

Black Iron, malleable iron, in contradistinction to that which is tinned, called *white iron*.

Black Lead, the same with plumbago and graphite, a compound of carbon and a small proportion of iron and earthy matters. It takes its name from its leaden appearance, but contains no trace of lead. It is chiefly used in the manufacture of black-lead pencils, the first specimens being procured from the celebrated mine of Borrowdale in Cumberland, worked since the time of Queen Elizabeth.

Black Letter, the old English alphabet. (𝔄𝔅𝔈 abc.)

Black'mail. In *Scotland*, a sort of yearly payment, formerly made for protection to those bands of armed men who, down to the middle of last century, laid many parts of the country under contribution. *Mail* means tax or rent.

Black-Monks, a name of the Benedictines.

Black-Rod, the usher belonging to the Order of the Garter; so called from the black rod which he carries. He is usher of Parliament.

Black-spaul, a disease of cattle, called also *blackleg* and *blackquarter*.

"The blackspaul is a species of pleurisy, incident to young cattle, especially calves, which gives a black hue to the flesh. It is indicated by lameness in the forefoot (*spaul* or *leg*), and the common remedy is immediate bleeding."

Black-thorn, the sloe (*Prunus spinosa*), in distinction from white-thorn or hawthorn.

Black-tin, tin ore when dressed, stamped, and washed, ready for melting.

Black-vomit, the yellow fever.

Black-wadd, one of the ores of manganese, used as a drying ingredient in paints.

Black-watch, the designation given to the companies of loyal highlanders raised after the rebellion in Scotland, in 1715, for preserving peace in the highland districts. The black-watch formed the nucleus of the 42nd regiment, and received the denomination of *black* (Gal. *dhu*) from their dark tartan habiliments.

Blad'der, Sax. blaber, of blæs. A thin membranous substance, which serves as the receptacle of some fluid or secretion, as the urinary bladder and gall-bladder in animals. When unrestricted the name applies to the former.

Blad'der-nut, a name common to both species of the genus *staphylea* (q. v.). There is also a species of royena, called the *African bladder-nut*, and a species of ilex, holm, or holly, called the *laurel-leaved bladder-nut*.

Bladder'wort, a name common to all the plants of the genus *Utricularia*. The British species are all aquatics, with roots, stems, and leaves, furnished with numerous membranaceous reticulated vesicles, which are filled with water till it is necessary that the plant should rise to the surface and expand its blossoms. The vesicles are then found to contain only air, by aid of which the plant floats; this air, again, gives place to water, and the plant descends to ripen its seeds at the bottom.

Blad'der-wrack, a sea-weed (the *Fucus vesiculosus*) called also the *sea-oak* and *sea-wrack*.

Blain, Per. *blaen*. 1. A watery vesicle of the skin.——2. A distemper incident to animals, being a bladder which grows at the root of the tongue to such a degree as to stop the breath. It answers to croup in the human subject.

Blanchim'eter, from *blanch* and μετρον, measure. A measure of the bleaching power of chloride of lime (bleaching-powder) and potash.

Blanch'ing, whitening, from Fr. *blanchir*, to whiten. Applied, 1. To an operation performed upon pieces of metal, as silver, to give them whiteness and lustre.——2. To the whitening of living plants, by making them grow in the dark.

Blanch'-ferm, Blank-farm. In *ancient law*, a white-farm. A farm, of which the rent was paid in silver, and not in cattle.

Blanch'-holding. In *law*, a tenure by which the tenant is bound to pay only an elusory yearly duty to his superior, as an acknowledgment of his right.

Blandfo'rdia, a genus of New Holland plants, of the class *hexandria*, and order *monogynia*. Named from Blandford.

Blank-bar. In *law*, a common bar, or a plea in bar, which in action of trespass is put in to oblige the plaintiff to assign the place where the trespass was committed.

Blank'-door, a doorway which has been blocked up to prevent entrance. Also a false door, placed in an apartment opposite to the real door, for the sake of uniformity.

Blank'et, Fr. *blanchet*. Among *printers*, woollen-cloth or white baize, to lay between the tympans.

Blank-window, a sash-frame, sashes and glass fixed into a recess corresponding with the real windows, to preserve the uniformity of an elevation.

Blas'phemy, from βλασφημια, to de-

fame. Treason against the Deity: the denying the existence of God, assigning to him false attributes, or denying those which are true; speaking irreverently of the mysteries of religion; and, in Roman Catholic countries, speaking disrespectfully of the Holy Virgin and of the saints. Blasphemy was formerly punished by death, but the laws with respect to it are now modified in most countries.

Blast, Sax. blaest, a puff of wind; applied, 1. To the column of air forced into a fire, as in forges by bellows, or the blasting-machine, for the purpose of quickening the combustion.——2. To erysipelas which appears suddenly on the face in consequence of exposure to cold wind or a blast.——3. To the explosion of gunpowder in splitting rocks, and also the explosion of inflammable air in a mine, &c.

Blaste'ma, in botany, the axis of growth of an embryo. In *anatomy*, the homogeneous, gelatinous, and granular basis of the ovum, in which the organic elements, which characterise the different tissues, are deposited in the early stages of development.

Blastocar'pous, βλαστος, a germ, and καρπος, fruit. That kind of fruit which germinates inside the pericarp, as the mangrove.

Blat'ta, the cockroach; a genus of orthopterous insects placed among the Cursoria or Runners by Cuvier. "The blattæ are very active nocturnal insects, some of which live in the interior of our houses, particularly the kitchen, in bake-houses and flour-mills, and others inhabit the country. They are extremely voracious, and consume all sorts of provisions," hence the name from βλαπτω, to destroy.

Bla'zoning. } In *heraldry*, the deci-
Bla'zonry. } phering of coats of arms, from Ger. *blasen*, Dut. *blaazen*, to blow, because the herald blew a trumpet and called out the arms of a knight when he entered the lists at a tournament.

Bleaching-Liquid, Fr., *eau de javelle*, chlorine-water. When chlorine is condensed in water, the result is called *bleaching liquid*, when condensed in quick lime, it is called *bleaching powder*. Bleaching liquid is prepared from the bleaching powder simply by solution.

Bleaching-Powder, chloride of lime, quick-lime saturated with chlorine.

Blech'num, a genus of perennials. *Cryptogamia—Filices*. Name βληχνον, a fern. This genus is sometimes distinguished by the name of *hard-fern*, and the British species (*B. boreale*) by the names *northern hard-fern* and *rough spleenwort*.

Blench'-ho'lding, } a tenure of lands
Blench'-te'nure, } upon payment of a small sum in silver, *blanch*, i.e. white money.

Blende, black-jack. a native sulphuret of zinc, named from Ger. *blenden*, to dazzle. There are several varieties of this one, as brown, yellow, and black; the primitive form of crystals is a rhomboidal dodecahedron.

Blennius, the blenny, a genus of acanthopterygious fishes, placed by Cuvier among the gobrides, and by Linnæus among the juglares. The blennies live in small troops among the rocks on the coast, and take their name from βλεννα, mucus, a slimy mucus being smeared over their skin.

Blennorrha'gia, a discharge of mucus, from βλεννα, mucus, and ρηγνυμι, to burst forth.

Blennorrhœ'a, a flow of mucus, from βλεννα, mucus, and ρεω, to flow, applied to an increased discharge of mucus from any mucous surface, but commonly restricted to that from the urethra and vagina.

Blepharople'gia, the same with blepharoptosis (q.v.), from βλεφαρον, the eyelid, and πληγη, a stroke. The word πληγη was applied by the Greek physicians to paralysis.

Blepharopt'osis, a prolapse of the upper eyelid, arising from a relaxed state of the common integuments of the eyelids, or from paralysis of the levator muscle, from βλεφαρον, the eyelid, and πτωσις, a prolapse; of πιπτω, to fall.

Bley'me, from Teut. *bleima*. to hinder. In *farriery*, inflammation between the sole and bone of the foot. It usually arises from a bruise.

Blight, a general name for various distempers of corn, fruit-trees, &c., by which the whole plant sometimes perishes; sometimes only the leaves and blossoms which become shrivelled as if scorched, from Sax. blaectha, leprosy.

Blind, a skreen, a cover. In military affairs, and especially in operations against fortresses, all which tend to intercept the view of the enemy are called blinds. These are of several kinds: 1. A fascine placed across the embrasures to prevent the enemy from observing what passes near the canon.——2. Shutters made of strong planks placed before the port-holes as soon as the guns are discharged.——3. A screen consisting of three strong perpendicular posts, five feet in height, between which are planks covered with plates of iron on the outside, and thus made shot proof, used to protect labourers in the trenches, is called a *single blind*. A *double blind* is constructed of large wooden chests filled with earth or bags of sand. Both these

kinds of blinds are furnished with block-wheels or rollers to enable the labourers in the trenches to push them forward. The kind of blinds called *chandeliers* are constructed on the principle of the single blind, and are used for the same or similar purposes.——4. The coverings placed over the most exposed parts in the saps or the fortress, are also called *blinds*. These are made of beams over which hurdles or fascines are spread, and these receive a sufficiently thick layer of earth as a covering.

Blind'-worm, a small reptile called also *slow-worm*, and classed among the serpents, though quite harmless. It is covered with scales and has a forked tongue.

Blink, from Sax. blican, to shine. The *blink of ice* is the dazzling whiteness about the horizon occcasioned by the reflection of light from the fields of ice at sea.

Blin'kers, expansions of the sides of the bridles of horses, to prevent them from seeing on either side.

Blister-Fly, the *musca hispanica*, an insect found in Italy and France, and more or less throughout Europe, but particularly common in Spain, and therefore called the Spanish fly. It is about two-thirds of an inch in length, and one-fourth in breadth, of a somewhat oblong shape, and of a greenish gold shining colour, with soft elytra. It is much used in blistering. *See* Cantharis.

Block, Fr. *bloc*, Germ. *block*. A piece of wood in which one or more sheaves or pulleys are placed for the purpose of forming tackles in various operations in naval tactics and architectural constructions. Blocks are single, double, treble, or fourfold, according as the number of sheaves is one, two, three, or four. The sheaves are grooved to receive the rope, and have in their centre a brass *bush* to receive the *pin* on which they revolve. The sides of the block are called cheeks. A *running block* is attached to the object to be moved, a *standing block* is fixed to some permanent support. *See* Pulley.

Block'ade, the interception by one belligerent of communication with a place occupied by another, from Ital. *bloccare*, to inclose. A declaration of blockade or siege is an act of national sovereignty, which claims as a right the power of declaring war, and the right which nations at war have, of destroying or capturing each others subjects or goods, imposes on neutral nations the obligation not to interfere with the exercise of this right within the rules and limits prescribed by the law of nations.

Block'house, in *fortification*, a house made of beams, joined together crossways, and often doubled, with a covering and loopholes. It is usually large enough to contain from 50 to 100 men; is sunk several feet beneath the surface; is fitted up to receive cannon; sometimes contains two stories, and is commonly rendered bomb and fire-proof. Its use is to afford a feeble garrison an opportunity of holding out against the cannonade of the enemy till relieved. Blockhouses are also made as places of last resort in the interior of intrenchments and in the covered passages of fortresses.

Block'ing, } in *masonry*, a
Block'ing-course, } course of stones placed on the top of a cornice crowning the walls.

Block'ings, in *joinery*, small pieces of wood fitted and glued to the interior angle of two boards or other pieces, with a view to strengthen the joint.

Block-tin, tin cast into blocks or ingots; it is generally less pure than *grain-tin*.

Blom'ary. *See* Bloom.

Blood, Germ. *blut*, Fr. *sang*. The red fluid contained in the blood-vessels of animal bodies. It is found in the mammalia, in birds, in reptiles, and in fishes. In the last two classes of animals, the temperature of the blood is much lower than in the former, for which reason they are distinguished by the name of *cold-blooded*, while the others are termed *warm-blooded* animals. Insects and worms, instead of red blood, have a juice of a whitish colour, which is called *white-blood*. In the mammalia the blood circulates in the arteries and veins: it is bright red in the former and purple in the latter. It consists: 1st, of a colourless transparent solution of several substances in water; and 2nd, of red undissolved particles diffused through the solution. When fresh drawn from the vessels, it rapidly coagulates into a gelatinous mass called the *evaculum* or *clot*, from which, after some time, a pale yellow fluid oozes forth, called the *serum*. The coagulum may be divided into two parts—the *cruor*, or that part of the blood which is intrinsically red and coagulable, and the *lymph* or *fibrine* to which the coagulation of the blood is to be ascribed. The specific gravity of the blood varies from 1·053 to 1·057 at 60°.—In *law*, a kinsman of the *whole blood* is one who descends from the same couple of ancestors; of the *half-blood*, one who descends from either of them singly by a second marriage.

Blood'-heat, } a fluid raised to the tem-
Blood'-hot, } perature of the blood (98° Fah.), is blood-hot.

Blood-hound, the *canis sagax*, Lin., and *chien courant*, Buffon. A variety of the common dog, remarkable for the perfection of its sense of smell. Owing to this circumstance, the blood-hound was anciently much employed in pursuing cri-

minals, and tracing robbers and enemies, whose course he invariably discovered if once placed upon their track. These dogs were in Scotland called *sleuth-hounds*, and any person refusing one of them entrance, in his pursuit of stolen goods, was by law deemed accessory to the theft. This variety of the hound is perhaps now extinct.

Blood'-root, } Names common to the
Blood'-wort, } species of the genus *sanguinaria* (q. v.). These plants have also the names buccoon, turmeric, and red-root.

Blood'-stone, the *lapis hæmatites*. A species of calcedony, of a reddish colour, hard, ponderous, with fine striæ or needles. It is used for trinkets, and by goldsmiths and gilders to polish their work. The best much resembles cinnabar.

Blood'-vessel, any vessel or tube in which the blood flows or circulates in an animal body, as an artery or vein.

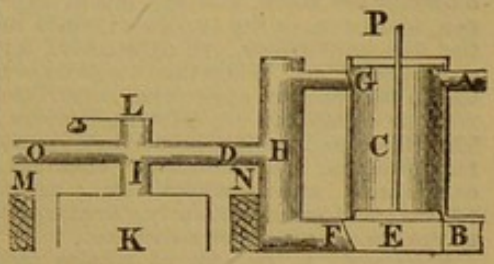
Blood'-wite. In *ancient law*, a fine or amercement paid as a composition for the shedding of blood.

Bloody Hand, a hand stained with the blood of a deer, which in the old forest laws of England was sufficient evidence of a man's trespassing in the forest against venison.

Bloom, Bloomery. At *iron-works*, a mass of iron, after having undergone the first hammering, is called a *bloom*, and the process of forming blooms is called *bloomery*, or *blomary*. The term is Sax. bloma, a mass or lump.——In *botany*, *see* Blossom. The word *bloom* is the Goth. *bloma*, Ger. *blume*, D. *bloem*. from the root of *blow*. The term *blossom* is a dialectical word from the same root through the Saxon.

Blos'som, from Sax. blosma. The flower or corolla of a plant; a general term applicable to every species of tree or plant, but more generally used than *flower* or *bloom* when we have reference to the fruit which is to follow. Thus, we use *flowers* in speaking of shrubs cultivated for ornament; and *bloom* in a more general sense, as flowers in general or in reference to the beauty of flowers. The term *blossom* is used to denote the colour of a horse when the hair is white, but intermixed with sorrel and bay hairs, otherwise *peach-coloured*.

Blowing-Machine, an engine employed at iron-works and other places for supplying the large furnaces with a regular and rapid volume of air. C is a hollow cylinder, furnished with a piston E, with its rod P working through a stuffing-box at the top of the cylinder, as in a common steam-engine. A and B are pipes leading into the cylinder, and furnished with valves opening inwards. F and G are valves opening outwards into two pipes, which lead into the upright pipe H. From this pipe, which is closed both at bottom and top, there proceeds a pipe, D O, giving off a branch at I into the



iron chest, K, which has no bottom, but rests upon a cistern of water, a part of the stone-work of the sides of which is shown at M and N. Above this branch there is a species of safety-valve, L, opening upwards, and loaded to a certain pressure. When the piston is raised, the valves A and F are shut, and the air contained in the cylinder is forced through the valve G; at the same time the valve B opens to admit more air into the cylinder. When the piston begins to descend, the condensation of the air within the cylinder causes the valve B to shut, and F and A to open: the first allows the air to pass into the pipe H, and the latter admits more air into the cylinder. The condensed air in H passes along the pipe D O, but the branch I allows it a passage into the iron chest K, where it presses upon the surface of the water, and causes it to rise on the outside of the chest. By this contrivance a perpetual pressure is obtained, equal to the height to which the water is raised, and thus the force with which the air passes through O into the furnace is equalised, notwithstanding those irregularities which unavoidably accompany the ascent and descent of the piston. From O two branches strike off to each side of the furnace.

Blow'pipes, are instruments used by anatomists and chemists, enamellers, &c. The anatomical blowpipe is a silver or brass tube, by means of which parts are inflated in order to develope their structure more distinctly. It is usually provided with a stopcock about its middle, by turning which, when the operator ceases to blow, the disagreeable effluvium from the parts in a state of putrefaction is avoided. The chemical blowpipe is usually made of brass; it is about one-eighth of an inch in diameter at one extremity, and tapers to a much smaller size at the other. The smaller end is bent to one side, and has a minute aperture, through which a stream of air is blown upon the flame of a candle, lamp, or gas-jet, producing thereby a fine conical flame, possessing a very intense heat.

The air is supplied from the lungs of the operator, or by bellows or bladders adapted to the purpose: but modifications of the blowpipe are made, whereby jets of oxygen, hydrogen, or the two gases mixed in the due proportions, are substituted for atmospheric air. When the two gases are used, the proper apparatus constitute what is called the *oxyhydrogen blowpipe*. The blowpipe is an invaluable instrument to jewellers, mineralogists, chemists, enamellers, glass-workers, &c., as it affords them instantaneously a heat equal to the strongest heat of a furnace.

Blub'ber. 1. The fat of whales and other sea-animals, of which train-oil is made. The blubber is the adeps of the animal; it lies immediately under the skin, and over the muscular flesh; it is about six inches thick, but about the upper lip it is from two to three feet in thickness.——2. The sea-nettle is also called the sea-blubber. *See* Medusa.

Blue'-Bonnet. 1. A small bird common in Britain: so called from a blue spot on its head.——2. A species of centauria (q. v.) is so called from the colour and shape of its flower.

Blue'-cap, a species of the salmon tribe, so called from the blue spots on the head.

Blue Dyes are indigo, prussian blue, logwood, bilberry (*Vaccinium myrtillus*), elder-berries (*Sambucus nigra*), mulberries, privet-berries (*Ligustrum vulgare*), and some other berries, whose juices become blue by the addition of a small portion of alkali, or of the salts of copper.

Blue'ing, the process of heating iron and some other metals until they assume a blue colour. The blue colour depends on a film of sub-oxide.

Blue-John, a name given by the miners to fluor-spar, called also Derbyshire-spar.

Blue Pigments. The blue pigments found in common are Prussian-blue, mountain-blue, Bremen-blue or verditer, iron-blue, cobalt-blue, smalt, charcoal-blue, ultramarine, indigo, litmus, and blue-cake.——The molybdates of mercury and tin, the hydrosulphuret and the prussiate of tungsten, the ammonuret of copper, and the silicate of copper, may be useful in particular cases.

Blue-stocking, a pedantic female: one who has sacrificed the characteristic excellencies of her sex to learning. The term originated with Mr. Stillingfleet, who constantly wore blue stockings, and whose conversations on literary subjects were highly prized in certain female evening assemblies afterwards denominated *blue-stocking clubs*.

Blue Vitriol, sulphate of copper.

Bluff, a high headland presenting a precipitous front. Hence a ship is said to be *bluff-headed* when her stern is upright or nearly so; and *bluff-bowed*, when her bows and broad are flat.

Blun'dereuss, *blunder* and D. *bus*, a gun. A short gun with a large bore, so as to contain a number of small balls, and intended to do execution without exact aim.

Blunk, a name in Scotland for calico, or that species of cotton cloth manufactured for being printed; hence *blunker*, a calico-printer. The word is a trivial application of the word *blunk*, dull, this species of cloth being denominated by weavers "heavy work."

Boa. 1. The Latin name of a popular eruption.——2. An old name of the *lues venerea*.——3. A *boa-like* ruff worn by ladies. It takes its name from its great length.——4. The name of a genus of reptiles belonging to Cuvier's tribe of *serpentia* or true serpents. It is in this genus that are found the largest serpents on the globe. Certain species attain a length of 30 or 40 feet, prey on dogs, deer, and even oxen, which they manage to swallow entire, after having crushed them in their folds, and covered them with saliva. The species, of which the *boa constrictor* and the *anaconda* are the most celebrated, are natives of the hottest latitudes of South America. The great serpents of the old continent belong to the genus *python*, to which however, the name *boa* appears to belong as a matter of right, having been so named, according to Pliny, because they sucked the teats of cows (*Βους*, a cow). Certain large Italian serpents appear to have been first called *boæ*, and subsequently the name came to signify any very large serpent, and was but recently restricted.

Boar. In the *manège*, a horse is said to *boar* when he shoots out his nose, raising it as high as his ears, and tossing it in the wind.

Board, Sax. Germ. Sw. *bord*. 1. In *nautical language*, the line over which a ship runs between tack and tack.—*To make a good board*, is to sail in a straight line when close hauled.—*To make short boards*, is to tack frequently.—*To board*, is to enter a ship by force in combat.——2. A body of men constituting a quorum in session; a court; a council; e. g. a *board* of trustees; a *board* of officers; a *board* of commissioners.——3. In *carpentry*. *See* Deal.

Boarding-joists, joists in naked flooring to which the boards are fixed.

Boarding-pike, a pike used by sailors in boarding an enemy's vessel.

Boasting, in *stone-cutting*, the paring of a stone with a broad chissel and mallet.

Boat, Sax. Sw. *bat*, Germ. *bot*, Sp. *bote*. A vessel propelled by oars, or *rowing*. Boats differ in construction and name according to the services in which they are

employed; e. g. the *barge* is a long, light, narrow boat, employed in harbours but unfit for sea: it never has less than ten oars.—The *pinnace* resembles a barge, but is smaller, having only eight oars.—The *long-boat* is the largest boat belonging to a ship, generally furnished with a mast and sails, and may be armed and equipped for cruising short distances.—The *launch* is more flat-bottomed than the long-boat, which it has generally superseded.—The *cutters* of a ship are broader and deeper than the barge or pinnace, and are fitter for sailing: they have usually six oars.—*Yawls* are smaller than cutters, but have the same number of oars.—The *jolly-boat* is smaller than a yawl, and has usually four oars.—A *gig* is a long narrow boat, used for expedition, and rowed by six or eight oars.—A *wherry* is a light sharp boat used in rivers and harbours.—A *skiff* is a small boat like a yawl, used for passing rivers.—A *punt* is a small flat-bottomed boat, usually propelled by one person.—A *moses* is a flat-bottomed boat used in the West Indies for carrying hogsheads from the shore to ships in the roads.—A *felucca* is a strong passage-boat used in the Mediterranean with from ten to sixteen banks of oars.—A *scow* is a large flat-bottomed heavy boat. In some parts of America it is called a *gondola*, in imitation of the gondola used at Venice, in Italy, on the canals: it is about 30 ft. long, and 12 wide. There are also *canoes*, *perogues*, *galleys*, *ferry-boats*, *packet-boats*, *passage-boats*, *advice-boats*, *canal-boats*, *steam-boats*, *towing-boats*, &c., &c.

Boat'-bill, the *cancroma cochlearia*, Lin. A bird of the grallic order: size of a hen: whitish, grey, or brown back, red belly, white forehead followed by a black cotte; bill four inches in length, and not unlike a boat with the keel turned uppermost: inhabits the hot and marshy parts of South America. The boat-bill bears a close resemblance to the heron.

Boat'-fly, } a genus of hemipterous
Boat'-insect, } insects known in entomology by the generic name *notonecta*. Their posterior legs are densely ciliated, and resemble oars. They swim or rather row with great swiftness, and frequently while on their back.

Boatswain, pron. *bos-n*; *boat*, and Sax. wein, a servant. An officer on board of ships who has charge of the boats, sails, rigging, colours, anchors, cables, and cordage. His office is also to summon the crew to their duty, to relieve the watch, assist in the necessary business of the ship, seizing and punishing offenders, &c. The *boatswain's mate* has charge of the long-boat, for setting forth and weighing anchors, warping, towing, and mooring.

Bob. 1. The ball of a pendulum: the metallic weight which is attached to the lower extremity of a pendulum-rod.—2. A knot of worms on a string used in fishing for eels.

Bob'stays, ropes to confine the bowsprit of a ship downward to the stem.

Bocar'do, an arbitrary name in logic for the fifth mode of the third figure of syllogism. The middle proposition is universal and affirmative, and the other two particular and negative.

Boc'conia, the *tree celandine*. A genus of arborescent plants of two species—*Dodecandria*—*Monogynia*. Natives of the West Indies and Peru.

Bocklands, that is *booklands*. In ancient times lands held by charter or deed in writing, under certain rents and free services. This species of tenure has given rise to the modern freehold.

Bod'y, from Sax. bodiȝ, that which is set or fixed. 1. In *physics*, the term *body* is often read in the same sense as *matter*, that is, to designate a substance which has length, breadth, and thickness; is divisible, impenetrable, and moveable. Bodies are called *ponderable* when they may act upon several of the senses, and when their materiality is thereby sufficiently established: of this kind are solids, fluids, and gases. They are called *imponderable* when they give rise to phenomena which may be regarded merely as particular states or affections of ordinary matter, without being otherwise cognisable by the senses: of this sort are caloric, light, electricity, and magnetism. Besides the common properties of matter, extension, divisibility, impenetrability, and mobility ponderable bodies possess secondary properties which are variable, as hardness, porosity, elasticity, density, &c., by which their condition or state is infinitely modified. Bodies are also *simple* and *compound*, simple when they consist of one element, and compound when they are composed of two or more elements. Animal bodies are composed of eight or ten elements, and have nitrogen for their base; vegetables consist of only four or five elements, and have carbon for their base.—2. In *geometry*, the word *body* is used in the same sense as *solid*, that is, which has the three dimensions, length, breadth, and thickness. A *regular* or *platonic body* is one which has all its sides, angles, and planes, similar and equal. There are only five bodies such, viz.: (1.) Tetrahedron contained under 4 equilateral triangles; (2.) Hexahedron, 6 squares; (3.) Octahedron, 8 triangles; (4.) Dodecahedron, 12 pentagons; (5.) Icosahedron, 20 triangles. Bodies are said to be *irregular* when they are not bounded by equal and like surfaces —3. Among *painters*, the phrase "to bear a body," is applied to any colour when

capable of being ground so fine, and to mix with the oil so entirely as to seem one thick oil of the same colour.——The word *body* is frequently used to denote the main or principal part; e. g. the *body* of a pump, which is the thickest part of the barrel or pipe; the *body* of a coach, &c. It is also used to designate a number of individuals or particulars united; e. g. the *legislative body*. We also speak of *bodies* corporate, *bodies* politic, &c.

Body Plan, in the language of naval draftsmen, an end view, showing the contour of the sides of the ship at certain points of her length; and since the sides are exactly alike, the left half is made to represent the vertical sections of the after-part of the body, and the right half those of the forepart. The base of the projection is the midship section, called the *dead-flat*, and within this the other sections are delineated.

Boo, an Irish word signifying *soft*, and applied to a quagmire covered with herbage. It is defined by *marsh* and *morass*; but differs from a marsh, as a part from a whole. *Bogs* are too soft to bear a man's weight: *marshes* are less soft, but very wet; *swamps* are spongy grounds which are often mowed.

Bog'-berry, the cranberry or marsh whortleberry (*vaccinium oxycoccos*) which is common in peat-bogs.

Bog'-iron-ore, } an iron ore peculiar to
Bog'-ore, } boggy land. "At the bottom of peat mosses there is sometimes found a cake or pan of oxide of iron," to which this name is given. It is probably derived from the decayed vegetables, of which most of the moss is composed.

Bog'-rush. 1. A name common to all the plants of the genus *Schœnus*, most of which inhabit spongy grounds. Donn enumerates three British species.——2. A bird, a species of warbler of the size of a wren, common among the bog-rushes of Schonen in Sweden.

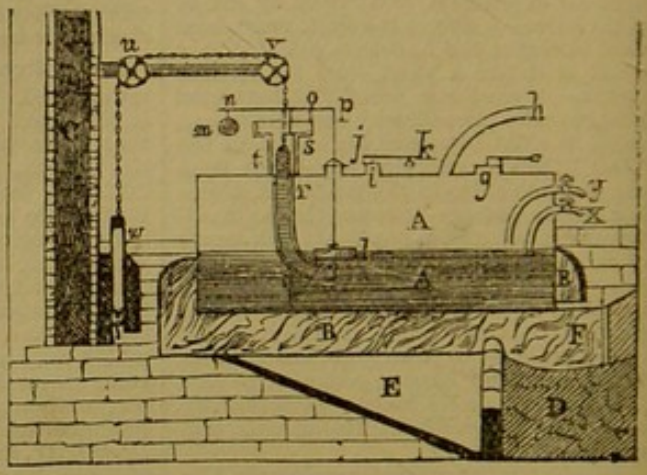
Bog-spav'in. In *farriery*, an encysted tumour on the inside of the hough, containing a gelatinous matter.

Bog'-whort, the bilberry or whortleberry, common in boggy grounds.

Bohe'a, a species of black tea (*see* Tea), named, according to Grosier, from a mountain in China, called *Vou-y* or *Voo-y*.

Boil, an inflammatory, circumscribed, and very painful swelling immediately under the skin, which always suppurates, and sooner or later discharges its contents. The word is perhaps from the Goth. *buila*, rage, madness, as its Latin synonym, *furunculus*, is from the verb *furo*, to rage.

Boil'er, a large pan or vessel of iron, copper, or brass, used in distilleries, potash works, and the like, for boiling large quantities of liquor at once. The same name is given to the vessel in which steam is generated for the supply of a steam-engine. This boiler is usually formed of plates of copper or malleable iron rivetted together, so as to be perfectly air-tight, and in shape oblong, its sides and bottom arched inwards, but its top curved outwards. The figure is a longitudinal section: *aa* is the boiler, *bb* the flues, *c*, the chimney, *d*, the ash-pit, *e*, an opening to receive any ashes which



may be carried over the furnace bars, *f*, the fire-place, *g*, the man-hole, in the cover of which there is a valve which opens inwards, *h*, steam-pipe leading to the engine, *i j k*, the safety-valve, with its lever and weight, *l*, a stone-float balance by the weight *m*, both being attached to the lever *n o p*, the fulcrum of which is at *o*. To the centre of this lever is also attached the small rod which works the small valve fixed in the bottom of the top part of the feed-pipe, *q r s*. The force of the steam in the boiler causes the water to rise in the pipe and act upon the float opposite *t*, connected by a chain passing over the pulleys, *u v*, to the damper *w*, which is capable of moving up and down in guides, and of closing and opening the passage, where the flue enters the chimney, *x y*, are the guage-cocks for ascertaining the height of the water in the boiler.

Boil'ing Point, the temperature at which a fluid begins to boil and assume the gaseous state in contradistinction to *freezing-point*. Both points are different in different fluids, but constant in each

provided the pressure of the atmosphere be the same. The boiling point of water is 212°, of mercury, 656°.

Boiti'apo, a Brazilian serpent of the most venomous kind, about eight feet long, covered with scales of a yellowish colour.

Bole, from Lat. *bolus*, a mass. An argillaceous mineral, having a conchoidal fracture, a glimmering internal lustre, and a shining streak. Its colours vary from white through all the shades of yellow and brown to black. The *terræ sigillatæ* (sealed earths) were little cakes of bole stamped with certain impressions, and formerly in high repute as medicine. The *Armenian bole* of the shops is a red variety, the colour is due to an impregnation of peroxide of iron. It is used as a tooth powder. *Bole of Blois* is yellow; *Bohemian bole* is orange; *French bole* is pale red, variegated by white and yellow specks; *Lemnian bole* is pale red; *Silesian bole* is pale yellow.

Bole'ro, a peculiar dance very popular in Spain, and so called after its inventor.

Bolet'ic, pertaining to the *boletus*. The *boletic acid* is obtained from the juice of the *boletus pseudo-igniarius*, a species of fungi.

Bole'tus, *βωλιτης*. 1. A fungus referred to the genus *Lycoperdon*.— —2. A genus of mushrooms of the order *Fungi*. Many of the species are poisonous, two of them afford *amadou* (q. v.), and the *boletus sulphureus*, on drying, evolves crystals of pure oxalic acid.

Bolis, Lat. from *βολις*, a *dart*, a fireball: a meteor seen darting through the air, followed by a train of light or sparks.

Boll. 1. The pod or capsule of a plant, pericarp.——2. A measure of six bushels.

Bol'lards, large pots set in the ground at each side of docks; to them are lashed large blocks through which are reeved the transporting hawsers for docking and undocking ships.

Bol'lard Timbers, in a *ship*, are two timbers rising just within the stem, one on each side of the bowsprit, to secure its end. They are also called *knight-heads*.

Bolognese School. In *painting*, sometimes called the *Lombard school*, and the eclectic school. It was founded by the Caracci, and its object was to unite the excellencies of the preceding schools.

Bolog'nian Stone, } a pyropho-
Bolog'nian Phosphorus, } rus obtained from sulphate of baryta by calcination and exposure to the sun's rays. This substance shines in the dark, a circumstance which was accidentally discovered by one Vincenzio Casciarolo, a shoemaker of Bologna, about the middle of the seventeenth century.

Bol'sters. 1. In *nautical language*, small bags filled with tarred canvas, rope-yarn, &c., to place under the shrouds and stays to prevent their chafing against the trestle-tree, by the motion of the mast, when the ship rocks.——2. In *saddlery*, the parts of a saddle raised upon the bows to hold the rider's thighs.

Bolt, a strong cylindrical pin of iron or other metal, used to fasten a door, plank, &c. Those used for fastening doors and windows, are plate-bolts, spring-bolts, and flush-bolts. In *ships*, bolts are used in the sides and decks, and have different names, as rag-bolts, eye-bolts, ring-bolts, chain-bolts, &c. In *gunnery*, there are prize-bolts, transom-bolts, traverse-bolts, and bracket-bolts. A *thunder-bolt* is a stream of lightning. A *bolt of canvas* is 28 yards.

Bolt'-Auger, an auger of a large size used in ship-building.

Bot'tel. *See* Boultine.

Bolt-Head, a long, narrow-necked, chemical glass vessel, usually employed for digestions. It is otherwise called a *matrass*.

Bolting-Cloth, a linen or hair cloth of which bolters are made for sifting flour.

Bolt-Rope, the rope to which the edges of sails are sewed to strengthen them. That part of it on the perpendicular side is called the *luck-rope*; that at the bottom, the *foot-rope*; that at the top, *head-rope*.

Bom, an American serpent of a harmless nature, and remarkable for uttering a sound like *bom*.

Bomb, from *bombus*, a great noise. A large hollow iron-ball or shell with a hole in which a wooden fusee is cemented, and furnished with two handles. It is filled with powder and combustible matter, and the fusee being inserted, it is discharged from a mortar, in such a direction as to fall into a fort, city, or enemy's camp, when it bursts with great violence, and often with terrible effect. *Bombs* are used in sieges; *grenades* in the field; the first are thrown from mortars, the latter from howitzers.

Bom'bard, a piece of short thick ordnance with a large bore formerly used; called also a *basilisk*, and by the Dutch a *donderbuss* or thunder-gun. Some bombards carried balls of 300 lbs. The name is found in the French, Spanish, and Italian languages, and is composed of *bomb* and *ard*, kind, but such guns are no longer used.

Bombardie'rs. 1. Those who manage the mortars, which throw bombs.——2. A genus (*Carabus*) of the beetle tribe of insects.

Bombar'do, a musical instrument of the wind kind; it resembles the bassoon, and is used as a base to the hautboy.

Bom'bast, a stuff of a loose texture for

merly used to swell garments. The word is now used to designate a *fustian* style of writing.

Bom'bax, the *silk cotton-tree*, a genus of arborescent plants of several species, natives of hot climates. *Monadelphia—Polyandria.* Named from βομβάξ.

Bombazi'ne, a worsted stuff sometimes mixed with silk, and sometimes crossed with cotton.

Bomb'-Chest, a chest filled with combustible matter, placed under ground to do mischief by its displosion.

Bom'bic Acid, acid of the silk-worm, *bombyx*, contained in a reservoir near the anus.

Bomb'-Ketch, } a strong vessel built for
Bomb'-Vessel, } the purposes of bombardment. The modern bomb-vessels carry two 10-inch mortars, four sixty-eight pounders, and eighteen pound carronades, and are generally from 60 to 70 feet from stem to stern.

Bom'bus, Lat. from βομβος, a humming noise, the name of a genus of aculeated hymenoptera, the species of which are recognised in this country as *humble-bees* or *humming-bees*. This name, however, is common also to the *xylocopæ*, which include the larger species. Both genera belong to the great genus *Apis*.

Bom'bycil'la, a genus of omnivorous paserine birds.

Bom'bycites, a tribe of nocturnal lepidoptera. The caterpillars live in the open air, feed on the tender parts of plants, and in general form a cocoon of pure silk. The genus *Bombyx* gives name to this tribe.

Bombylie'rs, Latr. } A genus of dipte-
Bombyl'ius, Linn. } rous insects placed by Cuvier among the *tanystoma*, and by Wilson among the *proboscides*, named from βομβος, in allusion to the sharp humming sound which they make in flying. Fifty European species are described.

Bom'byx, a genus of nocturnal lepidoptera, the caterpillar of which is the *silk-worm*. The true silk-worm moth, *B. mori*, Linn., is whitish, has a few transverse streaks, and a lunar spot on the superior wings. It feeds on the leaves of the mulberry, and spins an oval cocoon of a close tissue, with very fine silk, usually yellow, but sometimes white. The variety which produces the latter are now preferred. The name βομβυξ, is derived from βομβος, a humming sound.

Bon, the Egyptian name of the coffee-tree.

Bona-fi'de, that is, *good faith*, meaning without fraud or subterfuge. Lat.

Bonas'sus, } a species of the bovine ge-
Bona'sus, } nus of quadrupeds common to Asia and Africa.

Bond. Sax. bond from the same root as *band*. In *law*, an obligation or deed by which a person binds himself, his heirs, executors, and administrators, to pay a certain sum on or before a future day appointed. This is a *single bond*, but usually a condition is added, that if the obligor shall do a certain act, or pay a certain sum of money, on or before a future time specified, the obligation shall be void, otherwise it shall remain in full force. If the condition is not performed, the bond is forfeited, and the obligor and his heirs are liable to the payment of the whole sum. In *carpentry*, the binding of any two pieces together by tenanting, morticing, &c. In *masonry*, the disposition of stones or bricks in building, so that they most aptly fit together. Stones which have their length placed in the thickness of the wall are called *headers*, and those which have their length extended along in the length of the wall are called *stretchers*. English bond is that disposition of bricks in a wall where the courses are alternately composed of headers and stretchers. Flemish bond is that in which the bricks in each course have headers and stretchers alternately.

Bond'-Stones, stones used in uncoursed rubble-walls, having their length placed in the thickness of the wall. When the length of a stone is equal to the whole thickness of the wall, it is called a *perpend*.

Bond-Timbers, the horizontal timbers bedded in stone or brick walls to strengthen the masonry.

Bonds. In *building*, includes all timbers disposed in the walls of a building, as bond-timbers, wall-plates, lentels, and emplets.

Bonded Goods, those for the duties on which bonds are given at the Custom-house.

Bon'duc. 1. The *nickar-tree*, a name common to both species of the genus *Guilandina*, but especially to the yellow-seeded species common to both Indies. ——2. The *gymnocladus canadensis*, a Canadian tree recently separated from the genus *Guilandina*.

Bone, Lat. *os*, the substance of which the frame-work of animals is composed from Sax. binnan, to bind. Bone is composed of 33·3 cartilage; 55·35 phosphate of lime; 3 fluate of lime; 3·85 carbonate of lime; 2·05 phosphate of magnesia, and 2·45 soda, with a little common salt.

Bone'-ace, a game at cards in which he who has the highest card turned up to him wins the *bone*, that is, one half the stake.

Bone-Black, the black carbonaceous matter into which bones are converted by calcination in close vessels. It is also

animal charcoal, and is used as a black pigment, and to deprive various solutions, particularly syrups, of their colouring matters.

Bone-lace, a lace made of linen thread, so named from its being made with bobbins of bone, or more probably in allusion to its stiffness.

Bone'spavin, a bony excrescence or hard swelling on the inside of the hock of a horse's leg, usually cured by caustic blisters. *See* Spavin.

Bon'grace. 1. A large bonnet formerly worn by females to protect them from the sun.—2. A fence of old ropes, canvas, &c., laid at the bows, stern, and sides of a vessel sailing in high latitudes, to protect the mariners against flakes of ice, winds, &c.

Bon'ing, the act of judging of or making a plane surface by the direction of the eye. This term is of frequent use among surveyors and architects, who perform the operation of boning by means of poles set up at certain distances; these are adjusted to the required line by looking along their vertical surfaces. Joiners, &c., bone their work with two straight edges.

Boni'to, a fish of the tunny tribe found on the American coast, and in tropical climates. It grows to three feet, has a greenish back and a silvery white belly.

Bon'net, Fr. *bonnette*, Sp. *bonete*. 1. In *fortification*, an elevation of the parapet in the salient angles of a field retrenchment, or of a fortification designed to prevent the enfilading of the front of the work, at the end of which it is situated. The *bonnet à prêtre*, or priest's bonnet, is an outwork having at the head three salient angles, and two inwards.—2. In *nautical language*, an addition to a sail, or an additional part laced to the foot of a sail, in small vessels and in moderate winds.

Bono'nian-Stone. *See* Bolognian-Stone.

Bono'nian-Jars, } small thick jars of
Bono'nian-Bottles, } unannealed glass, which break into a thousand pieces by the impulse of a single grain of sand.

Bon'tia, the generic name of the wild olive of Barbadoes. *Didynamia—Angiospermia*. The tree is named in honour of James Bontius of Leyden, a distinguished physician and naturalist.

Bo'nus, a Latin word meaning *good*, used to denote a premium given for a loan, right, or privilege, above its prime or original cost.

Bon'zes, a name given in oriental countries to the priests and devotees of the god Fo. They are distinguished by different names in the different countries where their superstition prevails. In Siam they are called *Talapoins:* in Tartary, *Lamas*; in China, *Ho-chang;* in Japan, *Bonzes*, in which name all the others are comprehended among Europeans.

Boo'by, a bird of the Pelican tribe. The boobies constitute the sub-genus *Sula* of Brisson, and take their name from the excessive stupidity with which they allow themselves to be attacked by other birds, particularly the frigate birds, which force them to yield up the fish they have captured. The common booby (*Pelecanus bassanus*, Linn.), is found from the Tagus to the Gulf of Bothnia, and in great numbers on the Bass Rock in the Frith of Forth. It is white, but the primary feathers of the wings and the feet are black; the bill is six inches long, and of a beautiful bluish grey.

Book, the general name given to a printed volume in contradistinction to *pamphlet*. Among printers five sheets and upwards make a book; less than five sheets is a pamphlet. A quantity of unprinted paper, bound up or sewed in the manner of a printed volume, is oddly enough called a *paper-book*, sometimes more correctly a *blank book*.

Books are divided into the following classes according to the mode in which the sheets of the paper on which they are printed or written are folded; viz., *folio*, when the sheet is folded into two leaves; *quarto*, when folded into four; *octavo*, when folded into eight; *duodecimo*, when folded into twelve; 18*mo*, when folded into eighteen; and 24*mo*, when folded into twenty-four. These classifications have no reference to the size of the sheet. The word *book* is derived from the Saxon boc, the root of which is the Gothic *boka*, a beech or service-tree, or more strictly the bark of such tree. This was the first material of which books were made.

Book-Keeping, a mercantile term used to denote the method of keeping commercial accounts of all kinds, in such a systematic manner, that the true state of any individual account, or of the whole affairs of the concern, may be ascertained with clearness and expedition. Book-keeping is practised by *single* and *double* entry. In the first the posts of debtor and creditor are separate, and entered in such a way that each one appears singly; while in the latter, creditor and debtor are in continual mutual connexion, to which end all the posts are entered doubly, once on the debtor and once on the creditor side. This mode was first practised in Spain, but was introduced into this country from Italy; hence it is with us called the *Italian method*.

The books principally wanted are a *waste-book* or *blotter*, in which all dealings are recorded without particular

order; a *journal*, in which the contents of the waste-book are technically entered on the debtor and creditor sides; and the *ledger*, in which the posts entered in the journal are placed under particular accounts. Besides these, some merchants use a chase-book, a bill-book, a receipt-book, a sales-book, an invoice-book, a letter-book, a stock-book, besides books of charges, household expenses, &c. These are called *subsidiary books*.

Boom, from Sax. boeme, a beam, a bar. In *nautical language:* 1. A long pole or spar run out from various parts of a ship or other vessel, for the purpose of extending the bottom of particular sails, as the *jib-boom*, *studding-sail boom*, *main-boom*, *square-sail boom*, &c.——2. A strong iron chain fastened to spars and extended across a river or the mouth of a harbour to prevent an enemy's ships from passing. ——3. A pole set up as a mark to direct seamen to keep the channel in shallow water.——4. To *boom*, to rush with violence, as a ship under a press of sail. In this sense the word is, Dut. *bom*, the sound given by an empty barrel when struck; hence *bomme*, a drum, and *bommen*, to drum.

Boom'kin, dim. of *boom*, a short spar projecting from the bow of a ship to extend one edge of the foresail to the windward.

Boops, the pike-headed whale, so named from its sharp-pointed nose. It has a double pipe in its snout, and a bony ridge on its back.

Boor, a peasant (*D. boer*, a rustic), particularly applied to the peasantry of Russia. These are divided into two classes, *free boors* and *vassal boors*. The former cannot be sold; the latter are mere slaves entirely at the disposal of their lords. The *crown-boors*, the *mine-boors*, and the *private-boors*, are all of this latter description.

Boot, a covering for the leg, made of leather, and united to a shoe. In *old law*, the *boot* was a kind of rack for the leg, used for the purposes of torture. It was made of boards bound fast to the legs by cords. Another kind was a small boot made of strong leather, which being made thoroughly wet and soft was drawn upon the leg, and then dried by the fire so as to contract and squeeze the leg. The *boot of a coach* is the space underneath, between the coachman and the body of the coach, in which the luggage is stowed. The apron of a gig is also sometimes called, very improperly, the *boot*.

Bootes, a northern constellation, called by the Greeks *Arctophylax*, and by the English *Charles's Wain*. Arcturus was placed by the ancients on his breast, and by the moderns on the skirt of his coat. Fable relates that Ceres, as the reward of Philomelus for his invention of the art of ploughing, transferred him and his oxen to the heavens, under the name of *Boötes* (βοωτης, a husbandman). In the Berlin tables this constellation contains 64 stars.

Boot-Topping, the operation of cleaning a ship's bottom near the surface of the water, by scraping off the grass, shells, slime, &c., and daubing it over with a mixture of tallow, rosin, and sulphur.

Boracic, pertaining to borax. *Boracic acid* is obtained from borax by dissolving the salt in hot water, filtering the solution, adding sulphuric acid till the liquid has become sensibly sour; then setting aside to cool, the boracic acid will be deposited in small white shining scaly crystals. It is composed of *boron* and *oxygen*, in the proportion of eight parts of the former to sixteen of the latter. Its salts are called *borates*.

Borac'ite, a native borate of magnesia found embedded in gypsum in Hanover and Holstein. Its colours are white and greyish; it is generally of a cubic form, and possesses, when heated, strong electrical properties.

Bor'age, a name common to all the plants of the genus *Borago*, but especially applied to the *B. officinalis*, an indigenous annual, much used as an ingredient in the summer beverage called *cool tankard*. It contains much nitrate of potash.

Boragin'eæ, a tribe of dicotyledonous plants, of which the genus *Borago* is the type.

Bo'rate, a salt formed by the combination of the boracic acid with a salifiable base.

Bo'rax, a biborate of soda which, in an impure state, is called *tincal*. This salt is found crystallised in certain lakes in Thibet; in solution in many springs in Persia; and may be procured of superior quality from China. It is purified by calcination, solution, and crystallisation. Its composition, according to Bergman, is boracic acid, 34; soda, 17; water, 49. It is highly important in the arts as a flux. The word *borax* is latinised from the Persian word *bourakon*, from *boráka*, to shine, glisten.

Bor'bonites, a sect of Gnostics of the second century. They denied the last judgment, and take their name from βορβορος, in allusion to their daubing themselves with filth.

Borborygmus, the name given by medical practitioners to the rumbling noise occasioned by flatus in the intestines, from βορβορυγμος, intestinal noise.

Bor'der. The term is from the same

oot as *board*. In *heraldry*, it is an honourable ordinary, according to French heralds, which should occupy a third part of the shield. It surrounds the field, is of equal breadth on every part, and in English blazonry, it occupies one-fifth of the field.

Bord'land, in *old law*, the domain land which the lord kept in his own hand for the maintenance of his *bord* (board) or table; sometimes called *bordage*.

Bord'-lode, that is, *board-load*, the service required of a tenant to carry timber from the woods to his lord's house; also the quantity of provisions paid by a *bordman* for *bordland*.

Bord'-Man, the tenant of *bordland*, who supplied his lord with provisions.

Bord'-Service, the tenure by which *bordland* was held, which was the payment of a certain quantity of provisions to the lord. In lieu of this the tenant now pays sixpence an acre.

Bor'dure. In *heraldry*, a tract or compass of metal, colour or fur, within the escutcheon, and around it.

Bore, from Sax. boꝛian, to perforate, expresses the sudden rise of the tide in certain estuaries. To *bore*: in the *manège*, a horse is said to *bore* when he carries his nose to the *ground*.

Boree', the French name of a dance, in common time of four crotchets in a bar, always beginning in the last quaver or last crotchet of the measure.

Bor'ing, a species of circular cutting in which a cylindrical portion of the substance is removed. Among *miners*, boring is performed for the purpose of ascertaining the nature of the subjacent strata without digging. The instruments used are scooping irons, which, being withdrawn from time to time, bring up samples of the strata through which they have passed.

Bo'ron, the basis of boracic acid. It may be obtained by heating in a copper tube two parts of potassium and one of boracic acid, previously fused and powdered. It is classed among the metals by chemists.

Bor'ough, from Sax. boꝛhoe, surety. In Saxon times this word denoted a *manledge* (hand-pledge) or association of men, who were sureties or free pledges to the king for the good behaviour of each other, and if any offence was committed in their district, they were bound to have the offenders forthcoming. The associating of ten men was called a *tything* or *decenary*; the head man was called the *tything-man*, or *head-borough*, and in some places *borsholder* and *borough's ealder*, and the society *friburg*, that is, free-burgh or frank-pledge. Ten tythings formed an *hundred*, a denomination still retained to the districts comprehended in the association. It is probable that the application of the word *borough* to towns sprung from these associations, when their primary objects were somewhat merged in the rights and privileges of the *burghs*, which denoted originally fortified towns. This name, however, was early restricted to those towns which sent burgesses to parliament. In this sense the term is Sax. boun̄, a fortified place. Some boroughs are incorporated, but others are not. In *Scotland*, the term is applied to a body corporate, erected by charter of the Sovereign, having a certain jurisdiction. Boroughs, when erected to be held of the Sovereign, are called *royal boroughs*; when erected to be held of the Sovereign simply as superior of the land, they are called *boroughs of regality*; when erected to be held of the lord baron, they are called *boroughs of barony*.

Bor'ough-Courts, certain courts of private and special jurisdiction, held in different cities, boroughs, and corporations, throughout the kingdom, by prescription, charter, or act of parliament. Of this character are the Sheriff's court and court of Hustings in London.

Bor'ough-English, a customary descent of lands and tenements to the youngest son instead of the eldest; or, there being no sons, to the youngest brother.

Bor'relists, a sect of Christians in Holland, so called from Borrel, their founder. They reject the use of the Sacraments and all external worship, but lead an austere life.

Bos, the ox: a well-known genus of ruminant animals of the tribe of Bovidæ. The name is Lat. from βους, an ox. The chief species are the common ox, the aurochs, bison, buffalo, yack, and musk ox.

Bo'sa, an inebriating preparation used by the Egyptians, made of the meal of darnel, hempseed, and water.

Bos'cage, a French term, now written *bocage*, a grove. 1. Underwood and sometimes lands covered with underwood.—— 2. In *painting*, a landscape representing thickets and woodlands.——3. In *old law*, food for cattle which is yielded by bushes and trees.

Bos'ket, Eng. } Ital. *boschetto*, a grove,
Bos'quet, Fr. } from *bosco*. In *gardening*, a compartment formed by branches of trees, disposed according to fancy.

Bossage, from *boss*. In *architecture*:— 1. A projecting stone laid rough in building, to be afterwards carved into mouldings, capitals, arms, &c.——2. Rustic work used chiefly in the corners of buildings, and thence called *rustic quoins*.

Boswel'lia, a genus of plants. *Decandria—Monogynia*. The *B. serrata* is supposed to yield the olibanum of commerce

Botano'graphy, βοτανη, a plant, and γραφη, description. Description of plants, their habits and geographical distribution.

Bot'any, from βοτανη, a plant. That branch of natural history which relates to the vegetable kingdom. It has been divided into the following heads:—1. *Organography*, or the organization of plants; 2. *Physiology*, or the department which treats of the vital actions of plants; 3. *Taxonomy*, or the principles of classification; 4. *Terminology*, or the terms employed in the science; 5. *Phytography*, or the rules to be observed in describing and naming plants; and, 6, the *Practice of Botany*, or, the application of the preceding subjects to the art of discriminating species.

The only two botanical arrangements now in use are the Linnæan and the Natural. The former is a classification of plants according to their agreement in some single characters; the latter is a scheme for placing next to each other all those plants which have the greatest resemblance. For a more full explanation of these two kinds of classification, the reader is referred to the various works that have been published on the subject, as space can only be afforded here for a very general account of these. As the Linnæan system is rapidly falling into disuse, and has been already so often explained, a very brief description of the combination of the stamens and styles may suffice in this place Class I. (stamen, 1), Monandria; II. (stamens, 2), Diandria; III. (stamens, 3), Triandria; IV. (stamens, 4), Tetrandria; V. (stamens, 5), Pentandria; VI. (stamens, 6), Hexandria; VII. (stamens, 7), Heptandria; VIII. (stamens, 8), Octandria; IX. (stamens, 9), Enneandria; X. (stamens, 10), Decandria; XI. (stamens, 12—19), Dodecandria; XII. (stamens, 20 or more, inserted into the calyx), Icosandria; XIII. (stamens, 20 or more, inserted into the receptacle), Polyandria; XIV. (stamens, 2 long and 2 short), Didynamia; XV. (stamens, 4 long and 2 short), Tetradynamia; XVI. (stamens united by their filaments into a tube), Monadelphia; XVII. (stamens united by their filaments into two parcels), Diadelphia; XVIII. (stamens united by their filaments into several parcels), Polyadelphia; XIX. (stamens united by their anthers into a tube), Syngenesia; XX. (stamens united with the pistil), Gynandria; XXI. (stamens and pistils in separate flowers, but both growing on the same plant), Monœcia; XXII. (stamens and pistils not only in separate flowers, but those flowers situated upon two different plants), Diœcia; XXIII. (stamens and pistils separate in some flowers, united in others, either on the same plant, or two or three different ones), Polygamia; XXIV. (stamens and pistils, either not ascertained, or not to be discovered, with any certainty, insomuch that the plants cannot be referred to any of the foregoing classes), Cryptogamia. The number of styles, or stigmas if there be no styles, characterises the orders of the first thirteen classes, which are thus named:—Monogynia, style 1; Digynia, 2; Trigynia, 3; Tetragynia, 4; Pentagynia, 5; Hexagynia, 6; Heptagynia, 7; Octogynia, 8; Enneagynia, 9; Decagynia, 10; Dodecagynia, 12; Polygynia, more than 12. In the 14th class, Didynamia, the orders depend upon the ovary; in the 15th class, Tetradynamia, the orders are characterised by the form of the fruit. The orders of the 16th, 17th, and 18th classes, Monadelphia, Diadelphia, and Polyadelphia, depend upon the number of stamens, and have the same nomenclature as the first thirteen classes. Syngenesiæ are determined by the arrangement of their flowers, and by the sex of their florets. Polygamia has flowers crowded together in heads. Monogamia has the flowers separate, not crowded in heads; and the last class, Cryptogamia, is divided into orders according to the principles of the Natural System, viz. Filices, Musci, Hepaticæ, Algæ, Fungi.

The Natural System of botany is based upon that formed by Jussieu out of the views of Ray, Tournefort, and others, in combination with numerous observations of his own, and may be thus classified:—*Divisions formed by the Organs of Fructification or of Nutrition.*—I. Phanerogamous or Vascular. Class 1. Dicotyledons or Exogens; 2. Monocotyledons or Endogens. II. Cryptogamous or Cellular. 3. Ætheogamous or Semivascular; 4. Amphigamous or Cellular. Or thus:—I. Sexual, being furnished with sexual organs, or having vessels and stomates at some period of their existence. Class 1. Dicotyledons or Exogens; 2. Monocotyledons or Endogens; 3. Ætheogamous or Semivascular. II. Without distinct sexes, or without either vessels or stomates at any age. 4. Amphigamous or Cellular.

A more recent author has, however, proposed a material modification, which may be expressed as follows:—Plants.—*According to their Fructification.* I. Having flowers and sexes (Phanerogamous), or *According to their Vegetation.* 1. Their axis increasing symmetrically in density and breadth, as well as length (Pleurogens). (*a*) Minimum of Cotyledons, 2, or (*a*) Stem in concentric layers (Exogens). Class 1. *Dicotyledons*, or *veins of leaves netted*; Class 2. *Gymnosperms*, or *veins of leaves netted or forked.* (*b*) Minimum of Cotyledons, 1, or (*b*) Stem, a confused

mass of wood and cellular tissue. Class 3. *Monocotyledons*, or *veins of leaves parallel, and not netted.* (*c*) Acotyledons, or (*c*) Vegetation fungoid. Class 4. *Rhizanths.*—II. *Having neither flowers nor sexes*, or II. Their axis increasing by simple elongation, or irregular expansion. Class 5. *Cryptogamic plants*, or Class 5. *Acrogens.*

Botar'go, a sausage made of the roe of the mullet, on the shores of the Mediterranean and Black Sea. It is called *boutargues* in Provence.

Bote, a Saxon word meaning reparation, compensation, allowance, and the like, and retained in law in composition. Thus, *manbote*, compensation for killing a man; *fire-bote*, allowance of wood for fuel.

Botel'to, a small Mexican fish, the liver of which is a deadly poison. It is about eight inches long, has a flat belly and a convex back.

Botha'gium, duty paid to the lord of the manor for pitching booths. Latin from Celtic (*bothag*, a cot, a booth, *botha*).

Bothriocepha'lus, the tape-worm (*see* Tænia), thus named from βοθριον, a little pit, and κεφαλη a head; there being certain depressions about the head.

Botrychiu'm, the *moon-wort*, a genus of hardy perennials. *Cryptogamea—Filices.* Named from βοτρυς, a bunch of grapes, in allusion to the appearance of the branched clusters of capsules. There is only one British species, the *B. lunaria*, Sw., or *Osmunda lunaria*, Lin. & E. Bot., found in dry mountain pastures.

Botrylla'rians, } In *geology*, a family
Botrylla'riæ. } of compound Tunicaries, in which several individuals are arranged in a ring round a central aperture common to the rectum of each, the mouths being at the circumference.

Bot'ryoid, } from βοτρυς, a bunch of
Botryoi'dal, } grapes, and ειδος, form; having the form of a bunch of grapes; clustered; applied to minerals, &c.

Botryoli'te, grape-stone, a variety of prismatic datolite occurring in mamillary concretions, from βοτρυς, a bunch of grapes, and λιθος, a stone. It occurs plentifully in Norway.

Bots, a species of worms found chiefly in the intestines of horses. They are the larvæ of a species of breeze or gad-fly (the *Gastrus equi*, Meig.), which deposits its eggs on the tips of the hairs, generally of the fore-leg and mane, whence they are taken into the mouth and swallowed. The same name is also given to the larvæ of other species of the Gastrus (*Œstrus*, Lin.), found under the hides of most animals of the bovine genus, and sometimes in the nostrils of sheep, deer, &c.

Bot'tle. Sp. *botella*, dim. of *bota*, a leathern bag for wine. The bottles of the ancients were made of skins and leather. In modern times they are made chiefly of thick glass of the cheapest sorts.

Bot'tle-glass is composed of sand and lime, and sometimes clay and alkaline ashes of any kind, such as kelp, barilla, soap-boilers' waste, and even wood ashes. The green colour is in part owing to the impurities of the ashes, but chiefly to oxide of iron contained in the sand.

Bot'tom. 1. In *commercial language*, a ship; e.g. "The goods were imported in British *bottoms*."——2. In the *language of jockeys*, stamina, native strength; e.g. "The horse has good *bottom*."

Bottom-heat, applied to the artificial temperature produced in hot-houses.

Bot'tomry, in *commercial affairs*, is the hypothecation or pledge of a ship for the payment of a debt. The owner of a ship and the captain, under certain circumstances, is authorised to borrow money, either to fit her out so as to enable her to proceed on her voyage, or to purchase a cargo for the voyage, pledging the keel or bottom of the ship (a part for the whole) in security for payment. If the ship is lost, the lender loses his money; but if she arrives in safety at her destination, the lender is then entitled to get back his principal and the interest agreed on, however much that interest may exceed the legal rate.

Bot'tony. In *heraldry*, a cross bottony terminates at each end in three buds, knots, or buttons, resembling in some measure the trefoil; hence called *croix treffle.* The term *bottony* is from the same root as *button.*

Bouche, a French word signifying mouth, used anciently to denote the privilege of having meat and drink at court "scot free." The word is also written *bowge*, *bouge*, and *budge.*

Bou'doir, a small room destined for retirement. The name is Fr., from *bouder*, to be sulky.

Bou'get, Water Budget, or Dosser. In *heraldry*, the representation of a vessel for carrying water.

Bou'gie, a French term for a wax candle (*candela cerea*), and used as the name of a smooth, flexible, elastic, slender cylinder, introduced into the urethra, rectum, or œsophagus, for opening or dilating it in cases of stricture or other diseases. Some are solid and some hollow, some corrosive and some mollifying. When the bougie has some escharotic substance attached to the end of it, it is said to be *armed.*

Boui'llon. In the *manége*, an excrescence of flesh causing the frush to shoot out, which makes the horse to halt. The word is Fr., from *bouillir*, to boil.

Bould'er, from Fr. *boule*, } A bale.
Bowld'er, from Eng. *bowl.* } This name is used to designate those masses of rocks found lying on the surface, or imbedded

in the soil, and differing from the rocks about where they are found. These fragments or outlying boulders are of no determinate size; they are supposed to have been transported by water, and are occasionally found at great distances from their parent rocks.

Boul'der-walls are those built of boulders or rounded fragments of rocks, laid in strong mortar, used where the sea has a beach cast up.

Boul'imy, Lat. *boulimia*, voracious appetite, from βους, great, and λιμος, hunger.

Boul'tine. In *architecture*, the workman's term for a convex moulding, whose periphery is just a quarter of a circle, next below the plinth in the Tuscan and Doric capitals. It is called also a *boltel*, but is not at present in use.

Bound. In *dancing*, a spring from one foot to the other, in distinction from *hop*, which is a spring from one foot to the same. Bound is used in composition, as in *ice-bound*, *wind-bound*, when a ship is prevented from sailing by ice or contrary winds; and in the sense of *destined*, when we say that a ship is *bound for* Cadiz.

Boun'ty, Lat. *bonitas*, Fr. *bonté*. A term used in commerce and the arts, to signify a premium paid by government, 1. To producers, exporters, and importers of certain articles;——2. To owners of vessels engaged in certain trades. Most of the bounties have now happily ceased. The term is still retained to designate the premium offered to induce men to enlist in the public service.

Bour'donn'e. In *heraldry*, the same with *pomée* (q. v.).

Bourgeois, the name used to designate that sort of printing types in size between long-primer and brevier. The word is French.

Boustrophe'don, a sort of writing found on Greek coins and inscriptions of the remotest antiquity; so called from βους and στρεφω, because the lines are so disposed as to succeed each other like furrows in a ploughed field.

Bout, in *agriculture*, is one turn or course of a plough in ploughing a ridge.

Bou'tant. In *architecture*, an arc boutant is an arch or buttress serving to sustain a vault, and which is itself sustained by some strong wall or massive pile. The word is Fr., from *bouter*, to abut. A *pillar boutant* is a large chain or pile of stone made to support a wall, terrace, or vault.

Boute', Fr. for *bouted* or *abuted*. In the *manége*, a horse is said to be *bouté*, when his legs are in a straight line from the knee to the coronet.

Bou'vate, an ox-gate, or as much land as an ox can plough in a year (Cowell says 28 acres). Written in law Latin, *bovata*, from *bos*, *bovis*, an ox.

Bovey coal, a name given to wood-coal, from its having been found abundantly at Bovey Heathfield, near Exeter. It is also called brown coal and brown lignite.

Bovi'dæ, a tribe of ruminantia, of which the genus *Bos* is the type.

Bo'vine, Lat. *bovinus*, pertaining to oxen, cows, &c. The epithet is applied to all the quadrupeds of the genus *Bos*, called accordingly the *bovine genus*.

Bow, from Teut. *boghen*, to bend. 1. An ancient instrument of war and hunting, made of wood or other elastic matter, with a string fastened to each end. It is of two kinds: the *long-bow* and the *cross-bow*, arbalet or arbalest. The use of the bow is called *archery*.——2. A well-known implement, by means of which the tone is produced from viols, violins, and other musical instruments of that sort. It is made of a thin staff of elastic wood, tapering slightly till it reaches the lower end, to which from 50 to 100 horse-hairs are fastened, and with which the bow is strung. At the upper end is an ornamented piece of wood or ivory, called the *nut*, fastened with a screw, which serves to regulate the tension of the hairs.——3. A beam of wood or brass, with three screws, that governs or directs a lath of wood or steel to any arc; chiefly used wherever it is requisite to draw large arcs.——4. An instrument formerly in use for taking the sun's altitude at sea.——5. An instrument used: 1. By smiths to turn a drill; 2. By turners for turning small articles of wood; 3. By hatters, &c. for breaking fur, wool, and cotton. It resembles the archer's bow. (*See* Drill-Bow).——6. The rounded part of a ship's side forward, beginning where the planks arch inwards, and terminating where they close at the stem or prow. Hence, among seamen, that arc of the horizon (not exceeding 45°) intercepted between some distant object and that point of the compass which is right ahead is said to be *on the bow*. This is applicable to any object within that arc.——7. The *bows* of a saddle are the two pieces of wood laid archwise to receive the upper part of a horse's back, to give the saddle its due form, and keep it tight.——8. That part of some buildings which projects from a straight wall, most commonly of the form of a segment of a cylinder, though it has sometimes three, four, or five vertical sides, raised from a polygonal plan, or a prism so disposed, when it is called a *canted bow*.

Bow-compasses are used for drawing small circles with great exactness.

Bow'er, in *nautical language*, an anchor carried at the *bow* of a ship. There are generally two bowers, called the *first* and *second*, *great* and *little*, or *best* and *small*. *See* Anchor.

Bow'-grace, in *nautical language*, a frame or composition of junk laid out at the sides, stems, or bows of ships, to secure them from injury by ice.

Bow'line, in *nautical language*, a rope fastened near the middle of the leech or perpendicular edge of the square-sails, by subordinate parts called *bridles*, and used to keep the weather edge of the sail tight forward when the ship is close-hauled. The term may be Armoric *bouline*, "a slanting sail to receive a side wind;" or Fr. *bouline*, a tack, from *bouliner*.

Bow'line-bridles, the ropes by which the bowline is fastened to the leech of the sail.

Bow'-net, a machine for catching lobsters and crawfish, called also a *bow-wheel*. It consists of two round wicker baskets, pointed at the end, one of which is thrust into the other, and at the mouth is a little rim bent inwards.

Bow'sprit (*bow* and *sprit*, q. v.), D. *boegspriet*, Dan. *boug-sprid*. A large spar which projects over the stem of a ship to carry forward. It rests obliquely on the head of the main-stem, and has its lower end fastened to the partners of the foremast.

Box'-drain, an underground drain built of brick and stone, and possessing a rectangular section.

Box'-haul, to veer a ship in a particular manner when it is impossible to tack.

Boxing-off, throwing the head sails back, to force the ship's head rapidly off the wind.

Boxing the Compass, repeating all the points in their regular order.

Box-tree, the *Buxus sempervirens*, which grows wild in several parts of Britain. The wood is yellow, close-grained, very hard, and heavy; it cuts better than any other wood, and is susceptible of a very fine polish. Wood-cuts are engraved on it. It is mostly imported at a duty of 5*l.* per ton.

Box-wood, properly the wood of the *box-tree* (q. v.), but applied popularly as a name for all the species of the genus *Buxus*. There is properly only one species native of Britain, but there are at least six varieties of that species. *See* Buxus.

Boyau', in *fortification*, a ditch covered with a parapet, serving as a communication between two trenches. The term is fr., *boyau*, a gut.

Boyu'na, a large but harmless American serpent. It is black and slender, and has an intolerable smell.

Bp., an abbreviation of the word *bishop*.

B quadro, a figure in written music called in French *B quarré*, from its figure and in English *B natural* or *sharp*, in distinction from *B mol*, or *flat*.

B. R., an abbreviation of the words *Bancus Reginæ*, the Court of Queen's Bench.

Brac'cate (*bracca*, breeches), when the feet of birds are concealed by long feathers descending from the tibiæ.

Brace, from Cel. *braic*, *brac*, the arm. 1. In *architecture*, a piece of wood framed in with bevel joints, serving to keep the building from swerving either way. It extends like an arm from the post or main timber.——2. In *music*, a double curve at the beginning of a stave.——3. A thick strap which supports a carriage on wheels. ——4. A crooked line in printing, connecting two or more lines or words. It is used to connect triplets in poetry.——5. In *nautical language*, to *brace about* is to turn the yards round for the contrary tack; to *brace sharp* is to cause the yards to have the smallest possible angle with the keel; to *brace to* is to check or ease off the lee braces, and round in the weather ones, to assist in tacking.

Braces, plural of *brace* (q. v.). 1. Narrow fillets or bands of leather, or textile fabric, which pass over the shoulders, and support the pantaloons.——2. In *nautical language*, ropes belonging to all the yards of a ship, except the mizzen, two to each yard, reeved through blocks which are fastened to pendants, seized to the yard-arms, to square or traverse the yards. The name is also given to pieces of iron which are used as supports, such as of the poop-lanterns, &c.——3. The *braces* of a drum are the cords on the sides of it, for tightening the heads and snares.

Brachely'tra, a family of pentamerous coleoptera, having only a single palpus on each maxilla, or four in all, including the labial pair. The name is composed of βραχὺς, short, and ἐλύτρον, a sheath.

Brach'iate, Lat. *brachiatus*, four-ranked, applied to stems, &c. of plants when they divide and spread in four directions, crossing each other alternately in pairs.

Bra'chio is used in compounding the names of muscles, &c. of the arm (*brachium*).

Bra'chiolum, a member of an instrument used upon astrolabes, &c., sometimes called the *creeping index*. It is usually made of brass, with several joints, that the end or point may be set to any degree of the astrolabe.

Brachiopo'da, a class of mollusca provided with two fleshy arms instead of feet; hence the name, βραχίων, an arm, and πούς, a foot. The brachiopoda are all bivalves, and, like the acephala, have an open bilobe mantle.

Bra'chmans, a sect of ancient Indian philosophers. The brachmans were a branch of the gymnosophists. The word is also written *Brachmins* and *Brahmins*. They took their title from *Abraham*, whom

they called *Brachma* and *Brama*, and pretended to imitate the life of the patriarch by living in deserts.

Bra'chycataleptic, βραχὺς, short, and καταληπτικος, deficient. In Greek and Latin poetry, a verse wanting two syllables to complete its length.

Brachyg'raphy, stenography, βραχὺς, short, and γραφω, to write.

Brachypo'dium, the *false brome-grass*, a genus of plants. *Triandria — Digynia.* Named from βραχὺς, short, and πους, a foot, from the sessile, or nearly sessile, spikelets, which, with the terminal awn, distinguish this genus from *Bromus*, where the two British plants of this genus had been placed.

Brachyp'teræ, a family of birds of the Palmipede order, having the legs placed farther back than in any other birds, which renders walking painful to them; and having but feeble powers of flight, which renders them almost exclusively attached to the surface of the water. The divers, auks, and penguins are examples. The name is from βραχὺς, short, and πτερον, a wing.

Brachyp'terous, short-winged, belonging to the *Brachyptera* family of birds.

Brachy'stochrone, βραχὺς, short, and χρονος, time. The name given by John Bernoulli to the curve which possesses this property, that a body setting out from a given point, and impelled merely by the force of gravity, will arrive at another point in a shorter time by moving in this curve, than if it followed any other direction. It was first proposed by Bernoulli as a challenge to other mathematicians in 1696. The brachystochrone, or curve of quickest descent, as it is otherwise termed, is found to be the common cycloid.

Brachyu'ra, a family of crustaceans, placed by Cuvier in the order *Decapoda*, and constituting the genus *Cancer*, Lin. Name from βραχὺς, short, and οὐρὰ, a tail, the tail being shorter than the trunk, in which the *Brachyura* differ from the *Macroura*.

Brac'tea, a Latin word meaning a leaf of gold or other metal, and used in *botany* to denote a little leaf-like appendage in some flowers, lying under or interspersed in the flower, but generally different in colour from the true leaves of the plant. It is otherwise called a floral leaf. The term is sometimes anglicised, and written *bract*.

Brac'teate, furnished with bracteæ, bracted.

Brac'teates, thin coins of gold or silver, and latterly of copper, with irregular figures stamped upon one surface, so that the impression is raised upon one side and depressed on the other. They were circulated in great quantities under Otho I. of Germany. The real names at the time they were in circulation were, *denarius*, *moneta*, *obolus*, *panningus*.

Brad, a slender sort of nail, used in joinery, having no spreading head, as other nails have, but a small projection on one side. Of this sort are *joiners' brads*, used for hard wainscots, *batten-brads*, for soft wainscots; *bill-brads*, or *quarter brads*, used in floors. When brads are used, it is customary to drive them beneath the surface of the wood with a punch and hammer, and fill up the hole with putty, that the nailing may not be visible. The term is from Sax. bṗeðan, to join, knit.

Brad-awl, that is, a *broad-awl*. (*See* Awl.) This awl is used chiefly for piercing holes for brads.

Bradyp'oda, an order of slow-moving animals of class *Mammalia*, and including the Bradypus (sloth), Mermecophaga (ant-eaters), Manis (scaly-lizard or bangolin), Dasypus (armadillo), Ornithorhynchus (duck-bill). Name from βραδὺς, slow, and πους, foot. The *Bradypoda*, Lin. are mostly comprehended among the *Edentata*, Cuv.

Brad'ypus, the *sloth*. An American genus of animals of the order *Bradypoda* and class *Mammalia*. Named from βραδὺς, slow, and πους, a foot. They are placed by Cuvier in his order *Edentata* and division *tardigrada*. There are several species, of which the aï (*B. tridactylus*, Lin.) is the most celebrated; F. Cuvier applies the name bradypus to those species only which have two nails to the fore-feet: the *Cholæpus*, Illig., of which there is only one species known, the unau (*B. didactylus*, Lin.), larger than the aï.

Brah'mans, the highest of the four castes of Hindoos: they form the learned or sacerdotal class. Their chief privileges are, reading the Vedas or sacred writings, instituting sacrifices, imparting religious instruction, asking alms, and exemption from capital punishment.

Braid, a sort of narrow textile band or tape formed by plaiting (Sax. bṗeðan, to plait) several strands together. There must be at least 3 strands, but as many as 29 (and perhaps more) are sometimes employed. Braid, stay-laces, and upholsterers' cord are worked by means of a machine of very ingenious construction, called the *braiding-machine* or *frame*.

Braik, } An instrument used in flax-
Brake. } dressing, to *brake* (break) the wood or boon of the stems, and loosen it from the harl. The *bott-hammer* (q. v.) is generally employed on the Continent instead of the brake, and the *brake-machine* has in Britain superseded the

hand-brake. The essential part of such machine consists in several deeply fluted rollers of wood or iron, whose teeth work into each other, and while they stretch out the flaxen stalks between them, they comminate the woody parts, and effectually loosen the harl.

Brail, Fr. *brayer*, a truss. In *navigation*, brails are ropes passing through pulleys on the mizzen-mast and yard, and fastened to the aftmost leech of the sail in different places, to truss it up close. Also, all ropes employed to haul up the bottoms, lower corners, and skirts of the other great sails, for the more ready furling of them. *To brail up* is to haul up into the brails, or to truss up with the brails.

Brain, from Sax. brȳne, fervour. The soft whitish mass or viscus inclosed in the cranium. It is composed of a cortical substance, which is external, and a medullary substance, which is internal. The first is reddish, the latter white. It is divided below into six lobes, and above into two hemispheres, whose volumes are in proportion to the extent of the intelligence. It is moreover divided by anatomists into two principal parts—the *cerebrum*, which occupies in man the higher part of the head, and is seven or eight times larger than the *cerebellum*, lying behind and below it.

Brake. 1. A machine used in dressing flax. (*See* Braik.)——2. A name common to all the plants of the genus *Pteris* (q. v.)——3. A baker's kneading-trough.——4. A sharp bit or snaffle.——5. A machine for confining refractory horses while the smith is shoeing them.——6. A heavy harrow, called also a *drag*, and used only on rough ground.——7. That part of the carriage of a moveable battery or engine which enables it to turn (*Fairfax*).——8. The handle of a pump: in this sense, from Celtic, *braic*, the arm.

Bra'ma, a genus of acanthopterygious fishes, placed by Cuvier among the squamipennes. There is only one species known, the *Sparus raii*, Bl., which inhabits the Mediterranean. It attains a large size, is of a burnished steel colour, and is excellent food.

Bra'mah, the first person in the Trinity (*Trimurti*) of the Hindus.—*Bramah*, the creator, *Vishnu*, the redeemer, and *Siva*, the destroyer. *Bramah* means "knowledge of laws."

Bra'mah's Press. *See* Hydrostatic Press.

Bram'ble, Sax. brǽmbel, a name common to all the species of the genus *Rubus*. There are 13 British species, of which the blackberry or common bramble, raspberry, dewberry, stone-bramble and cloud-berry, are well known.

Branch, from Celtic, *braic*, the arm, a shoot. 1. A shoot of a tree.——2. Any part extending from the main body of a thing, as a *branch* of an artery.——3. The *branches of a bridle* are the two pieces of bent iron which bear the bit, the cross chains and the curb.——4. The *branches of ogives* are the arches of Gothic vaults traversing from one angle to another diagonally, and forming a cross between the other arches, which makes the sides of the square of which these arches are diagonals.

Branch'er, in *falconry*, a young hawk when it begins to leave the nest and take to the branches.

Branch'ia, the gill of a fish (βραγχος). The branchiæ of fishes are filamentous organs for breathing in water. The term is generally used in the plural, like *lungs*.

Branchios'tegi, an order of fishes in some systems of ichthyology, the characteristic of which is that the rays of the fins are of a bony substance. Name from βραγχια, gills, and στεγω, to cover. The pipe-fish and sucker are examples.

Branchios'tegi, gill-covered, belonging to the order Branchiostegi.

Branch'ipus, the *Cancer stagnalis*, Lin., an animal belonging to the crustaceans, having the legs reduced to soft paddles, which perform the double office of lungs and feet; hence the name, from βραγχια, gills, and πους, a foot.

Bran'dy, an ardent spirit distilled from wine and the husks of grapes, hence called by the Germans *brantewein*, by the French, *brandevin*, by the Dutch, *brandewyn*, the root of which words is Teut. *branden*, to boil, distil. Brandy is prepared in most of the wine countries, but the French brandy is the best.

Brankur'sine, the herb *bear's breech*. The name is applicable to all the species of the genus *Acanthus*.

Bran'lin, a species of fish of the salmon tribe, called in some places the *fingry*, from certain black marks on each side resembling fingers.

Brant, a bird, the *Anas bernicla*, Gm., distinguished from the common geese by a shorter and slenderer bill, the edges of which conceal the extremities of the laminæ. It is thus named from the colour of the mantle, which is brownish grey, as if *brant*, *brent*, or *brint* (Sax. brennan, to burn.)

Brass, an alloy of copper and zinc. Fine brass is nearly two parts of copper to one of zinc; but the proportions are variable. The varieties are Prince's or Prince Rupert's metal, Mosaic gold, Bath metal, button metal (platin), red brass (the Tombak of some), Dutch foil, pinchbeck, similor, Manheim gold. The term

as Sax. bpaeꝼ, but the root is uncertain.

Brass Colour, for staining glass, is prepared by exposing thin plates of brass upon tiles in the annealing arch (*leer*) of a glass-house, till they be thoroughly oxidised into a black powder. This powder being mixed with glass in fusion, communicates to it greens of various tints, passing into turquoise. Glass-maker's red colour is similarly prepared in a reverberatory furnace, and the yellow by interstratifying the plates with sulphur. Colourmen use a powdered brass imported from Germany, to imitate clear or gilt brass; and mix copper filings with red ochre or bole, to produce their bronze tint.

Bras'sage, anciently a sum levied to defray the expense of coinage, taken from the real value of the coin.

Bras'sart, the piece of metal which protected the upper arm, between the shoulder-piece and elbow.

Brassed. Copper plates and rods are often *brassed* externally by exposure at a high temperature to the fumes of zinc, and afterwards laminated or drawn.

Brass Foil, Dutch leaf, called *knitter* and *rauschgold* in Germany, is made from very thin sheet-brass (rather thin plates of copper *brassed*) beat out under a hammer, worked by water power at the rate of from 300 to 400 strokes per minute, from 40 to 80 leaves being laid over each other.

Bras'sica, a genus of plants, mostly biennials, but some annuals. *Tetradynamia — Siliquosa.* Name latinized from Celtic *bresic*, a cabbage. There are six British species, of which the Navew, rape or cole-seed, turnip, Savoy, and garden cabbage, are well known. The *B. oleracea*, found on cliffs by the sea, in many parts of England and Scotland, is the origin of our garden cabbage.

Bravura Air, an air composed to enable the singer to show his skill in execution by additional embellishments. *Bravura* is sometimes used for the style of execution.

Brazed, a term used in heraldry to denote three cheverons clasping one another.

Bra'zen-dish, among *miners*, the standard by which the other dishes are gauged.

Brazilet'to, an inferior species of Brazil wood brought from Jamaica.

Brazil'-nuts, or *chestnuts of Brazil*, the fruit of the Juvia (*Bertholletia excelsa*), a majestic tree abounding on the banks of the Oronoco, and in the northern parts of Brazil. The nuts are triangular, the shell rough and hard, and of a brownish ash colour. The kernel resembles the almond, but tastes like the common hazel nut, and contains much oil, which may be obtained by mere expression. The nuts grow in clusters of from 20 to 50, in great ligneous pericarps, generally of the size of a child's head.

Brazil'-wood. This name is common to the wood of every species of the genus *Cæsalpinia*. The best is that afforded by the *C. echinata*, called Fernambuco-wood. It grows in the Brazils, the Isle of France, Japan, and elsewhere. The *C. crista* affords wood of the second quality, and the *C. sappan*, of the third. This last is found in Siam and Amboyna. The wood of all the species is hard, crooked, and full of knots; susceptible of a fine polish, and sinks in water. It is pale when newly cut, but becomes red by exposure to the air. It is valuable in dyeing. Its price in London, exclusive of duty, 5*l.*, is from 35*l.* to 40*l.* per ton.

It has been commonly supposed that this wood derived its name from the country in which it is chiefly produced; but Dr. Bancroft (*Philosophy of Colours*, vol. ii., p. 316), has shown that woods yielding a *red dye* were called Brazil woods long previous to the discovery of America, and that the early voyagers gave the name of Brazil to that part of that continent, to which it is still applied, from their having ascertained that it abounded in such woods.

Braz'ing, the soldering together of edges of iron, copper, brass, &c. with an alloy consisting of brass and zinc; sometimes with a little tin or silver.

Breach-battery. (The term breach is from Sax. bpecan, to break.) A battery raised against a face or salient angle of a bastion or ravelin, for the purpose of making an accessible breach. *See* Battery.

Bread, the principal article in the food of most civilised nations. It is a spongy mass, formed of the flour or meal of different sorts of grain, mixed with water and yeast, and baked. Dough baked without being fermented constitutes cakes or biscuits, or *unleavened* bread. The term is Sax. bpeob, from bpeban, to feed.

Bread'-fruit, the fruit of the *Artocarpus incisa*, a large tree which grows wild in Otaheite and other South-Sea Islands. The fruit is a globular berry, of a pale green colour, about the size of a child's head. It contains a white fibrous pulp, which is baked by the natives, and eaten as bread. *See* Artocarpus.

Break, from Sax. bpæcan, *frango*. 1. In *nautical language*, when a ship at anchor is in a position to keep clear of the anchor, but is forced by wind or current out of that position, she is said to *break* her sheer. The *break of a deck* is the part where it terminates, and the de-

scent to the next deck below commences. ——2. *Break* is the name given to a light but strong-built carriage, used for training horses to gentle draught.——3. In *architecture*, a *break* is a recess or shrinking back of a part behind its ordinary range.——4. In *printing*, the short lines which end paragraphs are called breaks.

Break'ers. In *marine language*, rocks which lie immediately under the surface, and break the waves as they pass over them; also the billows which break against the rocks.

Breaking Bulk, the act of beginning to unlade a vessel, or of discharging the first part of the cargo.

Breaking Ground, a military term for opening the trenches, and beginning the works for a siege.

Break-joint. Among *masons*, one stone placed on the joint of two stones in the course below, to bind the work.

Breaking the Line. A naval manœuvre, by which the assailant cuts asunder the enemy's order of battle, and places one part of the hostile fleet between two fires.

Break'water. 1. A mole at the entrance of a harbour, to diminish the force of the waves; it is often formed by sinking the hull of an old vessel.——2. A small buoy fastened to a large one, when the rope of the latter is not long enough to reach the surface of the water.

Bream'ing, burning off the filth, such as grass, ooze, shells, and sea-weed, from a ship's bottom. It is performed by kindling furze, &c. under the bottom, which loosens and melts the pitch, and brings it off, with whatever filth may be adhering.

Breast-casket, one of the largest and longest of the caskets or strings on the middle of the yard of a ship.

Breast'fast, a large rope to confine a ship sidewise to a wharf or quay.

Breast-hooks, thick pieces of timber placed directly across the stem of a ship, to strengthen the fore part, and unite the bows on each side.

Breast'plate. 1. A strap that runs across a horse's breast, from one side of the saddle to the other.——2. Armour for the breast.——3. A part of the vestment of the Jewish high-priest, consisting of a folded piece of richly embroidered stuff, of which the ephod was made.

Breast-plough, a turf-spade driven forward by the hands, placed opposite the breast.

Breast-ropes. In *ships*, those ropes used to fasten the yards to the parrels, and with the parrels to hold the yards fast to the mast; more commonly called *parrel-ropes*.

Breast-summer. *See* Bressummer.

Breast-wheel, a water-wheel which receives the water at about half its height, or at the level of the axis.

Breast-work, a military term for works thrown up to afford protection against the shot of the enemy. Breast-works are usually made of earth.

Brec'cia, an Italian term used by mineralogists, &c. to designate such rocky masses as consist of angular fragments united by a common cement. When the fragments are rounded, the conglomerate is called *pudding-stone*, from a fancied resemblance to plum-pudding. *Concrete* is a factitious breccia or pudding-stone.

Breech. 1. The hinder part of a gun, from the cascabel to the bore.——2. The knee-timber in a ship.

Breech'ing, a rope used to secure the cannon of a ship-of-war, and prevent them from recoiling too much when discharged. Named from its being passed round the breech or hinder part of the gun.

Breeze, Fr. *brise*, Bel. *breeze*. 1. A shifting wind that blows from the sea and land alternately for a certain time, and is in some degree regular in its alternations. The wind from the sea is called a *sea-breeze*, that from the land is a *land-breeze*. The first blows during day, and the latter during night.——2. Small ashes and cinders made use of instead of coals in the burning of bricks.——3. The name of the horse, gad, or breeze fly. The latter has been supposed to arise from the sound made by its wings. It is from Sax. *briose*, from Gothic *bry*, a point or sting.

Bre'hon, an ancient Irish magistrate. Each tribe had one *brehon*, whose judgments were given in the open air on the tops of hills. This accounts for the many *brehon-chairs* throughout the country. The office was abolished under Edward III.

Bre'hon-laws, the ancient unwritten laws of Ireland, administered by the *brehons*.

Bren'nage, from *bran*. In *old law*, a tribute paid by tenants in lieu of bran, which they were required to furnish for their lords' hounds.

Bres'summer, } A lentel beam in the
Brest'-summer. } exterior wall of a building, principally over shop-windows, to sustain the superincumbent part of the wall. Bressummers are commonly supported by iron or wooden pillars. *See* Summer.

Bretes'se, in *heraldry*, a line embattled on both sides.

Bret'tices, in *coal mines*, wooden planks to prevent the falling in of the strata.

Breve, from *brevis*, short. The name of a note in music of the third degree of length, and formerly of a square form, as 𝅜; but now of an oval form, with a perpendicular line on each side to the stave, thus, 𝅜. The breve without a dot

after it is equal to 4 minims and is called *imperfect*; but when dotted, it is equal to 6 minims, and is called perfect, this being three-eighths of a large, and the greatest length it can assume.

Brev'et, a term borrowed from the French, in which it signifies a royal act granting some favour or privilege, and applied in Britain and America to nominal rank in the army higher than that for which pay is received.

Bre'viary, the book containing the daily service of the Romish Church; matins, lauds, prime, third, sixth, nones, and vespers. Named *breviarum*, of *brevis*, short.

Brevi'ator. *See* Abbreviator.

Brevi'er, a size of types for letter-press printing, smaller than bourgeois and larger than minion.

Brev'iped, a fowl having short legs—*brevis* and *pes*. The martinet is an example.

Brevipen'nes (*brevis* and *penna*). The name given by Cuvier to a family of birds of the grallic order, distinguished by the shortness of the wings which renders flight impossible. The ostrich and cassowary are examples.

Bricia'ni, a military order instituted by St. Bridget, Queen of Sweden; also the members of this order.

Brick, Teut. *brike*. A sort of factitious stone, composed of an argillaceous earth tempered and formed in moulds, dried in the sun, and finally burnt to a proper degree of hardness in a clamp or kiln. The different kinds of bricks made in England are principally place bricks and stocks, gray and red bricks, marl-facing bricks, and cutting bricks. The place bricks and stocks are used in common walling. The marls, which are superior to the stocks, are of a fine yellow colour, and are used in the outside of buildings. The cutting bricks are the finest kind of the marl and red bricks, and are used in arches over windows and doors, being rubbed to a centre and gauged to a height.

Brick-nog'ging, brick-work carried up and filled in between timber-framing.

Brick-trimmer, an arch abutting against the wooden-trimmer in front of a fire-place, to guard against accidents by fire.

Bridge, Sax. *brigge*. A structure of masonry, carpentry, or iron-work, built over a river, canal, or valley, for the convenience of passing from one side to the other. The extreme supports of a bridge, whether it have one arch or a series of arches (*see* Arch), are called *abutments* or *butments*; the parts between the arches are called *piers* or *pillars*; and the fences on the side of the bridge-way, for preventing the passengers from falling over the bridge, are called parapets. Bridges have various names according to the mode of structure, materials composing them, and the particular uses for which they are designed. A *draw-bridge* is one made with hinges, and may be raised, or opened and lowered, or shut at pleasure. A *fly-bridge* is made of pontoons, light-boats, hollow-beams, empty casks, and the like, for the passage of armies. This name is also given to a kind of ferry-boat constructed so as to resemble above the roadway of a bridge, and in such a manner as to be readily moved from one side of a river to the other by means of a chain-cable. *Pendent-bridges* or *suspension-bridges*, are supported on strong iron chains or rods, hanging in the form of an inverted arch from one point of support to another. *Floating-bridges* are stationary rafts of timber extending from one shore to the other, and may either be permanent, or, like the military fly-bridge, may be erected for the special occasion.—*Bridge* is also the name of several things similar in figure to a bridge, as the *bridge of the nose*, the cartilage which separates the nostrils; the *bridge of a violin*, the perpendicular piece of board which supports the strings. Gunners also use the word *bridge*, to denote the two pieces of wood which go between the transums of a gun-carriage, on which the bed rests.

Bridge-over, in *carpentry*, when any number of parallel timbers have another piece of timber fixed over them in a transverse direction, then the transverse piece is said to *bridge-over* the pieces which are parallel; e. g. the common rafters, in framed roofing, bridge-over the purlins.

Bridge'-stone, a stone laid in a horizontal direction over an area, extending from the pavement to the entrance-door of a house, and not supported by an arch.

Bridg'ing-floors, floors in which bridging-joists are used. *See* Naked-flooring.

Bridg'ing-joists, pieces of timber or joists in naked-flooring, extending in a direction parallel to the girder, and supported by beams called binding-joists. It is to the bridging-joists that the flooring is nailed.

Bridg'ing-pieces. *See* Straining-pieces and Strutting-pieces.

Bri'dle, Sax. *bridel*. 1. That part of the furniture of a horse's head which serves to guide the animal. The principal parts are the *bit* or *snaffle* which goes into the horse's mouth; the *headstall*, which is the leather that goes round the head; the *fillet*, that lies over the forehead; the *throat-band*, which buttons under the throat; the *reins* which the rider holds, the *nose-band*, buckled under the cheeks; the *trench*, the *caveson*, the *martingal*, and the *chaff-halter*.—2. A short piece of

able well served attached to a swivel or chain, laid in a harbour, and the upper nd drawn into a ship and secured to the itts. The use is to enable a ship when noored to veer with the wind and tide.

Brief, Fr. *bref*, from Lat. *brevis*, short. In *law*, a client's case made out for the nstruction of counsel on a trial. Also a writ summoning a person to answer to n action.—In *Scots law*, a writ from the Chancery, directed to any judge ordinary, ommanding and authorising that judge o call a jury to inquire, and upon their erdict to pronounce sentence.—An *apos olical brief* is a written message of the Pope addressed to a prince or other magis rate respecting matters of public con ern. Such briefs (*brevia*) are written on paper, and sealed with the fisher's ring n red wax. A *bull* is more formal, being written on parchment, and sealed with ead or green wax, and subscribed with he Pope's name, whereas the name of he secretary only is appended to the rief.

Brig, Brig'antine, a square-rigged essel with two masts. The term is dif erently applied by the mariners of differ nt countries. The uncontracted term *rigantine* is used, especially in the Medi erranean, to denote a light, flat, open essel, with 10 or 15 oars on a side, having lso sails, and carrying upwards of 100 nen. Such vessels have been much used or piracy; whence the name, from *bri and*, a freebooter.

Brig'ade, a division of troops of any ind, commanded by a brigadier. A bri ade of horse consists of eight or ten quadrons; a brigade of infantry of four, ve, or six battalions. The term appears o have been introduced into Europe by he Moors, but the root is not ascertained.

Brigade'-ma'jor, an officer appointed by brigadier to assist in the management f his brigade.

Brigadi'er, the general officer who has ommand of a brigade. He is in rank ext below a major-general.

Brig'andine, a kind of defensive ar our, consisting of thin, jointed scales of ate, pliant and easy to the body. It is ot now used.

Bril'lante, an Italian term, from *bril re*. Used in musical compositions, to gnify that the notes are to be played in lively or sprightly manner.

Bril'liant, a diamond cut so as to re act the light, and display great brilli ncy. Fr. from *briller*, to sparkle.

Brined. In *conchology*, streaked.

Bring-to. In *nautical language*, to check vessel's course when advancing, by ranging the sails so that they shall ounteract each other, and keep her early stationary. She is then said to *-to*.

Bris'tle-grass, a name common to all the grasses of the genus *Setaria*.

Bris'tles, the strong hairs growing on the back of the boar, extensively used by brushmakers, shoemakers, &c. The termis Sax. *bristl* or *byrst*, primarily a shoot.

Bris'tol-stone, } rock-crystal, fine
Bris'tol-di'amond, } specimens of which are found in the rocks near Bristol. They are pure silica, crystallised in six-sided prisms, and terminated by six-sided pyramids.

Bris'tol-water, the water of a thermal and slightly acidulous spring situated about a mile below Bristol.

Brit'ish Gum, starch altered by a slight calcination, whereby it assumes the appearance, and acquires the properties of gum. Made into a paste with water, it is used by calico-printers to thicken their colours.

Bri'za, the quaking-grass. A genus of European grasses. *Triandria—Digynia*. Name, $\beta\rho\iota\zeta\alpha$, some kind of corn somewhat like spelt. There are two British species, the great and small.

Brize, an agricultural name for ground that has been long untilled.

Broach. To *broach*, among masons, means to rough-hew. *Broached-stones* are thus distinguished from ashlar or polished work.

Broach-to. In *navigation*, to incline suddenly to windward of the ship's course, when she sails with a large wind: or, when she sails directly before the wind, to deviate suddenly from the ship's line of course, and bring her side to windward, and thereby expose her to the danger of oversetting.

Broad-cast. Among *farmers*, when seed is sown by casting it athwart the ridges or grounds, it is said to be sown *broad-cast*, in distinction from the mode of sowing in drills.

Broad'piece, a denomination of some English gold pieces, broader than a guinea, especially Caroluses and Jacobuses.

Broad'-seal, the Great Seal of England.

Broad'-side. 1. In a *naval engagement*, a discharge of all the guns of one side of a ship, above and below, at the same instant.——2. The side of a ship above the water, from the bow to the quarter. ——3. In *printing*, a sheet of paper printed on one side only, and that side making a single page.

Broca'de, a silk stuff variegated with gold and silver, or raised and enriched with flowers, foliage, and other ornaments. The name is Spanish, *brocado*, as the manufacture originally was. The root is probably *broche*, the instrument used in embroidery.

Broc'ard, an old Scotch forensic term, denoting the first elements or maxims of the law. Sp. *brocardico*, a maxim of law.

Broc'coli, a species of cabbage (*Brassica Italica*). The name is Fr., from Ital. *broccolo*, sprout.

Broche, a narrow-pointed chisel, used by masons in hewing stones. The term is usually written *broach*.——2. A fish, a species of lutjan.

Brock'et, a hart of the third year. a hind of the same year is termed a *brocket's sister*. The word is dim. of Sax. *broc*, wildling, and is sometimes written *brock*. The French write *brocard*.

Brog, a pointed steel instrument fixed into a handle, used by joiners to make holes for nails in soft wood. Root, *brog*, to pierce.

Bro'kenbacked, the state of a ship when so weakened in her frame as to droop at each end.

Bro'ken-win'ded, a disease in horses often accompanied with a preternatural enlargement of the lungs and heart.

Bro'ker, a person employed as a middleman to transact business between merchants or individuals. Brokers are divided into classes; as bill or exchange brokers, stock-brokers, ship and insurance brokers, pawn-brokers, and brokers simply so called, or those who sell or appraise household furniture distrained for rent. The term is from Sax. *brucan*, Germ. *brauchen*, to employ.

Brok'erage, the commission, reward, or per centage paid to brokers on the sale or purchase of bills, stock, merchandise, for effecting insurance, or doing other business.

Brome-Grass, a name common to all the plants of the genus *Bromus*.

Brome'lia, a genus of American perennials. *Hexandria—Monogynia*. Named in honour of O. Bromel. The pine-apple was formerly placed in this genus under the name of *B. ananas*, but it is now referred to the new genus *Ananassa*.

Bromelia'ceæ, a natural family of monocotyledonous plants, of which the genus *Bromelia* is the type.

Bro'mic Acid, an acid analogous to the chloric and iodic acids.

Bromide, a combination of bromine with a metallic base; e. g., bromide of potassium.

Bro'mine, one of the archæal elements, which being developed from its combinations at the positive pole of the voltaic circle, has been therefore deemed to be idio-electro-positive, like oxygen and chlorine, which last it somewhat resembles in smell, hence its name from βρῶμος, *fœtor*. At ordinary temperatures it is a liquid of a dark brown colour in mass, but of a hyacinth red in layers. It occurs in various saline springs on the continent of Europe, but is usually prepared from bittern. It congeals at 4° Fahrenheit.

Bro'mus, the *brome-grass*, a genus, *Triandria—Digynia*. Name, βρῶμος, a species of oat (βρῶμα, food). There are 12 British species of Brome-grass.

Bron'chia, the tubes of the throat into which the trachea divides. βρογχος, the throat.

Bronchi'tis, inflammation of the mucous lining of the *bronchi* (bronchial tubes).

Bron'chius Mu'sculus, the sterno-thyroideus muscle.

Bronchoce'le, goitre, Derbyshire-neck; called also tracheocele and bronchial hernia; a tumour on the fore part of the neck, formed by an indolent enlargement of the thyroid gland; βρογχος, the windpipe, and κηλη, a tumour.

Broncoph'ony, from βρογχος, the windpipe, and φωνη, the voice; the sound of the voice as heard by applying the stethoscope over a large bronchial tube.

Bron'cho-Pneumo'nia, a form of inflammation of the lungs which commences in the bronchial membrane, and afterwards involves the parenchyma of the lungs.

Bronchot'omy, from βρογχος, the windpipe, and τεμνω, to cut. A surgical operation, in which an incision is made into the larynx or trachea, to afford a passage for the air into and out of the lungs, when any obstruction is offered to the same of passing by the mouth and nostrils, as when any foreign body has fallen into the trachea. The operation is called *Tracheotomy* when the opening is made into the trachea, and *Laryngotomy* when the opening is made into the larynx.

Bron'tolite, thunder-stone (βροντη, thunder, and λιθος, stone).

Bronze, an alloy of copper, with a small proportion of tin: a little zinc and lead are sometimes added. It is harder than copper, and is chiefly used for statues, cannon, bells, and other articles, in all of which the proportions of the ingredients vary. The primary meaning of the word is *browned*.——2. A colour prepared for the purpose of imitating bronze.——3. Among *archæologists*, a *bronze* is any work of art cast in bronze; at present, any bronze statue.——4. Among *medallists*, any copper medal.

Bron'zing, the art of giving to objects of wood, plaster, &c., such a surface as makes them appear as if made of bronze, The term is sometimes extended to the production of a metallic appearance of any kind upon such objects.

Bron'zing Salt, chloride or butter of antimony, is so called from its being employed in the process of *browning*.

Brooch, a painting all of one colour.

Broom. The *common broom*, a well-known shrub in Britain, is the *Cytisus scoparius*, De Cand., or the *Spartium scoparium*, Eng. Bot. The *Spanish broom*, an ornamental flowering shrub, common in English gardens, and exceedingly plentiful in some parts of Spain, where many articles are manufactured from its twigs and bark, is the *Spartium junceum* of botanists. The word *broom* is Sax. *brum*, the root of bramble, and is now the name of a besom for sweeping floors; besoms being originally made, as they still are for various coarser uses, of the broom-plant, though heath is now often used for the purpose.

Broom'-Coon, the yellow-seeded Indian millet (*Holcus saccharatus*), an annual plant peculiar to warm climates. It bears a head of which brooms are made.

Broom'-Rape, a name common to all the plants of the genus *Orobanche*, because the roots, being often attached to broom and furze, and other leguminosæ, are supposed to injure them.

Bros'imum, a genus of arborescent plants common in the West Indies and South America. *Diœcia — Monandria.* Named from βρωσιμος, eatable. The Bread-nut tree, the Milk-wood tree, and the Cow-tree are species of this genus.

Brotherhood of God, an association formed in the 12th century in Guienne, for the purpose of abolishing war. The members took an oath to be *reconciled* to their enemies, and to *attack* all who should refuse to lay down their arms.

Brow'-antler. 1. The first start that grows on a deer's head.——2. The branch of a deer's horn next the tail.

Brown, Sax. *brun*. A dusky colour inclining to redness; but the shades are various, as Spanish-brown, London-brown, clove-brown, and tawny-brown. Brown is obtained by admixture of red, black, and yellow.

Brown-bill, a weapon formerly used by English foot soldiers.

Brown'ea, a genus of plants. *Monadelphia—Decandria.*

Browning, a process by which the surface of several articles of iron acquires a shining brown lustre. It is chiefly employed for the barrels of fowling-pieces and soldiers' rifles, to conceal the firearms from the game and the enemy. The material commonly employed to produce this colour is the chloride (*butter*) of antimony, called, from its uses in purposes of this kind, *bronzing salt.*

Brown'ists, a religious sect, the *Independents*, so called from their founder Robert Brown.

Brown-spar, a magnesian carbonate of lime, tinged by oxide of iron and manganese.

Brow-post, a name given by builders to a beam that goes across a building.

Bru'cea, a genus of shrubby trees. *Diœcia—Tetrandria.* There are two species, natives of Abyssinia and Sumatra. The genus is named in honour of Mr. Bruce, the traveller in Abyssinia, who first brought the seeds of the Abyssinian species (*B. ferruginea*) into Europe.

Bru'cia, } a vegetable alkali obtained
Bru'cine, } from the false Angustura bark (the bark of the *Brucea pseudo-ferruginea*); hence its name.

Bru'cite, a mineral of a pale brown colour (often), and called also chondrodite and hemiprismatic chrysolite. It was named Brucite, after Mr. Bruce, an American mineralogist. It consists chiefly of magnesia and silica, coloured with oxide of iron.

Bruis'er, a concave tool used in grinding the specula of telescopes.

Bruis'wort, a species of soapwort, the *Saponaria officinalis*, supposed to be beneficial in the cure of bruises of the flesh.

Brumai're, in the French revolutionary calendar, the foggy month (November), —*brume*, fog.

Bruns'wick-green, a pigment composed of carbonate of copper, with chalk or lime, and sometimes a little magnesia or ammonia. It may be prepared by adding ammonia to sulphate of copper and alum. It is called also *Bremen.*

Brush'-wheels, wheels sometimes used in light machinery, to turn each other by means of bristles or brushes fixed to their circumference.

Bru'ta, the second order of Mammalia in the Linnæan system of zoology, comprehending those animals which have no front teeth in either jaw, as the elephant, rhinoceros, walrus, sloth, &c.

Brute'-weight, gross-weight, in contradistinction to net-weight.

Bryo'nia, the Bryony: an extensive genus of plants. *Monœcia—Syngenesia.* Name from βρυω to shoot, in allusion to its rapid growth. The *B. dioica*, Jacq., a perennial found in thickets, is the only English species. Flowers diœcious; berries red.

Bu'bo, a swelling of a lymphatic gland, particularly of the groin (βουβων) or axilla. The root of the word is Heb. *bobo*, which is a reduplicate of the verb *boe*, to swell.

Bu'bon, a genus of umbelliferous plants. *Pentandria—Digynia.* Name from βουβων, the groin, because one of its species, the Macedonian parsley (*B. macedonicum*), was supposed to cure swellings (bubos) there.

Bubonoce'le, inguinal hernia, from βουβων, the groin, and κηλη, a tumour.

Bubonorex'is, } from βουβων, the groin,
Bubonorix'is, } and ρηξις, a rupture.

A bubonocele, accompanied with a division of the peritoneum.

Buca'o, a species of owl of the Philippine isles. It resembles the peacock in size, has beautiful plumage, and utters a hideous nocturnal scream.

Buc'cæ Loric'atæ, *mailed-cheeks.* A family of Acanthopterygious fishes, to which the singular appearance of the head, variously mailed and protected, gives a peculiar aspect, that has always caused them to be arranged in special genera, although they have many close affinities with the perches. The *flying-fishes* are examples of this tribe.

Buc'caneers, Fr. *boucanier* The pirates who infested the coasts of the West Indies and South America in the 17th and 18th centuries.

Buccel'la, an old name for a polypus in the nose, formerly believed to grow from the cheek (*bucca*).

Buccella'tion, *buccellatio.* A mode of stopping hæmorrhage, by applying lint upon the vein or artery.

Buccina, an ancient musical instrument of the trumpet kind, the sound of which was called *buccinus*, and the player *buccinator.*

Buccinator, a trumpeter (*βουκανον*, a trumpet). The Latin name of the trumpeter's muscle; a large flat muscle, which forms, in a manner, the walls of the cheeks.

Buccini'næ, the whelks. A sub-family of Testacea, of the order *Gasteropoda.* Type, *Buccinum.*

Buc'cinites, fossil remains of the whelk-genus of shells (*buccinum*).

Buc'cinum, the whelk. A genus of Testacea, of the Buccinoid family, Cuv. This genus comprises all the shells furnished with an emargination, and in which the columella is destitute of plicæ. Brugneir has divided them into four genera; the *Buccinum*, the *Purpura*, the *Cassis*, and the *Terebra*; and Lamarck has divided the latter two into the five genera, *Nassa*, *Eburna*, *Ancillaria*, *Dolium*, and *Harpa.*

Buc'co, the barbet. A genus of birds of the order *Scansoriæ.* The barbets have a thick conical beak, inflated on the sides of its base, from which they take their generic name (*bucco*, to inflate the cheeks). They are natives of hot climates, live on insects, and build in the hollows of trees.

Bucenta'ur, the great-centaur (*βου*, great, and *κενταυρος*, centaur). The splendid galley in which the Doge of Venice annually sailed on Ascension-day, to wed the Adriatic, by dropping a ring into it, was thus named.

Buceph'alon, a plant (the *Trophis Americana*), which produces a red, coarse, edible fruit, eaten in Jamaica. Named from *βου*, great, and *κεφαλη*, head.

Buceph'alus, the famous horse of Alexander the Great, which cost 2500*l.* Named from *βου*, great, and *κεφαλη*, head, in allusion to the great size of his head. The name is now given to an animal of the gazelle tribe, of the size of a hind.

Bu'ceros, the horn-bill. A genus of omnivorous birds of Africa and India, whose enormous dentated beak is studded with excrescences which sometimes equal in size the beak itself. This allies them to the Toucans, but their habits approximate them to the Crows, and their feet to the Bee-eaters and Kingfishers. The Hornbills are placed by Cuvier in the order *Passerinæ*, and family *Tenuirostres* Name, *βουκερως*, of *βους*, an ox, and *κερας*, a horn.

Buch'anites, a set of enthusiasts who sprung up at Irvine, in the West of Scotland, about 1783. They take their name from Elizabeth Buchan, the wife of a painter near Glasgow, who styled herself the woman of the 12th of Revelation!

Buchu, the name given by the natives of the Cape of Good Hope to the *Diosma crenata*, a shrubby plant, the leaves of which are much used in medicine.

Buc'ka, a medicinal leaf imported from the Cape of Good Hope, and used as an antispasmodic.

Buck'bean, a corruption of *bog-bean.* The *Menyanthus trifoliata*, which grows not unlike a bean, and in boggy places.

Buckets, in water-wheels, are a series of cavities placed on the circumference of the wheel, into which the water is delivered to set the wheel in motion. By the revolution of the wheel, the buckets are alternately placed so as to receive the water, and inverted so as to discharge it, the loaded side always descending. *See* Water-wheel.

Buc'kety, paste used by weavers to dress their webs. Corrupted from *Buck-wheat.*

Buck'ing, the process of soaking cloth in ley (*buck*) for the purpose of bleaching.

Buck'le, Fr. *boucle.* In coats of arms buckles are tokens of surety, faith, and service of the bearer.

Buck'ler, Fr. *bouclier.* A kind of shield or defensive piece of armour, anciently used in war. It was often made of wicker-work, fortified with plates of brass or other metal, and borne on the left arm.

Buck mast, the mast or fruit of the beech-tree.—*Buck*, beech, and *mast.*

Buck'ram, Fr. *bougram.* A sort of coarse cloth, made of hemp, gummed, calendered, and dyed several colours. It is used to stiffen garments, &c.

Buck's-horn. 1. the *Plantago coronopus*, a British annual plant.——2. The *Cotula coronopifolia*, an annual of the Cape of Good Hope.——3. The *warted buck's-*

horn is a species of Cochlearia or scurvy-grass.

Buck'stall, a toil or net to take deer.

Buck'thorn, a name common to all the plants of the genus *Rhamnus*. The *buckthorn* of the shops is the expressed juice of the berries of the *R. catharticus*, or purging buckthorn, a shrub common in Britain. It is employed as a drastic purgative. The berries of the common alder (*R. frangula*) are often used for the same purpose. A decoction of this tree (alder) is extensively used in medicine. It is most astringent.

Buck'-wheat, the *Polygonum fagopyrum*, an annual plant which grows well in all parts of Britain. It is extensively cultivated, in order that it may, when young and green, be employed as fodder for cattle: when allowed to ripen, the grain is chiefly employed to feed poultry. It is known in some parts by the names of *French-wheat* and *brank*. Its native place is supposed to be Asia. The Eastern buck-wheat is the *Polygonum divaricatum*, a perennial of Siberia.

Bucnemia, fram βου, great, and κνημη, the leg. The generic name of a disease characterised by a tense, diffuse, inflammatory swelling of a lower extremity, usually commencing at the inguinal glands, and extending in the course of the lymphatics. The puerperal swelled leg, and the Barbadoes leg, are species of this genus.

Bucra'nion, the snap-dragon plant, a species of *Antirrhinum*, so named from βους, an ox, and κρανιον, the head, in allusion to a supposed resemblance of its flower to the head of an ox.

Bud, from Sax. *budan* or *boudan*, to proffer. 1. In *botany*, a small protuberance on the stem or branches of a plant, containing the rudiments of future leaves or a flower. Shrubs in general have no buds, neither have the trees of hot climates. *See* Gemma.——2. In *horticulture*, to *bud* is to inoculate a plant, that is, to insert the bud of a plant under the bark of another tree, for the purpose of raising upon any stock a species of fruit different from that of the stock.

Budd'hism, the doctrine of the Buddhists in Asia.

Bud'dle, in *mining*, a large square frame of boards, in which tin ores are washed; hence to *buddle* is to wash ores.

Budge Bachelors, a company of men dressed in long gowns lined with lamb's fur, who accompany the Lord Mayor of London at his inauguration.

Budge-barrel, a small barrel with only one head, and on the other end a piece of leather is nailed, which is drawn together with strings like a purse. It is used for carrying powder with a gun or mortar.

Bud'get, Fr. *bougette*, from Norm. *bouge*, a bag. The budget, in the parliamentary language of Britain, means the Ministers' proposed plan of taxation for the ensuing year, and comprehends a general view of the national debt, income, and expenditure, ways and means, &c., with a general view of the actual product of the preceding budget. It is brought forward in parliament by the Chancellor of the Exchequer.

Buff, contracted from Buffalo. 1. Buff-skin, a sort of leather prepared from the skin of the buffalo, dressed with oil, like shammy. It is used for making bandoliers, belts, pouches, gloves, and other similar articles. The skins of oxen, elks, and other animals, dressed in like manner, are also called *buffs*.——2. The colour of buff; a light yellow, with a slight reddish shade.——3. A yellow viscid substance formed on the surface of blood drawn in inflammatory diseases.

Buffalo, the *bos bubalus*, Linn. A ruminant animal, originally of India. It is larger and less docile than the common ox, and inhabits marshy places, and eats coarse plants on which the ox could not live. Its milk is good, its hide strong, but its flesh is not esteemed. The name is also applied to wild oxen, generally and especially to the Bison of America (*Bos bison*, Linn.) *See* Bison.

Buf'fon, the Numidian crane, an African fowl, named in honour of Count Buffon, the naturalist.

Buf'fonia, the generic name of a British biennial. *Tetrandria—Digynia.* Named in honour of Count Buffon.

Bu'fo, the *toad*, a well-known genus of Batrachian animals. Their bite, saliva, &c., are erroneously considered poisonous; but their appearance is against them.

Bu'fonites, from *bufo*. The *Bufonis lapis*, or toad-stone. The teeth of several species of fossil fish, which appear to belong chiefly to the genera *Anarrhicas* and *Sparus*, got the name of *bufonites* because they were formerly believed to have been generated in the head of the toad, or vomited by that animal; *chelonites*, because they were believed to be petrified tortoises' eggs, and various other names for equally good reasons, as serpents' eyes, Batrachites, Crapaudines, &c. They were formerly believed to possess great alexipharmic virtues, and changed colour on the approach of poison. They occur in great abundance throughout the oolite formation.

Bug, in common language, the name of a vast number of insects which infest houses and plants. By entomologists the word is applied to those insects arranged in the genus *Cimex*. They are furnished with a rostrum or beak, with

antennæ longer than the thorax, and the wings are folded together crosswise, but some species have no wings, as the house-bug or bed-bug, which is a troublesome and disgusting insect.

Bu'gle. Probably from Fr. *beugler*, whence *bigle*, a beagle. 1. Originally the hunter's horn; now used to denote a military musical instrument of the horn kind (*See* Horn).——2. A name common to all the plants of the genus *Ajuga*, in allusion to the form of the flower of most species. ——3. The *Prunella vulgaris*, or common self-heal, a British perennial.

Bu'gloss, a name common to all the plants of the genus *Anchusa*, from Lat. *buglossus*, of βους, an ox, and γλωσσα, tongue.

Bug'-Wort, a name common to all the plants of the genus *Cimicifuga*.

Buhl, ornamented furniture, in which tortoise-shell and various woods are inlaid with brass. The name is derived from the inventor.

Build'ing, a mass formed by the junction of materials arranged according to some plan. In *common language*, an edifice of large dimensions; *technically*, a piece of masonry; also the art of connecting stones, &c. together, either with or without cement. The *building of beams* is the uniting of several pieces of timber together by means of bolts, so as to form a beam of greater length or thickness than could be obtained from a single piece of timber.

Bulb, from Lat. *bulbus*, a globular body. This name is given to many objects because of their shape; but the term is especially used in botany to denote a pyriform coated body, solid or formed of fleshy scales or layers, constituting the lower part of some plants, and frequently giving off radicals from the circumference of the flattened basis. A bulb differs from a *tuber*, which is a farinaceous root and sends off radicals in every direction.

Bulbif'erous, Lat. *bulbiferus*, bulb-bearing; having one or more bulbs.

Bulbocas'tanum, the earth-chesnut or pig-nut, a species of *Bunium*. Named from βολβος, a bulb, and καστανον, a chesnut, because of its bulbous root, which has somewhat the flavour of the chesnut.

Bulbocaverno'sus. The accelerator urinæ muscle is so called from its origin and insertion.

Bulboco'dium, the *mountain saffron*; a genus of plants of one species common in Spain. *Hexandria—Monogynia*. Named from βολβος, a bulb, and κωδια, a head, in allusion to the form of its flower.

Bulbogem'ma, bulbs which grow on the stems of plants.

Bul'bose, } Lat. *bulbosus* (from *bulbus*);
Bul'bous, } applied in botany, to the roots of plants which are bulbed, and in *anatomy*, to soft parts that are naturally enlarged, as the bulbose part of the urethra.

Bulbotu'ber, a round, solid, underground stem, producing buds on its surface, and clothed with the decayed remains of leaves.

Bul'bule, Lat. *bulbulus*, a little bulb.

Bule, βουλη, a council; the Athenian senate.

Bu'limy, Lat. *bulimia*, insatiable hunger (βου, great, and λιμος, hunger). This is a vice rather than a disease; but there is a morbid state of the system, in which the appetite becomes so excessive that it is no longer under the moral control of the individual, and the quantity eaten is in some cases so great as to be scarcely credible.

Bulk, the whole contents of a ship's hold.

Bulk'heads, partitions built up in several places of a ship between two decks, either lengthwise or across, to form and separate the various apartments. *Bulk* in this word has the sense of *bulker* or beam. Dan. *bielcher*.

Bull. 1. The male of the bovine genus of quadrupeds, of which *cow* is the female. Icel. *baula*, to bellow. By the custom of some places the parson is required to keep a *bull* and a *boar* for the use of his parishioners.——2. A letter, edict, or rescript of the Pope, published or transmitted to the churches over which he is head, containing a decree, order, or decision. The bull is written on parchment, and provided with a leaden seal. The word was originally the name of the seal. A collection of bulls is called *bullary*. Certain ordinances of the German emperors are also called *bulls*. The *golden bull*, emphatically so called from the seal attached to it being in a gold box, is that fundamental law of the German empire enacted by the Emperor Charles IV. in two diets held in succession, in 1356, at Nuremberg and Metz. Its chief object was to fix the manner of electing the emperor. *Leaden bulls* were sent by the emperors of Constantinople to patriarchs and princes; and by the grandees of France, Sicily, &c.; and by patriarchs and bishops. *Waxen bulls* were in frequent use with the Greek emperors, who thus sealed letters to their relations and persons in high favour.

Bul'la, a bubble. 1. In *surgery*, a bleb: a vesicle containing a watery humour, which arises from burns, scalds, or other causes.——2. In *malacology*, a sub-genus of Bullinæ. Example, *B. lignaria*, Sow., a cylindrical univalve. The *Bullæ*, Lam. corresponds with *B. aperta*, Sow. The

bullæ take their name from the form of the shell, which is ovate and gibbose. The shell occurs fossil in the tertiary formations.

Bul'læ, in Roman *archæology*, little hollow ornaments of gold made in the form of a heart, and suspended round the necks of the children of the nobles until they attained the age of 14 years, when they were taken off and hung up as sacred to the *Lares*.

Bullan'tic, a term designating certain ornamental capital letters used in apostolic bulls (*bullæ*).

Bul'late, Lat. *bullatus*, blistered; applied to the leaves of plants when the veins are so tight that the intermediate space appears blistered; e. g. cabbage.

Bull'-dog, a variety of the common dog. The *canis molossus* of naturalists, remarkable for its short broad muzzle and the projecture of its underjaw, which causes the lower teeth to protrude beyond the upper.

Bul'len nails, nails with round heads and short shanks, tinned and lackered. These nails are principally used in the hangings of rooms.

Bul'letin, in France, an official report giving an account of the actual condition of some important affair; e. g. bulletin of the army. *Le Bulletin des Sciences et de l'Industrie* is published monthly at Paris by the French Society for the Promotion of Useful Knowledge. The term *bulletin* is dim. of *bulle*, a bull or written instrument.

Bull'-fights, one of the favourite diversions of the Spaniards, exhibited at Madrid twice a week, for the benefit of the general hospital! At those disgraceful exhibitions all the spectators are dressed in their best; the combatants, who make bull-fighting their business, march into the arena with some magistrate at their head: the corregidor gives the signal, and the bull is let in, and the attack is commenced. If the bull is too inactive, dogs are set upon him; if he is too active, he kills a few horses before he is himself killed by the sword of the *matador* (killer).

Bull'finch, the *Loxia pyrrhola*, a well-known European bird which has a short, rounded, robust bill, a black-cap (hence called *black-cap*), and plumage on the back of a dark blue-gray colour: the inferior parts of the body are reddish.

Bull'frog, the *Rana ocellata*, a large species of frog found in North America, of a dusky brown colour, mixed with yellowish green, and spotted black.

Bull'-head. 1. The *Cottus*, a genus of fishes with a head broader than the body, whence the name. This fish is known in some places by the name of the *Miller's thumb*.——2. A small black water-insect.

Bul'linæ, a sub-family of Mollusca, of which the genus *bulla* is the type.

Bul'lion, uncoined gold or silver in the mass. The precious metals are called bullion when smelted and not perfectly refined, or when refined and cast into bars, ingots, or plates. Foreign coin is bought and sold under the name of bullion in this country.

Bull's'-eye, a little skylight in the covering or roof, designed to admit light to a granary or the like. The centre of a target, when used as a mark to shoot at.

Bull's nose, the external angle of a polygon, or of two lines meeting at an obtuse angle.

Bull-trout, the sea-trout or salmon-trout; a large species of trout thicker in its proportions than the common trout. Weight 3 lbs.

Bul'rush, a large species of rush. The *Juncus globulosus*, a native of Egypt. The name is applied popularly to any large species of rush.

Bul'wark, in *ancient fortifications*, is nearly the same with *bastion* in the modern. The term is Teut. *bolle*, round, and *werk*, work, i. e. a round or spherical fabric. *See* Rampart and Torus.

Bum'bailiff, an under bailiff, or subordinate civil officer, appointed to serve writs, and to make arrests and executions, and bound with sureties for a faithful discharge of his trust. The term is a corruption of *bound-bailiff*. *See* Bailiff.

Bum'-bee. } These popular names
Bum'ble-bee. } are common to all the species. The genera *Xylocopa* and *Bombus*, Latr. and Fabr., the humble-bee, which are large and particularly characterised by the humming sound which they make.

Bum'boat, a small boat used to carry provisions to vessels lying at a distance from shore. *Bum* is Welsh, *bon*, mean, insignificant.

Bumel'ia, the bastard bully tree. A genus of eight species, trees and shrubs: natives of America and the West Indies. *Pentandria—Monogynia*. Name βουμελια, a species of ash-tree, mentioned by Pliny, lib. 16. c. 13.

Bunch'osia, a genus comprehending six species, trees, and shrubs: natives of America and West Indies. *Decandria—Trigynia*.

Bungalow', an East Indian term for a house with a thatched roof.

Bu'nias, a genus of European plants of three species. *Tetradynamia—Siliculosa*. The name was anciently applied to the turnip (Plin. 20. 4).

Bu'nium, the earth-nut, pig-nut, kipper-nut, hawk-nut, &c. A genus of perennial plants of two species, both found in Britain. *Pentandria—Digynia*. The name was applied by the ancients to the turnip (βουνιον), but it has been used at different times to denote different plants. The

bulbocastanum, to which the popular names above noted are particularly applied, has a tuberous and whitish root of the size of a nutmeg. It is nutritious, and has a sweetish taste and flavour not unlike the chesnut, especially when roasted: hence called the *earth-chesnut*.

BUN'DLE-PILLAR, in *Gothic architecture*, a column consisting of a number of small pillars round its circumference: it is thus the reverse of *fluted*.

BUN'KER. In *Scotland*, a seat in a window, which also serves for a chest, opening with a hinged lid. Dan. *bunker*; Goth. *bænck*, a bench.

BUNN. In *Scotland*, a loaf; Ir. *bunna*, a mass.

BUNS'ING, an animal peculiar to the Cape of Good Hope, resembling the ferret in its proportions, but twice as large. When pursued it emits an intolerable stench.

BUNT. 1. In *nautical language*, the middle part or cavity of the principal square sails, as the mainsail, foresail, &c. ——2. In *conchology*, an increasing cavity, a tunnel.

The term *bunt* is also used as a verb, meaning *to swell out* or *bilge*, and in popular language it has sometimes the sense of *butt*.

BUNT'ING. 1. A thin woollen stuff, of which the colours and signals of a ship are usually formed.——2. In *ornithology*, a name common to all the species of the genus *Emberiza*, Lin. Also a common name of the *Alauda calandra*, Lin.

BUNT'LINES. In *ships*, small lines made fast to the bottoms of square sails, to draw them up to their yards. They are fastened to the middle of the bolt-rope.

BUOY, Fr. *bouée*. A piece of wood, cork, or other light substance, moored and floating on the surface of the water. Buoys of wood are sometimes solid, and sometimes hollow like a cask, and strongly hooped. They are made of various shapes and sizes, and are either private or public. The private buoys are such as belong to private individuals, and are chiefly employed to mark the place of a ship's anchor. The public buoys are stationed by the competent authorities. They are usually of a large size, and painted so as to be readily recognised by the descriptions of them in the charts. Their uses are to point out dangers, and to direct navigators into the safest channels. The *life* or *safety buoy* is suspended from the stern of the ship, and ready to be let go (with a light attached to it at night) in the event of any person falling overboard. Its use is to keep the person afloat till taken out of the water. To *stream the buoy*, is a nautical phrase meaning to let the buoy fall from the side of the ship into the water before letting go the anchor.

BUOY'-ROPE, the rope which fastens the buoy to the anchor. It should be strong enough to raise the anchor by in case the cable should break.

BU'PHAGA, the ox-eater, or beef-eater. A genus of African birds of one species (*B. Africana*), belonging to the order *Passerinæ*, and family *Conirostres*. Named from βους, an ox, and φαγω to eat. This bird is about the size of a thrush, and has obtained the alarming names which it bears, from its lighting on the backs of cattle, and compressing the skin with its inflated and blunt pointed mandibles, to force out the larvæ of the œstrus or gad-fly, lodged in it, and on which it feeds.

BUPHO'NIA, an Athenian festival in honour of Jupiter, from βους, an ox, and φωνη, slaughter, an ox being immolated with much quaint ceremony.

BUPLEU'RUM, the hare's-ear, or thorough-wax. A genus of plants of many species. *Pentandria — Digynia*. Name from βου, great, and πλευρον, a rib, in allusion to the large ribs or veins upon its leaves. The three British species are annuals.

BUPRES'TIS, a genus of coleopterous insects of the Serricorne family, remarkable for their brilliant colours; some species having a brilliant polished gold colour on an emerald ground; in others, an azure blue glistens over the gold, and in many species there is a union of several metallic colours. The generic appellation *Richard* was given to these insects by Geoffroy, to denote the richness of their livery. The name, βουπρηστις, was given anciently (Pl. 30, 4,) to an insect noxious to cattle. βους, a cow, and πρηθω, to inflame; perhaps the *Burn-cow*, which causes inflammation in the mouths of cattle when feeding.

BUPTHAL'MIA, } the ox-eye, βους, an ox,
BUPTHAL'MUS, } and οφθαλμος, an eye.
A disease regarded by most writers as the first stage of hydrothalmia, or dropsy of the eye.

BUPTHAL'MUM, the ox-eye. A genus of plants of 13 species; some shrubs, some annuals, and some perennials. *Syngenesia —Pol. superflua*. Named from βους, an ox, and οφθαλμος, an eye, from a supposed resemblance of the flowers of some of the species to an ox's-eye.

BUR'BOT, the *Gadus lota* a fish shaped like an eel, but shorter in its proportions, with a broad head, and in its nose two small beards, and another on its chin. It is disgusting in its appearance but is excellent food. In some localities it has the name of *eel-pout*.

BUR'CA, a term among the Turks for the rich covering of the door of the house at Mecca. It is 10 feet long, and 5 feet wide.

ıd has several figures and Arabic cha-
ıcters on it, richly embroidered in gold.
his is carried round in their solemn pro-
ssions, and is often made to stop that
ıe people may touch it.

Burden of a Song, the return of the
ıeme at the end of each verse. In this
nse the word is Fr. *bourdon*, a drone or
ıse. A chord which is to be divided to
erform the intervals of music, when
ɔen and undivided is also called the
ırden.

Bur'dock, or *Clot-Bur*, names common
both species of the genus *Arctium*.
hey are troublesome weeds, but have
eir uses in medicine. The name is *bur*
ıd *dock* (*bur* is Goth. *biorn*, a bear), in
lusion to the shaggy roughness of the
volucres of the plant.

Bur'don, a pilgrim's staff which was
mmonly of an inconveniently large size.

Bureau', a French word from *bure*, cloth,
ed first to denote a desk, afterwards
e chamber of an officer of government,
d later, the body of subordinate offi-
rs who act under the direction of a
ief. In Spanish this word *bureo* is a
urt of justice for the trial of persons
longing to the royal household.

Bureau' System, } terms designating
Bureau'cracy, } governments in
hich the business of administration is
rried on in departments, each under
e control of a chief, and is opposed to
ose in which the officers of government
ve a co-ordinate authority. According
the parliamentary usage of France,
e Chamber of Deputies is divided into
ne *bureaus* or committees, composed of
equal number of deputies, designated
lot. Each bureau appoints its own
esident, and discusses separately all
atters referred to it by the chamber.

Burette', an instrument of measure
r dividing a given portion of any liquid
to 100 or 1000 equal parts.

Bur'age. In *English law*, tenure in
rgage, or burgage tenure, is tenure in
cage, applied to towns and cities, or
here houses or lands which were for-
erly the sites of houses in an ancient
rough, are held in common socage by
certain established rent; a remnant of
axon liberty.

Burganet', } a kind of helmet; the
Burgonet', } Spanish murrion. The
ord is Fr. *bourguignote*, from *burg* in the
nse of *guarding* or *covering*.

Burgeo'is, a French word meaning *bur-*
ss, and pronounced *boorzhwâ*, from
urg, a borough. The same word is
ed in Britain to denote a species of
pe or printing letter, smaller than long
imer and larger than brevier; in this
nse pronounced sometimes *burjois* and
metimes *burjo*.

Bur'geon, in Fr. *bourgeon*; a term used to denote the button or bud put forth by the branch of a tree in spring.

Bur'gess, in *England*, the holder of a tenement in a borough; in a parliamentary sense, the representative of a borough; in *Scotland*, a member of the corporation of a borough.

Burg'grave. } In some countries, espe-
Burg'rave. } cially Germany, the hereditary governor of a castle, from *burg* and *grave* or *graf*, a governor.

Burgh, a borough. Originally a fortified town. *See* Borough.

Burgh'-bote, in *ancient times*, a contribution (*bote*) towards the building or repairing of castles, walls, &c., for the defence of the burgh.

Burghers and Anti-burghers, a body of seceders from the Church of Scotland, who separated in the year 1733, in consequence of an undue exercise of patronage in the church. They preserved a distinct existence till 1820, when they joined in one. Out of their body sprung a large and respectable denomination of Christians, distinguished by their hostility to the church, and in favour of what is now termed voluntaryism.

Burgh'-Mail, formerly a yearly payment to the crown in Scotland, resembling the fee-farm-rent of English boroughs.

Burgh'mote, the court of a burgh, *mote*, a court.

Burglary, from Ger. *burg*, a house, and Arm. *laer*, a thief (whence Fr. *larron*). The breaking and entering the house of another by night with the intent to commit some felony, whether such felonious intention be executed or not. To constitute this crime, the act must be committed in the night, and in a dwelling-house or in an adjoining building which is part and parcel of the same. There must be an actual breaking and an entry; but the opening of a door or window, picking a lock or unlocking it with a key, raising a latch or loosing any fastenings, constitutes a *breaking*; and a putting in of the hand after such breaking, is an entry.

Burgomaster, } a magistrate, or one
Burghmaster, } employed in the government of a city. The *burgomasters* are the chief magistrates of the great towns of Holland, Flanders, and Germany. The same officer in France is called *maire*; in England and North America, *mayor*; and in Scotland, *provost*.

Burgout (pron. *burgoo*), the French name of a dish much cooked at sea. It consists of *groats* boiled in water till they burst, with a little butter.

Burgundy, a province of France, in which the wine so called is made. In richness of flavour and perfume, and in all the more delicate qualities of the juice of the grape, the wines of Burgundy un-

questionably rank as the first in the world.

Burgundy Pitch, a resin, the produce of the *Pinus abies*, or spruce fir. It takes its name from Burgundy in France, where it was first prepared. A fictitious resin is made in England under the name of *common Burgundy pitch*, and the Norway spruce fir yields a resin which is often called Burgundy pitch; it is the *Abietas resina* or *thus* (common frankincense) of the London pharmacopœias.

Burg'ward, a bulwark, Latinised by the writers of the middle ages, *burgwardus* or *burgwardium*. The name has been used to designate the town, and even the country about such a fortress.

Burin (Fr. *burin*), a graver. An instrument of tempered steel used for engraving on copper, &c. It is of a prismatic form, having one end inserted in a short wooden handle, and the other ground off obliquely so as to produce a point.

Burl'er, a dresser of cloth.

Burles'que, Fr. from It. *burlesco*, from *burlare*, to ridicule, *burla*, mockery. *Burlesque* signifies the low comic arising from a ludicrous mixture of things high and low, as when Hudibras describes the glorious sun rising from his bed in the morning like a boiled lobster. In good burlesque composition there is a well maintained contrast between the manner and the subject.

Burlet'ta, a light, comic species of musical drama, which derives its name from It. *burla*, raillery. It originated in Italy.

Bur'net, a name common to all the plants of the genus *Poterium*, from Celtic *burne*, moist, the only British species, *P. sanguisorba*, or common burnet, inhabiting moist places.

Bur'net-saxifrage, a name common to all the plants of the genus *Pimpinella*, of which there are four British species, all perennials.

Burn'ing-glass. } A glass lens, which
Burn'ing-mir'ror. } being exposed directly to the sun, refracts the rays which fall upon it into a focus, is called a *burning-glass*. If the solar rays be similarly collected by reflection from the surface of a concave mirror, this is then called a *burning-mirror*. The burning glass is the most convenient instrument, but its power is only about a fourth of that of a concave mirror or reflector of equal extent and curvature. This reflects more heat than the glass allows to pass through it, has a less focal distance, and is free from the dissipation of rays which takes place in the burning-glass, since it reflects them all nearly to the same point, whereas the burning-glass refracts them to different points.

Bur'nisher, a blunt, smooth tool used for smoothing and polishing a rough surface by pressure, and not by removing any part of the body. Agates, polished steel, ivory, dogs' teeth, &c., are used for burnishing.

Burr. 1. The lobe of the ear.——2. The round knob of a deer's horn, next the head.——3. The sweetbread.

Bur'rel-fly, the ox-fly, gad-bee or breeze. Fr. *bourreler*, to torment.

Bur'rel-shot, small shot, nails, pieces of old iron, small stones, &c., put into cases to be discharged among the enemy. Fr. *bourreler*, to torment.

Burrh'-stone, mill-stone which is almost pure silex: it has generally a reddish or yellowish tinge, but the best is nearly white. It is full of pores and cavities, which give it a corroded and cellular appearance. The name is sometimes written *buhr-stone*.

Bur'rock, a small weir or dam where wheels are laid in a river for catching fish.

Burr-pump, a *bilge-pump* (q. v.). This term is a corruption of *bar-pump*, this kind of pump having a staff of six or eight feet long, with a bar of wood, to which the leather which serves instead of a box is nailed. This staff is worked by men, who pull it up and down by a rope fastened to the middle of it.

Bur'sa, Lat. from βυρσα, a bag, a purse. Used by writers of the middle ages to denote a little college or hall in a university for the residence of students.

Bursal'ogy, Lat. *bursalogia*. The doctrine of the bursæ mucosæ.

Bur'sa Mucosa, in *anatomy*, a small sac lined with synovial membrane, which secretes an oily fluid to lubricate the surfaces over which the tendons of muscles play. The bursæ mucosæ are of different sizes, and are situated near the joints, particularly the large joints of the extremities.

Bur'sar a student to whom a stipend is paid out of a *burse* or fund appropriated for the maintenance of poor students. The exhibitioners sent to the universities of Scotland by the presbyteries are *bursars*, and the annual stipend paid to each is a *bursary*.

Bursary. 1. The treasury of a college.——2. In *Scotland*, an exhibition or foundation for the maintenance of poor students (*bursarii*).

Burse, a public edifice in some cities for the meeting of merchants to consult on matters of trade and money, and to negotiate bills of exchange. This is the name used in many cities of Europe, but in Britain and America the building is called an Exchange. The term is a modern application of the word *bursa* (q. v.).

Burs'chen, the name given to one another by the students of the German universities; from *bursarii*, the name which

he students bore in the middle ages, rom the buildings (*bursæ*) in which they ived in common.

Bur'schenschaft, a secret association f students, formed in 1815, for the poli- ical reformation of Germany; afterwards uppressed by government order.

Burschen Comment, the code of laws dopted by the students for their internal egulation.

Burse'ra, a genus of West India plants f two species, one of which is the Ja- naica birch (*B. gummifera*), which yields he gum elemi. *Hexandria—Monogynia.* Named from βυρσα, and σιγεω, to drain.

Bur'ton, in a *ship*, a small tackle con- isting of two single blocks. Named from he inventor

Bush, a circular piece of iron or other netal let into the sheaves of such blocks s have iron pins, to prevent their wear- ng. In *America*, the bush in the nave of cart or coach-wheel is called a *box*.

Bush'el, an English dry measure of 8 allons or 4 pecks. The standard English ushel (12 Henry VII.), contains 8 galls. wheat, each 8 lbs. troy, each of 12 oz., each f 20 dwts., each of 32 corns of wheat that rew in the middle of the ear. In 1696 he capacity of the Winchester bushel as fixed at 2151·7 cubic inches of pure ater, equivalent to 1131 oz., 13 dwts. roy. The capacity of the imperial bushel, rescribed by act of uniformity (5 Geo. V., c. 74), is for coal, potatoes, fruits, nd other goods sold by heaped measure, 815 cubic inches, the goods to be heaped p in the form of a cone, to a height bove the brim of the measure of at least hree-fourths its depth. The Irish bushel r all liquids, and for corn and other dry oods, not heaped, contains 2218·2 cubic ches, and holds 80 lbs. avoirdupois of ure water.—The word bushel is low Lat. *ssellus*, dim. of *buza*.

Bush-harrow, an implement of hus- ndry for harrowing grass-lands and vering grass and clover-seeds. It con- sts of a frame with three or more bars, mong which bushes are interwoven. A ght harrow with small tines serves tter.

Bush'men, Dut. *boojesmannen*, men of e wood. A name given by the Dutch lonists to some roaming tribes akin to e Hottentots, in the vicinity of the ape of Good Hope.

Bus'kin, in Lat. *cothurnus*. A kind of gh shoe or boot worn by the ancient agedians upon the stage, to give them a ore heroic appearance. In classic au- ors the word is used for tragedy, and r a lofty and elevated style. The buskin as also worn by both sexes, especially the ladies, for ornament. Hunters d soldiers use a buskin much resembling half boot.

Buss, Dut. *buis*, Ger. *büse*, Russ. *busa*. A small sea-vessel used by the English and Dutch in the herring fishery, com- monly from 50 to 60 tons burden, and sometimes more. A buss has two small sheds or cabins, one at the prow and the other at the stern: that at the prow serves for a kitchen.

Bust, that part of the human figure which comprises the head, neck, breast, and shoulders. By this term, *busto* is ap- plied to the human figure as low as the hips, with or without the head and arms; which definition agrees with that species of sculpture which represents the por- traits of illustrious Romans, either en- tirely round and mounted on pedestals, or in alto relievo on the sides of sarco- phagi or other sepulchral monuments. The Italian *busto* is probably from Lat. *bustum*, a figurative expression for any kind of tomb, but originally applied to the pile on which a dead body had been burned, as the *bustum* in the Campus Martius, on which the bodies of the em- peror Augustus and his successors were burned.

Bus'tard, a name common to all the birds of the genus *Otis*, Lin. The great bustard (*O. tarda*, Lin.), is the largest of European land birds, the male weighing on an average 25 lbs. It is 4 feet in length, and sometimes measures 9 feet from tip to tip of the wings.

Butcher-bird, a species of *shrike*. The *Lanius collurio*, Germ., which destroys small birds, young frogs, and great num- bers of insects, which it, butcher-like, sticks upon the thorns of bushes in order to devour them at leisure, or to find them again when wanted.

Butch'ersbroom, a name common to all the plants of the genus *Ruscus*, but parti- cularly applied to the *R. aculeatus*, an evergreen shrub which grows in woods and thickets in this country, and is known also by the names knee-holly, Alexan- drian laurel, and wild myrtle. It is used by butchers for brooms to sweep their blocks.

Bu'teo, the *buzzard:* a subgenus of birds of the order *Accipitres* and family *Diurnæ*. The buzzard is ranked among the ignoble birds of prey, and is called in some parts of America the *hen-hawk*, from its depre- dations among the poultry. Name origi- nally applied to a species of the falco tribe (Pliny 10. 8).

But'ments, supports or props by which the feet of arches or any other bodies pressing in an oblique direction to the horizon are sustained in their places. *See* Abutments.

But'ment-cheeks, in *carpentry*, the two solid parts on each side of a mortise: the thickness of each cheek is commonly equal to the thickness of the mortise.

Butt. 1. Fr. *bout*, extremity. The *butt end of a piece of timber* is that end of a plant which was nearest the root of the tree; a *butt-joint in a hand-rail* is a joint at right-angles to the curve of the rail. A *butt*, among ploughmen in Scotland, is a piece of ground which does not form a proper ridge. In *archery*, a mark to be shot at. ——2. Sax. *butte*, a measure, a vessel or measure of wine containing two hogsheads or 126 wine gallons, that is 106 imperial gallons. Etymon, *βουττις*, a vessel for holding wine.

Butter, from Sax. *buter*. An oily, inflammable part of milk, separated by churning, and used as an article of diet in most civilised countries. Butter differs from the common animal fats in containing a peculiar fluid oleaginous matter, called *butyrine*. This substance, when saponified, yields in addition to the usual products, three volatile odoriferous substances, called the *butyric*, *caproic*, and *capric* acids. The Latin etymon of the term butter is *butyrum*, from *βουτυρον*, of which *βους*, a cow, is the root.

But'ter of Antimony, the sesquichloride of antimony.

But'ter of Arsenic, a sublimated chloride of arsenic.

But'ter of Bismuth, a sublimated chloride of bismuth

But'ter of Cacao, an oily, concrete matter, obtained from the cacao nut by bruising and boiling it in water, when the uncombined oil is liquefied, and rises to the surface, where it swims.

But'ter of Tin, a sublimated chloride of tin.

But'ter of Wax, the oleaginous part of wax, obtained by distillation.

But'ter of Zinc, chloride of zinc, obtained by burning zinc in chlorine gas. It is called also *muriate of zinc*.

But'ter-fly, a name common to all those lepidopterous insects of the genus *Papilio*, from the yellow colour of a common species. That which seems to be a powder upon the wings of the butterfly tribe, is an innumerable quantity of plumes, which are only to be observed distinctly with a good microscope. The insect appears in the state of a caterpillar, and afterwards in that of a chrysalis, from which it comes forth perfect.

But'terfly-shaped, papilionaceous. Applied to the corolla of plants, when they are irregular and spreading.

But'teris, an instrument of steel set in a wooden handle, used by farriers for paring the hoof of a horse.

But'ter-nut, the fruit of the *Juglans cinerea*, an American tree. The fruit bears a resemblance to the black walnut, and is named from the oil it contains.

Butters, mineral. A name formerly given to some of the *chlorides*, on account of their soft butyraceous texture, when recently prepared; such as *butter of antimony*.

Butters, vegetable. The concrete fixed oils, solid at the ordinary temperature, such as those of the cocoa and chocolate nuts.

Butter-tree, a remarkable plant found by Park in the interior of Africa, yielding from its kernels, by pressure, a white, firm, rich butter, which kept well for a year without salt.

But'ter-wort, a name common to all the plants of the genus *Pinguicula*, but especially applied to the Yorkshire sanicle (*P. vulgaris*), which grows in soft grounds. Its leaves are covered with soft, pellucid prickles, which secrete an unctuous fluid, to such a degree as causes them to be applied to chaps, and as a pomatum for the hair.

But'tery, a store-room for provisions. The name is given, in some colleges, to a room where refreshments are kept for sale to the students.

But'ting-joint, a joint formed by the surfaces of two pieces of wood, the surface of one piece being parallel with the fibres, and that of the other, either in the same or in an oblique direction to them. The joints which the struts and braces form with the truss-posts, in carpentry, are of this description.

Button, from the same root as *bud*. Buttons are manufactured of an endless variety of forms and materials—wood, horn, bone, steel, copper, brass, &c. The non-metallic buttons, called also *moulds*, are made of the substances first mentioned, by sawing them into little slips of the thickness of the button to be made; these slips are then cut into the form required by an instrument adapted to the purpose. Metallic buttons are cast in moulds, or cut with a fly-press.——2. The *button of the reins of a bridle* is a ring of leather, with the reins passed through, and which runs along the length of the reins.——3. A small piece of wood or metal, turning on a centre (usually a round nail with a smooth head), for fastening a door, window, or other closure. The *button of a lock* is a round head serving to move the bolt.——4. The round mass of metal collected at the bottom of a crucible after fusion.

But'ton-wood. 1. The *Cephalanthus occidentalis*, an American shrub. —— 2. The *Platanus occidentalis*, or western plane-tree, a large American tree, the wood of which is very hard, and is highly valuable in turnery.——3. The *button-tree*.

But'tress, *butt* and *truss*. A mass of masonry, to support the side of a wall that is very high, or that is pressed on the

pposite side by an adventitious force, as bank of earth, or body of water. In hose structures improperly called Gothic, uttresses are placed around the exterior ides of the building, one in the inter-nediate space between every two win-ows, and one or two at each of the ngles, in order to support the vaulting. n pointed architecture two kinds of but-resses are used; the one formed of ver-ical planes, and attached to the walls, is alled *pillared buttresses;* the other, which rises from the pillared buttresses upon ne sides of the aisle, with an arch-ormed intrados or top, is called *flying-uttresses* or *arc-boutants.*

Butyra'ceous, having the appearance r properties of butter (*butyrum.*)

Butyr'ic Acid, a volatile odoriferous ubstance having acid properties, ob-ained from butter. *See* Butter.

Bu'tyrine, a substance which exists n butter (*butyrum*), combined with oleine, earine, and a very small quantity of utyric acid; Sp. Gr. 0·822. Butyrine aponifies easily, and is then transformed nto butyric, caproic and capric acids; nto glycerine, and margaric and oleic cids.

Bux'ine, an alkaline substance disco-ered by M. Faure in the *Buxus semper-irens.*

Bux'us, the *box-tree*, a genus of plants. *Monœcia—Triandria.* Name from πυξαζω, become hard. Of this plant there is nly one British species, but of this there re several varieties, the extremes of hich are the tree and the dwarf-edging, ommon in forming the edging of garden alks.

Buz'zard. 1. The *Vultur aura*, Wils.; *Cathartes aura*, Illig.; commonly called *Turkey-buzzard* and *turkey-vulture*, a bird ound over a vast extent of territory on e American continent, in the West In-a Islands, and in the southern parts of urope and Asia (*See* Vulture).——2. A ame common to two sub-genera of the te tribe. *See* Buteo and Pernis.

Buzzardet', a species of kite resemb-ng the buzzard in most respects, except at its legs are in proportion rather nger.

By'ard, a piece of leather across the east, used by those who drag the dges in coal-pits.

By'arus, a plexus of blood-vessels in e brain.

By-Law, a particular law made by a rporation, or by any other distinct por-on of the community, for the regulation the affairs of its members in such of eir relations as are not reached by the neral law of the land. By-laws must t involve the infraction of any public w.

Byssifers, *Byssifera*, a family of Lamellibranchiate acephalous molluscs.

Bys'solite, from βυσσος, flax, and λίθος, stone, a rare massive mineral, in short and somewhat stiff filaments, of an olive-green colour, implanted perpendicularly like moss on the surface of certain stones. It has been found at the foot of Mont Blanc, and also near Oisons.

Bys'sus, βύσσος. 1. A variety of fine flax much prized by the ancients (Orig. l. xix., c. 27), also the cloth manufactured from this flax, Egyptian linen.——2. A genus of lichens.——3. A name of Asbestos.——4. The hairy appendage by which some of the bivalve mollusca attach themselves to rocks and other objects; the byssus or silky beard of the *Pinna marina* is used in Sicily to make stockings and gloves, but only as objects of curiosity.

Byzant', a gold coin of the value of 15*l.* sterling, so called from its being struck at Byzantium, the present *Constantinople.*

C.

C, the third letter of the alphabet in most European dialects. It is probably the Hebrew Caph (כ) inverted for the facility of writing, or the Greek kappa (κ) with the upright stroke, left out for the same reason. Some suppose that it was originally the Greek *gamma* (γ), as the earlier Romans used it in many words which at a later date were written with a *g*, as *leciones* for *legiones.* Q and C are often interchanged on old monuments; thus *qom* for *com.* In the Roman calendars and fasti, C denoted the days on which the comitia might be held. In trials the unfavourable opinions of the judges were given by writing on a little tube (*tessera*) the initial letter C for *condemno*, as A was written for *absolvo*, or N. L. for *non liquet.* On medals C stands for many names of persons, as *Cæsar, Caius, Cassius*, &c.; of offices, as *Censor, Consul;* of cities, as *Carthage.* As an abbreviation, it stands for Christ, as A.C. for *Anno Christi* or *ante Christum*, and for companion, as C.B., Companion of the Bath. As a numeral it denotes 100, being the initial letter of *centum.* C, in *music*, the name of the note in the natural major mode to which Guido applied the syllable *ut*, but which the Italians have since relinquished for *do*, as softer and more vocal. When placed at the clef, it stands for common time, and with a line run through it perpendicularly, for cut-time or a quicker kind of movement. In Italian music C is sometimes written for *canto*, as C 1. *Canto primo.*

CA'A-A'PIA, the Brazilian name of the *Dorstenia braziliensis*, the root of which is chewed by the natives; it has the same effect as ipecacuanha.

CA'ABA, a square stone edifice in the temple of Mecca, being the part principally reverenced by the Mohammedans, and to which they always direct themselves in prayer. The direction is ascertained in distant parts by a little pocket compass called a *kiblet* or director.

CA'A-EO, the Brazilian name of two species of acacia, viz., the *Mimosa sensitiva*, and *Mimosa pudica*.

CAAPI'BA, the Brazilian name of the *Pareira brava*, called by the Portuguese *Cipodas cobras*.

CAB. 1. A Hebrew measure (קַב kab) equal to the sixth part of a seak or satum, and containing about 2¾ imperial pints.——2. An alchemical name of gold.——3. An abbreviation of the word *cabriolet*.

CABA'L. 1. In *British history*, one of the cabinets of Charles II., which consisted of five men famous for their intrigues:—*C*lifford, *A*shley, *B*uckingham, *A*rlington, and *L*auderdale; the initial letters of whose names form this word.——2. A beverage made in Portugal by bruising 20 lbs. of raisins, and saturating them with white wine during three months. The mixture is rich, clear, and agreeable.

CAB'ALA, CAB'BALA, CAB'ALIA, CABAL'LA, CA'BULA, } Terms derived from the oriental word *kibel*, which in Hebrew means to *receive*; Chal. to *obscure*; in Syr. to *accuse*; and applied to a mystical interpretation of the Pentateuch, alleged to have been received from the Deity by Moses, and transmitted by an uninterrupted tradition through Joshua and the seventy elders to the Rabbinical doctors. In a general way the term *cabala* is applied to the whole system of occult philosophy of the Rabbins, which chiefly consisted in understanding the combinations of certain letters, words, and numbers. Every letter, word, number, and accent of the law is supposed to contain a mystery, and the cabalists pretended to foretell events by the study of this *science*.

CAB'ALIST. 1. One who professes the study of the cabala.——2. In *French commerce*, a factor or agent.

CAB'ALLINE ALOES, horse-aloes; a coarse sort of aloe, so called because it is given only to horses.

CAB'BAGE, a name common to all the plants of the genus *Brassica* (q. v.). Of the garden cabbage there are many varieties: the chief are the *drumhead*, the *savoy*, the *cauliflower*, the *broccoli*, the *Brussels-sprouts*, the *sugar-loaf*, the *colewort*, and the *early-market*.

CAB'BAGE-TREE. 1. The *Cacalia Kleinia*, which has a compound shrubby stalk resembling that of a cabbage. It grows naturally in the Canary Islands, and has long been cultivated in English gardens, where it is more commonly called the *carnation-tree*, from the shape of its leaves and the colour of its flowers.——2. The *Andira inermis* or *Geoffroya inermis*, Lin., a lofty tree (from 170 to 200 feet) of the East and West Indies, and other hot climates. It bears on the top a substance called *cabbage*, lying in thin, snow-white, brittle flakes, in taste resembling an almond, but sweeter: this is boiled and eaten with flesh like other vegetables. The fibres of the leaves, which somewhat resemble those of our common garden-cabbage, are used to make cordage and nets; and the internal bark of the tree is much used in this country in medicine. The tree is also called the *cabbage-palm*.

CAB'BALA. *See* CABALA.

CABE'CA, a name given to the finest silks of the East Indies: the inferior qualities are called *barina*.

CAB'EZON, in *Spain*, a register of the different taxes paid to government, and of the names of the contributors: *cabeza*, head, person.

CAB'IN, an apartment in a ship for officers and passengers. The bed-places in ships are sometimes also called *cabins*, but more commonly *berths*. *Berth* is used likewise for the room where a number of men mess and reside. The same name is also applied to the huts and cottages of poor people and savager, from the Celtic word *cab*, a hut or booth.

CAB'INET, dim. of *cabin*. 1. A small apartment adjoining a larger one.——2. The most retired part of a private dwelling, designed for work, study, amusement, or for collections of valuable articles.——3. In the abode of a prince, the cabinet is a room set apart for the ruler's particular use; also the apartment where he transacts government business, advises with his counsellors, and issues his decrees: hence, in political language, the cabinet is put for the government, as the Cabinet of London, &c. &c.——4. A cabinet is any part of a building, or one or more whole buildings, where are preserved valuable collections of paintings and other curiosities, making up the contents of a museum, and by metonymy, the name is applied to the collections themselves.——5. A little insulated building in a garden, serving as a place of retirement, and to enjoy the fresh air under cover.

CAB'INET-COUN'CIL, the confidential council of a prince or executive magistrate.

CAB'IRI (κάβειροι). Sacred priests or deified heroes, venerated by the Pagans as the authors of religion and the founders of the human race. The name literally

nifies the *mighty ones*, and seems to have en applied to the supposed beings that reside over the striking operations of ture.

Cabi'ria, the mysteries of the Cabiri: hose celebrated at Samothrace were the hief.

Ca'ble, Fr. and Sp. *cable*, Teut. *kabel*. A large rope or chain used to retain a essel at anchor. Rope cables are prinipally manufactured of hemp: each cable as three strands, every strand has three opes, and every rope consists of three wists. The twists have more or fewer hreads according to the greater or less hickness of the cable. All vessels have eady for service three cables: the *sheet* able, the *best bower* cable, and the *small ower* cable. Iron cables are strong iron hains constructed in various ways: they ave in a great measure, and deservedly, eplaced the hempen cables.——2. In *architecture*, wreathed circular mouldings esembling a rope; also the staff which s left in the lower part of the flutings of ome examples of the Corinthian and omposite orders.

Ca'bled, tied with a cable. A heraldic erm applied to a cross formed of the ends f a cable in representation.

Ca'bled Columns are such as have the utings of the shaft filled with astragals about one-third of the height: called lso *rudented columns*.

Ca'bled Flutes, in *architecture*, are such utes as are filled with cables.

Ca'ble's-length, the measure of 120 thoms, the usual length of a ship's cable.

Ca'ble-tier, the place where the cables e coiled away.

Ca'bling, the filling of the flutes of lumns with cables, or the cables so sposed.

Cabo'ched, } Fr. *cabochée*. In *heraldry*,
Cabo'shed, } having the head cut close as to have no part of the neck left.

Cabom'beæ. In *botany*, the name given the order now called *Hydropeltideæ*.

Caboo'se, Ger. *kabuse*, a little room. The ok-room or kitchen of a ship. In naller vessels it is an inclosed fireplace, arth or stove, for cooking on the main-ck. In a ship of war, the cook-room is lled the *galley*. Caboose also signifies e box that covers the chimney in a ship. e term appears to be formed of *cabin* d *house*.

Cab'riolet, a two-wheeled vehicle awn by one horse, and carrying two ssengers and a driver; frequently conacted *cab*. The word is French, from *riole*, a goat-leap. Lat. *capra*, a goat.

Cabt'ans, small lines made of spun rn, to bind cables, seize tackles, and e like.

Caca'lia κακαλια. A genus of plants. *Syngenesia—Polyg. æqualis.* There is no British species. The cabbage or carnation-tree, sow-thistle, &c. are, however, cultivated in our gardens, and several of the species are used in medicine.

Ca'cao. } 1. Chocolate, a kind of hard
Ca'coa. } paste formed into a cake, the basis of which is the pulp of the cacao or chocolate nut, a production of the West Indies and South America.——2. The seed or nuts of the cacao tree.——3. The cacao tree.

Ca'cao-nut, the fruit of the cacao-tree. It somewhat resembles a cucumber in shape, but is furrowed deeper on the sides. Its colour while growing is green, but as it ripens this changes to a fine bluish-red, almost purple, with pink veins; or, in some varieties, to a fine yellow or lemon colour. Each pod contains from 20 to 30 nuts or kernels, which in shape are not unlike almonds, and consist of a white and sweetish pulpy-like substance, enveloped in a parchment-like shell.

Ca'cao-tree, the *Theobroma cacao*, which both in shape and size somewhat resembles a young cherry-tree, but separates, near the ground, into four or five stems. The leaves are about four inches long, of a dull green colour; the flowers are saffron coloured, and very beautiful. The fruit is the *cacao-nut*. The cacao-tree grows plentifully in the West Indies and South America.

Cac'atory Fever, a species of intermittent fever, accompanied with diarrhœa, and sometimes with tormina. *Cacare*, to go to stool.

Ca'chalot, the physeter or spermaceti whale. *Physeter*, as well as *physalus*, signifies blower. *Cachalot* is the name used by the Biscayans, from *cachau*, which in the Cantabrian dialect means tooth. The head of the cachalot is enormously large; the under-jaw is armed with a range of cylindrical teeth; the superior portion of the head consists of large cavities, filled with an oil which becomes fixed as it cools, and is known in commerce by the name *spermaceti*, a substance for which the cachalot is principally sought. The odorous substance *ambergris* is a concretion formed in the intestines of the cachalot.

Cache't, Lettres de, under the ancient French government, letters signed with the king's private seal, for the detention of private citizens. Previous to the 17th century they were seldom employed, but in the reign of Louis XIV. they were very common. In the reigns of Louis XV. and XVI. 59 were issued against the Mirabeau family. They were finally abolished in 1790.

Ca'cholong, a milk-white variety of quartz, having a pearly or glistening

lustre, a flat, conchoidal fracture, and perfect opacity. It is found in the river *Cach*, in Bucharia, and obtains its name from that river, and *cholong*, the Calmuc word for stone.

Cachu'nde, a medicine highly celebrated among the Chinese and Indians. It is made of several aromatic ingredients, perfumes, medicinal earths, and precious stones, formed into a stiff paste, fashioned into various fantastic forms, and dried for use. It is reckoned a prolonger of life, and a provocative to venery, the two great intentions of most of the medicines used in the East.

Ca'cique, a title borne by some of the native chiefs of America at the time of the Spanish conquest. This is a French form of the word; it was pronounced *casic* or *kasik*, and denoted the dignity of a ruler.

Cacocholy, in Lat. *cacocholia*, a vitiated state of the bile; κακος, bad, and χολη, bile.

Cacochyl'y, in Lat. *cacochylia*, depraved chylification; κακος, bad, and χυλος, chyle.

Cacoe'thes, κακοηθης. Bad custom, condition, or habit; e. g. *cacoëthes scribendi*.

Cacol'ogy, in Lat. *cacologia*, bad choice of words in writing or speaking. κακος, bad, and λογος, word.

Cacop'athy, in Lat. *cacopathia*, ill-feeling, whether physical or moral; κακος, bad, and παθος, feeling.

Cacoph'ony, in Lat. *cacophonia*, disagreeable utterance; κακος, bad, and φωνη, sound. 1. Defective articulation of words.——2. A fault of style consisting in harsh and disagreeable sound produced by the meeting of two letters or two syllables, or by the too frequent repetition of the same letters or syllables.

Cacop'ragy, in Lat. *cacopragia*, a disease of those viscera which minister to nutrition; κακος, ill, and πραττω, to act.

Ca'cosphexy, in Lat. *cacosphexea*, a disordered state of the pulse; κακος, bad, and σφυξις, pulse.

Cacosyn'theton. In *rhetoric*, a figure of speech improperly introduced, an ill arrangement of words in a sentence: κακος, ill, and συνθετος, composed.

Cacoth'ymy, in Lat. *cacothymia*, a disordered state of mind: κακος, bad, and θυμος, mind.

Cacot'rophy, in Lat. *cacatrophia*, consumption from defect of nourishment; κακος, bad, and τροφη, nourishment.

Cacta'ceæ, a natural order of exogens, of which Cactus is the type, remarkable for their gay and large flowers.

Cac'tus, a genus of succulent plants of about 90 species, permanent in duration, generally without leaves, having the stem and branches jointed, for the most part armed with spines in bundles, with which, in many species, bristles are intermixed. Class *Icosandria*; order *Monogynia*. Name κακτος, anciently applied to the artichoke. They are natives of the West Indies and South America, and are only cultivated in this country for curiosity in green-houses. Gardeners call those species which are of a roundish form *melon-thistles*; those which are erect and support themselves are *torch-thistles*; those which have creeping roots are *cereuses*; the compressed and proliferous jointed are *prickly pears* or *Indian figs*.

Cadaver'ic, appertaining to a dead body; e.g. the changes induced in a corpse by putrefaction, are called cadaveric phenomena.

Cad'dis. 1. Lint for dressing a wound. ——2. A kind of tape.——3. A water-insect sometimes called the *case-worm*, and often contracted *cad*.

Cad'do, the jack-daw, or *corvus monedula*, Linn.

Cade, from Lat. *cadus*, a cask. A cade of herrings is the quantity of 500; of sprats, 1000.

Cade'-oil, a medicinal oil prepared in Germany and France from the fruit of the oxycedrus, called in those countries *cada*.

Cade'-worm, the case-worm or caddis.

Ca'dence, from Lat. *cadens*, falling, *cado*, to fall. In *music*, a pause or suspension at the end of an air, to afford the performer an opportunity of introducing a graceful extempore close, called also *reprise*. The word *cadence* is also frequently applied to the embellishment itself. In reading or speaking a certain tone is taken, which is the key-note on which most of the words are pronounced, and the fall of the voice below this is called *cadence*. The term is also used in horsemanship, to denote a just proportion observed by a horse in his movements.

Caden'za (*Italian*), the modulation of the voice in singing.

Cadet' (*French*). 1. A younger brother. ——2. A gentleman who has served in the army without pay, for the purpose of learning the art of war.——3. The term *cadet* is now applied, in Britain and the United States of America, to the pupils of a military academy.

Cadew', the case-worm or caddis.

Ca'di, in Arabic, a judge. Among the Turks, *cadi* signifies an inferior judge, in distinction to *molla*, a superior judge. They belong to the higher clergy.

Cadiles'ker, the chief judge in the Turkish empire. The name is compounded of *cadi* (q. v.), and *leskar*, army, because his office originally extended to the try-

g of soldiers, who are now tried only
r their own officers.

CADME'AN, } relating to Cadmus, a re-
CAD'MIAN, } puted prince of Thebes,
ho introduced into Greece the 16
mple letters of the alphabet; α, β, γ,
ι, ι, κ, λ, μ, ν, ο, π, ρ, σ, τ, υ. These
e called Cadmean letters.

CAD'MIA, καδμια. A name which has
en given to a variety of substances, but
now chiefly used to denote an oxide of
nc which collects on the sides of fur-
ces where zinc is sublimed, as in
ass founderies. This is more commonly
lled *tutty*. Cobalt has been called *me-
llic* cadmia and *native* cadmia; and *cala-
ine* is named *fossil* cadmia in some old
oks.

CAD'MIUM, a metal discovered about the
ginning of 1818 by M. Stromeyer in an
ide of zinc (*cadmia* or *tutty*). It has
nce been found in several of the ores of
at metal, especially in the Silesian na-
ve oxide, which contains from 1½ to 11
r cent. of cadmium. It has the colour
d lustre of tin, but is harder and more te-
cious, and is susceptible of a fine polish.
is very ductile and malleable, melts at
out the same temperature as tin, and is
arly as volatile as mercury, condensing
e it into globules which have a metallic
stre: its vapours have no smell. Sp.
8·6.

CADU'CA-BO'NA, an old law term, signi-
ng goods (*bona*) forfeited (*caduca*) to
e treasury of the prince.

CADU'CEUS (*Latin*), Mercury's rod. A
ite rod carried by the Roman heralds
duceatorii) when they went to treat of
ace: thus named *à cadendo, quid cadere
iat contentiones*. The rod was of laurel
olive, with two little wings on the
per end, two serpents twined about it,
th their heads turned towards each
er, and their crests not bristled, em-
matic of peace. Among the moderns
caduceus is an emblem of commerce.

CADU'CIBRANCHIA'TES, Lat. *caducus*,
ing, and *branchiæ*, gills. Batrachians
ich lose their branchial apparatus be-
e reaching maturity, as the frog, toad,

CADU'COUS, in Lat. *caducus*, falling off.
plied in botany to leaves which fall
ore the end of summer; to a calyx
ich drops at the first opening of the
als, or even before, as in the poppy; to
als which are scarcely unfolded before
y fall off, as in *thalictrum*, and to parts
ich fall off before the unfolding of the
ver or leaf, as the *perianth* of the *pa-
er*, and the *stipulæ* of the *prunus avium*.

CÆCA, Lat. *cæcus*, blind. In *comparative
tomy*, the blind processes of the alimen-
y canal.

CÆ'CUM (*Latin*), the blind-gut. The first portion of the large intestine, situated in the right iliac region. It is so named from *cæcus*, blind, because it is perforated at one end only.

CAER, in *British antiquity*, a term which, like the Saxon *chester*, denotes castle, and is prefixed to the names of places fortified by the Romans.

CÆSALPI'NIA, the *brasiletto*. A genus of arborescent plants, all natives of hot climates. *Decandria—Monogynia*. Named in honour of A. Cæsalpinus, chief physician to Pope Clement VIII. All the plants of this genus afford wood which is used in dyeing: these woods are known in commerce under the names of Brazil woods.

CÆSA'RIAN OPERATION, } the operation
CÆSARE'AN SECTION, } of making an incision into the uterus, to extract the child, either after the death of the mother, or when the obstacles to delivery are so great as to leave no other alternative. It is so named, because Julius Cæsar is said to have been brought into the world in this manner.

CÆSTUS, the boxing-glove of the Grecian and Roman pugilists.

CÆS'URA, in *Latin verse*, the separation of the last syllable of any word from those which precede it, and the carrying it forward into another foot. It always renders the syllable on which it falls long, and is accompanied with a slight pause, called the *cæsural pause*, as in the following line:—

Ille la | *tus* nive | *um* mol | *li* ful | *tus*
hyacintho.

In *English verse* the cæsura is equivalent to a pause.

CÆTERIS PARIBUS, a Latin phrase, used by writers on physical science, to signify *other things being equal*; e. g. the heavier the bullet, *cæteris paribus*, the greater the range; i. e. the heavier the bullet, *the length and diameter of the piece, and the strength of the powder being the same*, the greater will be the range of the piece of ordnance.

CAFFEIN', } a chemical principle dis-
CAFEINE', } covered in coffee (*café*), by Robiquet. It is a white volatile matter, sparingly soluble in cold water, but readily dissolved by boiling water or alcohol, from which it is again deposited on cooling in silky filaments. It contains more nitrogen than most animal matters, but never undergoes putrefaction.

CAFFILA, in *oriental countries*, a company of travellers or merchants. It differs from a *caravan* by being in the employ of some sovereign or company. The root of the word is Arabic, *kafē*, a companion.

CAF'TAN, the national dress of the Turks, in the form of a night-gown, and generally white, with pale yellow flowers. It

is made of wool or silk, and sometimes lined with fur.

Cag, a small cask, differing from a barrel only in being of smaller size. The word is usually written *keg:* the root is Dan. *kag*.

Cage, from Lat. *cagia*. The term *cage* is used in *carpentry*, to denote an outer work of timber, inclosing another within it. In this sense the cage of a staircase is the wooden sides or walls which inclose it.

Cag'hiz (Persian), a charter or patent, granted by the Persian kings to those whom they mean to honour, and by virtue of which the governor of every district of the kingdom, through which the *Caghizar* travels, must supply him with every necessary and accommodation.

Ca'gui, a monkey of Brazil, of two species, one of which is the Pongi; the other is not more than six inches long. They are called also Jacchus and Œdipus.

The name *cagui*, pronounced by the natives *sagui*, is common in Brazil to a great number of quadrupeds.

Cag'mag, a name given to old geese sent to London market for sale. The same name is given to the worst kind of meat.

Ca'hiz (Spanish). An imaginary measure of about 12 imperial bushels: hence *cahazada*, a tract of land on which a *cahiz* of wheat may be sown.

Ca'ic, Ca'ique, a skiff of a galley. It went out of use with the galley; but the name is still applied in the Levant and Black Sea to small barks; and in the French navy it is used to designate any small vessel.

Cai'macan, lieutenant. A title of the Grand Signior, the Grand Vizier, and Governor of Constantinople.

Cai'nites, a strange sect of heretics, who appeared about 159 A. D., who asserted that the power which created heaven and earth was the evil principle.

Cairn, a name given to heaps of stones, common in Great Britain, particularly in Scotland and Wales; generally of a conical form, and covered with a flat stone.

Cairngo'rm, a species of quartz, of various colours and sizes, on *Cairngorm*, a mountain of Scotland, belonging to the Grampian hills. The cairngorms, called also *Scotch pebbles*, are used for seals and other trinkets.

Cai'sson, from Fr. *caisse*, a chest. 1. In *military affairs*, a wooden chest into which several bombs are put, and sometimes gunpowder, and buried under ground, in order to explode at a particular time. The name is also applied to a covered waggon for the provisions and ammunition of an army.——2. In *architecture*, a kind of case or flat-bottomed boat, used in the construction of bridges, large enough to contain an entire pier, which is built in it; the caisson is then sunk to the bed of the river, and the sides removed from the bottom, which is left as a foundation for the pier. Floating vessels, under the same name, are used to close the entrances of docks and basins.

Ca'jeput-oil, the volatile oil obtained from the leaves of the cajeput-tree, the *Cajeputa officinarum* (the *Melaleuca leucadendron*, Lin.). The name is a corruption of the native term, *cayu-puti*, i. e. white-wood oil, because the bark of the tree has a whitish appearance, like our birch.

Ca'jeput-tree, the tree which affords the *cajeput-oil* (q. v.). It is common in Amboyna and other Eastern islands.

Cal'aba, a tropical plant; the species of Calophyllum which affords the oil called *Oleum Sanctæ Mariæ*.

Cal'abar-skin, the Siberian squirrel-skin, of various colours. It is used in making muffs, tippets, and trimming for clothes, and is called by the French *petit-gris*.

Cal'abash, a light vessel, formed of the shell of the fruit of the calabash-tree, emptied and dried. So hard and close-grained are these shells, that they retain all kinds of liquids, and may be put on the fire, like kettles, without sustaining any injury. The name is also used to designate the calabash-tree.

Cal'abash-nut, the fruit of the calabash-tree. It contains a pale yellow juicy pulp, of an unpleasant taste, which is esteemed a valuable remedy for several disorders, both external and internal.

Cal'abash-tree, a name common to all the species of the genus *Crescentia*, but especially applied to the *C. cujeta*, a production of the West Indies and the continent of America, about the height and dimensions of an apple-tree.

Cal'aite, mineral turquois.

Calaman'co, a sort of woollen stuff manufactured in England and the Netherlands; it has a fine gloss, and being chequered in the warp, the checks appear only on the one side.

Calaman'der-wood, a beautiful species of hard wood, brought from Ceylon.

Cal'amar (Spanish), a name given to the cuttle-fish or sea-sleeve. The name means an *ink-horn*, the fish having on the belly two bladders containing a black fluid which it emits when pursued.

Cal'ambac (Indian), the lignum aloes, xylo-aloes or aloes-wood.

Calambo'ur, a species of aloes-wood or calambac used by cabinet-makers.

Cal'amine, the *lapis calaminaris*, a native carbonate of zinc. Name, *calamina*, from *calamus*, in allusion to its reed-like appearance.

Cal'amite. 1. From *calamus*, a reed: a genus of fossil equisetaceæ, abounding in the most ancient coal formations, and

characterised by large and simple cylindrical stems, articulated at intervals, but without sheaths.——2. From Ital. *calamita*, loadstone; a mineral variety of hornblende, found in serpentine with magnetic iron and calcareous spar. It is more generally called Actinolite, (q. v.)

Cal'amus (Latin), a reed: in *Roman archæology*. 1. The *C. pastoralis* was a simple reed, used as a musical instrument. ——2. The *C. scriptorius*, or *C. chartarius*, was split like our pens, and sharpened with a knife: it was used to write on materials which the style would injure. ——3. *Calamus* is now applied as the generic name of the true Indian reed or rotang. *Hexandria—Monogynia*. There are several species, one of which the *C. rotang* affords the rattan canes used as walking-sticks; and another, the *C. aromaticus*, the sweet flag or *Acorus calamus*, Linn., is used by the distillers of Dantzic to correct the empyreumatic odour of spirits.

Calan'dra (Latin), the lark; applied as the name of a genus of coleopterous insects, of the family *Rhynchophora*. The species are all destructive: the well-known weevil, the destroyer of our granaries, is the larva of the *C. granaria*. The larva of the *C. palmarum*, called *ver palmiste*, is considered a great delicacy by the inhabitants of South America.

Cala'thium, } χαλαθος, *a cup*. A
Calathi'dium, } botanical term denoting an umbel with all the flowers sessile.

Cal'ator, in *Roman archæology*; an apparitor or officer who attends courts to summon the parties: καλητωρ, *a crier*.

Calatra'va, a Spanish military order, instituted by Sancho III., in memory of his taking Calatrava from the Moors.

Calcai're Grossier (French), a coarse limestone often passing into sand, and abounding in marine shells: it belongs to the eocene tertiary period.

Calcai're Silicieux (French), a compact silicious limestone, belonging, like the calcaire grossier, to the eocene tertiary period.

Cal'car (Latin), a spur; applied, 1. In *anatomy*, to the os calcis or heel-bone.—— In *botany*, to a tube forming a sac at the side of the receptacle.——3. The name of a small reverberatory furnace, in which the first calcination of sand and potash is made for the purpose of converting them into *frit*, from which glass is ultimately made. The calcar is 10 ft. long, 7 wide, and 2 deep.

Cal'carate, Lat. *calcaratus*, spurred; applied to corols and nectaries of plants.

Calca'reous Earth, commonly denotes lime in any form, but properly it is pure lime.

Calca'reous Rock, limestone

Calca'reous Spar, crystallised native carbonate of lime; it is found in veins in all rocks from granite to alluvial strata. The most beautiful crystals are found in Derbyshire, but the purest variety is the *Iceland spar*. Its optical effects are well known.

Calca'reous Tufa, calcareous incrustations of carbonate of lime, sometimes found so thick and hard as to be used for architectural purposes. This tufa appears to be formed generally by springs, which issuing through limestone strata, hold in solution a portion of calcareous earth; this they deposit on coming in contact with air and light.

Cal'cedon. With *jewellers*, a foul vein like calcedony in some precious stones.

Calced'ony, a simple silicious uncrystallised mineral, semi-transparent and translucent, thus named from its being formerly found at Calcedon. There are several sub-species: common calcedony occurs in various shades of white, grey, yellow, brown, green and blue; the grass-green varieties are called *Plasma*; the apple-green is *Chrysoprase*; those with red, brown, and yellow tints are *Carnelian*; others are known as heliotrope, jasper, onyx, sard, &c.

Cal'cifraga, breakstone (*calx*, a stone, and *frango*, to break), a plant so named from its supposed property of breaking the stone in the bladder. By some writers the term *calcifraga* is used synonymously with *saxifraga*.

Calcina'tion, the process of subjecting a body to the action of fire to drive off the volatile parts, whereby it is reduced to a condition that it may be converted into a powder (*calx*). Thus marble is converted into lime by driving off the carbonic acid and water; and gypsum, alum, borax, and other saline bodies, are said to be calcined when they are deprived of their water of crystallisation. In a narrower sense, calcination consists in subjecting metallic bodies to a roasting heat, whereby they are changed into a metallic calx or earth.

Calcitrapoi'des, fossil shells, so named from their having four lobes disposed in a triangular form, like the four iron points of a caltrop.

Cal'cium, the metallic basis of lime. *See* Lime.

Calco'graphy, from *calx*, chalk, and γραφω, to write, engrave. *See* Engraving.

Calc-sinter, stalactitical or stalagmitical carbonate of lime, so called from German *kalk*, lime, and *sintern*, to drop. Calc-sinter is often formed by the infiltration of carbonated lime-water through the crevices of the roofs of caverns, &c. When it hangs from the roof it is called *Stalactites*, when found on the floor, the irregular masses are termed *Stalagmites*.

Calc Spar, calcareous spar, which see.

Calc Tuff, a deposit of carbonate of lime from calcareous springs. *See* Calcareous Tufa and Tufa.

Cal'culus (Latin), a stone; dim. of *calx*. 1. In *medicine*, a general name for all hard concretions (not bony) formed in the bodies of animals. Those concretions formed in the gall-bladder are called *biliary calculi*, or gall-stones: these usually consist of cholesterine blended with various proportions of colouring matter, inspissated bile, albumen, &c. *Urinary calculi* are formed by a morbid deposition from the urine in the kidney or bladder, and are therefore *renal* or *vesical*. Their usual constituents are lithate of ammonia, oxalate of lime, and mixed phosphates. There are also gouty concretions, called *arthritic calculi*, and *lachrymal* and *pancreatic calculi*, the first formed in the lachrymal passages, and the latter in the pancreas. *Pulmonary calculi* are found in the substance of the lungs, or in the ramifications of the bronchi; and *salivary calculi*, in the salivary glands or their ducts. There are likewise *calculi of the ears* (indurate wax), of the pineal and prostate glands, and *spermatic calculi*.——2. In *mathematics*, the higher analysis applicable to variable magnitudes, or to quantities which may be considered as having arrived at a given state of magnitude by successive variations. This gives rise to two departments of analysis; first, the method of descending from quantities to their elements, called the *differential calculus;* second, the method of ascending from the elements of the quantities to the quantities themselves, constituting the *integral calculus*. Both of these methods are included in the general name, *infinitesimal analysis*. Every variable quantity expressed algebraically may be differentiated, but there are differential quantities which we cannot integrate; some because they could not have resulted from differentiation, and others because means have not yet been discovered of integrating them.

Calda'rium. In *ancient architecture*, an apartment in the baths, heated for causing perspiration.

Cal'ebash, the *Cucurbita lagenaria*, an annual plant of both Indies.

Calefa'cient, Lat. *calefaciens*, making warm; applied in medicine to substances which cause warmth in the parts to which they are applied.

Cal'embourg, a sort of *pun* in which a word is employed in an unusual sense; it takes its name from a Westphalian Count Calemberg, who, in the reign of Louis XV., amused the Parisians by his blunders in speaking.

Cal'endar, the division of time into years, months, weeks, and days; also a register of these divisions. Among the old Romans, for want of such a register, it was the custom for the *pontifex maximus*, on the first day of the month, to proclaim (*calare*) the month with the festivals occurring in it, and the time of new moon, hence *calendæ* and *calendar*.

Cal'endar Month, a solar month as it stands in almanacs.

Cal'ender, from καλίνδρος, a cylinder. A machine consisting essentially of two cylinders, revolving so nearly in contact with each other, that cloth passed through betwixt them is smoothed, and even glazed, by their powerful pressure. The machine is employed either to finish goods for the market, or to prepare cotton and linen webs for the calico-printer, by rendering their surfaces level and compact.

Cal'enders, a sect of dervises in Turkey and Persia: named from their founder.

Cal'ends, with the *Romans*, the first days of the month, so called because the *pontifex maximus* then proclaimed (*calavit*) whether the *nones* would be on the 5th or on the 7th. This was the custom till 450 U. C., when the *fasti calendares* were affixed to the wall in public places.—In *ecclesiastical history*, the conferences regarding their duty and conduct, anciently held by the clergy of each deanery, are called *calends*.

Calen'dula, the *Marygold:* an extensive genus of plants. *Syngenesia—Polyg. necessaria.* Named *quod singulis calendis*, i. e. *mensibus, florescat*, because it flowers every month. The annual species are all hardy; the permanent ones are cultivated in this country as green-house plants. A mucilaginous substance obtained from the plant is called calendulin.

Cal'enture, Lat. *calentura*, a form of phrenitis, alleged formerly to have been common among seamen in tropical latitudes. It was attended with delirium, in which the patient fancied the sea to be green fields, and would leap into it if not restrained. There appears to be no such disease known at present.

Cal'iber, Fr. *calibre*. 1. The diameter of the bore of any piece of ordnance.—— 2. The diameter of any body, as a column, a shot, a shell.

Cal'iber Compasses, } a sort of com-
Cal'liper Compasses, } passes, with arched legs, used by gunners to take the diameter of shots, shells, &c., and by turners to find the diameter of the object in the lathe: called often for shortness *calibers* or *callipers*. The gunner's calibers, called also caliber rule, consist of two thin pieces of brass jointed by a rivet, so as to move quite round each other. The instrument contains a number of rules, tables, &c., connected with the artillery practice.

Cal'ico, a species of cotton cloth, named from *Calicut*, in India, where it was first manufactured. In England, unprinted cotton cloth is called calico; in America, the cloth is called calico after it is printed; in Scotland, white cotton cloth or calico is called *blunk*.

Cal'ico-Printing, the art of applying colours to cloth after it has come from the hand of the weaver, in such a manner as to form patterns or figures. This art is sometimes practised upon silks, linens, and woollens, but most frequently upon that species of cotton cloth called calico: whence the name.

Cal'idris, the name given by Cuvier to the *sandpipers*, and by Vigors to the *sanderlings* (the *arenaria* of Bechstein). Both of the subgenera of birds are comprehended in the genus *Scolopax*, Lin. The name was originally applied to some bird of this genus.

Cal'igo (Latin), darkness: appropriately, a disease of the eye, causing dimness of sight or blindness. Its cause is the interposition of some opaque body between the object and the retina: hence there are many species.

Ca'liph, the name assumed by the successors of Mohammed in the government of the faithful, and in the high priesthood. The term is Arabic, and means *vicegerent*. The title is borne by the grand signior in Turkey, and the sophi in Persia.—Caliphate is the government or jurisdiction of a caliph.

Calip'pic Period, in *chronology*, a period of 76 years continually recurring, after which it was supposed by Calippus, that the lunations, &c., of the moon would return again in the same order (which is not exact, as it brings them too late by a day in 225 years).

Calix'tins, a sect of Hussites in Bohemia, who differed from the Catholics chiefly in giving the communion cup to laymen. They are called also *Utraquists*.

Calk, to drive oakum into the seams of planks to prevent the entrance of water. After the oakum is driven in, it is covered with melted pitch or resin to preserve it from the action of the water. In some parts of America the term *calk* is used substantively in the same sense as *calkin* in England and *calker* in Scotland; and, as a verb, to set *calks* upon horses' shoes.

Calk'ers, in *Scotland*, the sharp pointed armature of a horse's shoes, put on to prevent the animal's feet from slipping on ice, &c. The word is properly *chalkers*, and has reference in its etymology to the white lines which the calkers make on the ice: hence the term is often used to designate such lines.

Calk'ing. 1. Stopping the seams of a ship with oakum.——2. Arming a horse's shoes with calkins.——3. Covering the back of a design with black lead or red chalk, and, with a sharp point, tracing lines through on a wax plate or other prepared surface, which leaves an outline impression on the plate or other surface. This is more commonly called *tracing*.

Calk'ing-iron, an iron instrument like a chisel, to force the oakum into the seams of ships.

Calk'ins, in *England*, the sharp pointed armature of a horse's shoes. *See* Calkers.

Call. 1. The cry of a bird to its young or to its mate at coupling time.——2. A sort of pipe used by fowlers to catch birds by imitating their notes.——3. Among *sportsmen*, a lesson blown on the horn of the keeper to encourage the dogs in their search of game.——4. Among *seamen*, the boatswain's whistle.——5. The invitation of a Scotch congregation to a preacher to become its pastor.——6. A short visit.

Callich'tys, a genus of Malacopterygious abdominal fish, related to the salmon-tribe. Name from καλλος, *beautiful*, and ιχτυς, a *fish*.

Callicoc'ca, a genus of plants, *Pentandria—Monogynia*. Name from καλλος, *beautiful*, and κοκκος, *berry*. Ipecacuanha is afforded by a Peruvian species of this genus, *C. Ipecacuanha*.

Callig'raphy, Gr. from καλλος, beauty, and γραφω, I write. The art of beautiful writing.

Callion'ymus. 1. A genus of Acanthopterygious fishes, placed among the Gobioides by Cuvier. The dragonet is a species. Name, καλλιονυμος, given by Pliny to an undetermined species.——2. The lily of the valley, a species of Convallaria.

Calli'ope, one of the Muses (q. v.); daughter of Jupiter and Mnemosyne. She presided over eloquence and heroic poetry. Καλλος and ὀψ.

Callis'thenics. *See* Gymnastics.

Cal'lous, from *callus*, hard. Indurated. Applied to parts of organized bodies which are morbidly hard. When there is a thickening of enamel upon any particular part of a shell, resembling a tumor, it is termed *callous* or a *callosity*, this is observed among spiral shells, in the inner lip of the Olives, Naticæ, and many others; and is very common near the hinge of certain bivalves.

Call'una, the common heath or *ling*, *Erica vulgaris*, of which there are many varieties known in Britain. Name from καλλυνω, to adorn, which is peculiarly applicable, whether we consider the beauty of its flowers or the circumstance that brooms are made of its twigs. It is the badge of the clan Macdonell.

Cal'lus (Latin), a preternatural hardness of any part, whether carneous or osseous. Corns produced by pressure and friction on the hands and feet of labourers are examples of the first, and the new growth of bony substance between the extemities of fractured bones, by which they are united, is an instance of the latter.

Calocat'anus a name of the wild poppy, *Papaver rhœas;* from καλος, beautiful, and κατανου, a cup, in allusion to the beauty of its flower and shape.

Cal'omel, from καλος, good, and μελας, black. This name was originally applied to the black sulphuret of mercury, *æthiops mineral*, it was afterwards very inappropriately applied to the protochloride of mercury, which is the only substance now known under the name of calomel. It is a highly important and highly abused medicine.

Calophyl'lum, the calaba-tree of the E. Indies, of which there are two species. *Polyandria — Monogynia.* Name from καλος, beauty, and φυλλον, a leaf; the species being distinguished by the beauty of their leaves. All the species afford a kind of tacamahaca, and an oil used for burning.

Calor'ic, from *calor*, heat; applied in philosophical language as the name of that agency which produces the phenomena of heat and combustion. There are two theories regarding it: 1. That it is a subtile fluid, the particles of which mutually repel one another, and are attracted by all other substances.——2. That it is not a separate entity, but is merely, like gravity, a property of matter referable to a vibratory motion among the ultimate particles of common matter. The arguments in favour of the first theory are founded on the evolution and absorption of heat during chemical combination, and the existence of colorific rays along with those of light in the solar beam; those of the latter are chiefly founded on the production of heat by friction, and other mechanical processes, producing motion among the particles of matter.

Calori'meter, from *caloric* and *metrum*, a measure. An apparatus invented by Lavoisier and Laplace to measure the quantity of heat which a body gives out in cooling, by the quantity of ice which it melts. It consists of three similar metallic vessels, the one containing the other, and kept separate by small pieces of wood. The intervals between the vessels are filled with pounded ice, and the body to be cooled is placed in the inner vessel which is formed of iron net-work. The quantity of water produced by the cooling of the body is the measure of its specific caloric. In the calorimeter of Count Rumford water is used, and the capacity of the body is determined by the number of degrees which the temperature of the water is raised in cooling the body a given number of degrees. The sources of fallacy in both kinds are such as render the results doubtful.

Ca'lorimo'tor, from *caloric* and *motor*, a mover, a galvanic instrument, in which the calorific influence or effects are attended with scarcely any electrical power.

Caloso'ma, Gr., from καλος, beautiful, and σωμα, body. Carabidæ or ground beetles, a genus of most beautiful coleopterous insects.

Calostem'ma, a genus of perennial plants of New Holland. *Hexandria—Monogynia.* Name from καλος, beautiful, and στεμμα, a wreath.

Calotham'nus, a genus of plants (trees) of New Holland. *Polyadelphia—Icosandria.* Name from καλος, beautiful, and ταμνος, tree.

Calotte' (French), a cap; applied in architecture to a concavity in the form of a cup or niche, lathed and plastered, to diminish the height of a chapel, cabinet, alcove or the like, which otherwise would be too high for the breadth.

Cal'oyers, Greek monks, who chiefly resided in Mount Athos, and became celebrated for their solitary and austere life. The Turks sometimes call their dervishes by this name.

Calp, καλπη, a sub-species of carbonate of lime containing argil and oxide of iron.

Cal'tha, the *marsh marigold*, a genus of British perennials. *Polyandria—Polygynia.* Greek name καλθα, caltha, probably a corruption of χαλχα, yellow, whence its other names, καλθυλα, calthula; καλδυλα, caldula; καλενδυλα, calendula.

Cal'trops, a name common to all the species of the genus *Tribulus*, but especially applied to the *T. terrestris*, a thistle, with a roundish prickly pericarp on the one side, gibbose and armed with three or four daggers; and on the other angular and converging with transverse cells. It is found in the south of Europe, among corn, &c., and is peculiarly dangerous to the feet of cattle. Name, *calyx*, the heel, and *tribolo*, a thistle. The name *water-caltrops* is applied to the plants of the genus *Trapa*.

Caltrop. In *military affairs*, an instrument with four iron points disposed in a triangular form, so that three of them being on the ground the other point is upwards. Caltrops are scattered on the ground where an enemy's cavalry are to pass, to impede their progress by endangering the feet of the horses. The instrument takes its name from its resemblance to the caltrops thistle.

CALUM'BA, the root of the *Cocculus palmatus*, imported from Colomba in Ceylon. Synonyms, *Colombo*, *Calomba*, *Columba*.

CAL'UMET, the Indian pipe of peace, corresponding in some measure to the European flag of truce. The bowl of the pipe is usually made of a red soft marble, and the tube of reed ornamented with feathers. From this instrument the *calumet dance*, the least hideous of the Indian dances, has its name.

CAL'VARY, from *calvaria*, a skull. In *heraldry*, a cross set upon steps in imitation of that on which Christ was crucified on Mount Calvary.

CAL'VES-SNOUT, the herb snap-dragon. See ANTIRRHINUM.

CAL'VINISM, that system of religious doctrine taught by John Calvin, the distinguishing features of which are embraced in the *five points*,—predestination, particular redemption, total depravity, irresistible grace, and the certain perseverance of the saints. The doctrines of the trinity and original sin, are common to other protestant sects besides Calvinists.

CALX (Latin), properly lime or chalk, but the term is now more generally applied to the *residuum* of a metal or mineral which has been subjected to a violent heat, burning or calcination, and which is or may be reduced to a fine powder. Metallic calces are now generally called *oxides*.

CALX NATI'VA (Latin), native calx: a kind of marly earth which, without burning, will make with water a sort of calcareous cement.

CALY'BIO, χαλυβη, a cottage. A one-celled, inferior, or few-seeded fruit, enclosed in a capsule, as the acorn of the oak.

CAL'YCANTHA'CEÆ. Calycanthus the type. A natural order of plants related to Rosaceæ.

CALYCAN'THEMÆ, an order of plants in Linnæus' fragments of a natural method, consisting of plants which have the corolla and stamina inserted in the calyx; hence the name from *calyx* and ανθος, flower.

CALYCAN'THUS, the *all-spice*, a genus of American trees. *Icosandria—Polygynia*. Name from καλυξ, a calyx, and ανθος, flower; the corolla consisting of leaves on the calyx.

CALY'CERA, the *wax-cup*, a genus of synœsious plants of the order Polygamia Segregata. Name from *calyx* and *cera*, wax.

CA'LYCERA'CEÆ. Calycera the type. A natural order of plants related to Compositæ.

CA'LYCIFLO'RÆ, an order of plants in Linnæus' fragments of a natural method. Name from *calyx* and *flos*, the order consisting of plants which have the stamina inserted in the calyx.

CALY'CINAL, Lat. *calycinalis*, belonging to the calyx of a flower. Applied to the nectary when it is a production of the calyx.

CALYC'ULATE, Lat. *calyculatus*, having a double calyx, or several successively diminishing in size. Applied to a *perianth*, when there are smaller ones like scales about its base: six seeds are inclosed in a hard bone-like calyx.

CAL'YCULE, Lat. *calyculus*, a little calyx. Used to designate, 1. The membranaceous border surrounding the apex of a seed. ——2. A little calyx exterior to another proper one.

CALYM'ENE, a genus of Trilobites, long confounded with insects under the name of *Entomolithus paradoxus*. This genus appears to have been extinguished with the termination of the carboniferous strata. The name is from καλυμμενη, concealed, in reference to the dubious characters of these fossils.

CALYP'SO. 1. In *mythology*, a daughter of Atlas. She inhabited the woody island Ogygia, situated deep in the ocean, remote from all intercourse with men and gods. She died of love for Ulysses.—— 2. The generic name of a perennial plant (*C. borealis*) of North America and Europe.

CALYP'TER, καλυπτηρ, a covering. Used in anatomy to designate a carneous excrescence covering the hæmorrhoidal vein.

CALYP'TRA, Lat. from καλυπτω, to cover. In *botany*, 1. The veil or covering of mosses; a kind of membraneous hood placed on a thin capsule or fructification, like an extinguisher on a candle.——2. The proper exterior covering or coat of the seed, which falls off spontaneously.

CALYPTRÆ'A, a genus of Mollusca, having a conical shell; placed in the Capuloid family by Cuvier, and among the Haliotidæ or ear-shells by Swainson. Name from καλυπτω, to cover, there being found in the hollow of the shell a little lamina that projects inwards, and interposes itself between a fold of the abdominal sac.

CALYP'TRATE, Lat. *calyptratus*. Having a covering like the calyptra of mosses.

CALYSTE'GIA, the bearbind. A genus of plants mostly perennials. *Pentandria—Monogynia*. Name from *calyx* and στεγαζω, to conceal.

CA'LYX, from καλυξ, the flower-cup—καλυπτω, to cover. Used in botany to designate the external covering of a flower, generally resembling the leaves in colour and texture. There are seven kinds of calyces, viz. perianthium, amentum spatha, gluma, involucrum, perichætium volva.

CAMÆ'A, a semi-pellucid gem, approaching to the onyx in structure, being composed of zones, and formed on a crystalline basis.

CAMAI'EU, a variety of onyx, or any gem whereon there are various natural figures. From *camahuia*, an oriental name of the onyx. This name has also been generally given to all precious stones whereon lapidaries employ their art, to perfect their natural beauty. Camaieu is also used synonymously with *cameo* (q. v.), and to designate a painting wherein there is only one colour, and where the lights and shades are of gold, wrought on a golden or azure ground. When the ground is yellow, the French call it *cirage;* when gray, *grissaile*. The Greeks called pieces of this sort *μονοχρωματα*.

CAMAL'DOLITES, } an order of hermits
CAMALDU'LIANS, } and monks, founded in 1012, by St. Romuald, in the valley of Camaldoli, near Arezzo, in the Apennines, and confirmed by Pope Alexander III.

CAM'ANDAG, } a tree of the Philippine
CAM'ANDANG, } islands, which has not been classed botanically. Its juice, called *tague*, is used by the natives to poison their arrows.

CAMARILLA, Span. The *little* or private chamber of the Sovereign of Spain. The term is generally applied to his immediate confidants, and is then synonymous with *clique*.

CAMARO'MA, } *camaration*, a species of
CAMARO'SIS, } fracture of the skull where the bones present the appearance of an arch or vault (*καμαρα*). *Camarosis* has also been used by architects to denote an elevation terminating with an arched or vaulted head.

CAM'BER, in *architecture*, an arch on the top of an aperture, or on the top of a beam. The term is from Fr. *cambrer*, to arch, probably from *καμαρα*, an arch.

CAM'BER-BEAM, a piece of timber cut with an obtuse angle on the upper edge, so as to form a declivity on each side from the middle of their length. Beams of this description are used in truncated roofs, being covered with boards and the boards covered with lead, to discharge the rain-water towards each end of the platform.

CAMBERED-DECK, an arched deck declining towards the stem and stern.

CAMBER-WINDOWS, windows which are arched above.

CAMBERING, arching, as the deck lies *cambering*.

CAM'BIUM, Lat. from *cambio*, to exchange. In *physiology*. 1. The nutritious humour which is changed into the materials of which the body is composed. ——2. The gelatinous substance or matter of organisation supposed to produce the young bark and new wood of plants.

CAMB'ODIA, } Gamboge: thus named from
CAMB'OGIA, } a river in Transgangetic India, on the banks of which the tree that affords the gum is produced. *See* GAMBOGE.

CAM'BRASINE, a species of fine linen made in Egypt, and named from its resemblance to cambric.

CAM'BRIAN ROCKS, the name given by Sedgwick to a group of rocks placed below the Silurian rocks, from their being extensively developed in North Wales, the ancient name of which is *Cambria*.

CAM'BRIC, a sort of fine linen, thus named from its being first made at Cambray, in French Flanders. A good imitation is now produced extensively in this country from fine cotton yarn hard twisted.

CA'ME, a slender rod of cast lead, of which glaziers make their turned or milled lead for joining the panes or quarrels of glass.

CAM'EL, Lat. *camelus*. 1. The English name of the camel-genus of quadrupeds. ——2. A machine used first by the Dutch for lifting ships over the Pampas, at the mouth of the river Y, or over other bars. It consists of two half ships so constructed that they can be applied below water, on each side of the hull of a vessel. On the camel's deck are a great many horizontal windlasses, from which ropes proceed through apertures in the one half, and being carried under the keel of the vessel, enter similar apertures in the other half, from which they are conveyed to the windlasses on its deck. When the apparatus is to be used, as much water as may be necessary is suffered to run into the parts: all the ropes are cast loose, the vessel is conducted between the divisions of the camel, and the ropes are then made fast, so that the ship is secured in its place. The water is then pumped out of the parts of the camel, by which they rise and float the ship between them. Thus, ships of 100 guns can be raised to pass without grounding the shallow banks of the Zuyder-Zee. The Russians use similar machines to float vessels built in the Neva, over the bar at Cronstadt. The machine takes its name from its supposed resemblance to a camel, called *kameel* by the Dutch.

CAM'ELEON. *See* CHAMELEON.

CAMEL'IDÆ, the camel-tribe of quadruped; *καμηλος*, a camel, and *ειδος*, like. The camel is the type.

CAMEL'INA, the *gold-of-pleasure:* a genus of European annuals. *Tetradynamia—Siliculosa*. Named from *camelus*, because camels are supposed to be fond of it. (The name *gold-of-pleasure*, is by some given to

ıe plants of the genus *Myagrum*, and erhaps more correctly.)

Camel'lia, a very extensive genus of siatic plants (trees and shrubs), all eated in this country as green-house lants. *Monadelphia—Polyandria.* Name om *καμαιλλια*, an undetermined plant.

Camel'lidæ, } a natural order of plants,
Camelli'eæ, } including the genera *mellia* and *thea*.

Cam'elopard, the *giraffe:* an African uadruped forming the genus *Camelopar-alis* of Linnæus. It is the tallest of ani-als; its head being often 18 feet from ıe ground. Its hair is short and gray, ıtermixed with fawn brown angular ots. It lives on leaves, and is of a gen-e disposition.

Camelopardalis, the generic name of ıe *camelopard* (q. v.) or giraffe. Charac-erised in both sexes by conical horns overed with a hairy skin; from *καμηλος*, camel, and *παρδαλις*, a panther, the nimal being supposed by the ancients to artake of the characteristics of both ıese animals.

Camel's Hair, the hair of the camel, nported into this country chiefly for the anufacture of fine pencils for drawing ıd painting. It is divided into three rts, the black, the red, and the grey. he black is the dearest, and the grey is ıly worth half the red.

Camel's Hay, the sweet rush (*andropo-n schœnanthus*). The dried plant is nported into this country from Turkey ıd Arabia, and used as a stomachic.

Cam'elus, the Latin generic name of e camel: there are only two species nown, the two-humped or Bactrian mel (so called from its inhabiting Tur-stan, the ancient Bactria), and the one-mped camel or dromedary, both large imals of the Eastern Continent. (The *nas* are by some placed in this genus). ıe camel belongs to the ruminant order mammiferous animals, and is the only imal of that order which has cutting eth in the upper jaw. Name *καμηλος*, om *καμνω*, to toil.

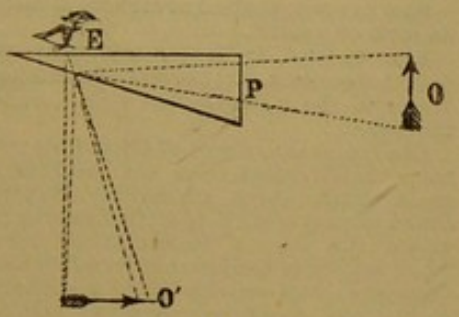
Cam'elot. *See* Camlet.

Cam'eo, in the proper sense, a gem en-aved in *relievo*. At first the onyx (*see* AMAIEU) only was used for this purpose, t afterwards any gem which was carved relief was called a *cameo*. They were rved according to the layers of the stone, that the ground should be of a different lour from the figure in relief. The most mous cameo is the *Apotheosis of Augustus*, Paris; it is 12 inches high, and 10 ches wide.

Camera Æolia (*Chamber of Æolus*), a ntrivance for blowing the fire. It is mply a large eolopile (q. v.).

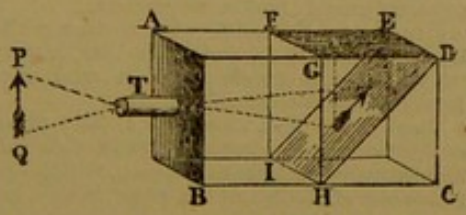
Cam'era Cla ra (*Clear chamber*), an optical instrument on the principle of the *Camera obscura*, and has this advantage over that instrument, that it may be used equally well in clear and dark weather.

Cam'era Lucida (*Light chamber*), an instrument employed for delineating views from nature and copying drawings. It consists essentially of a four-sided glass prism,



a section of which is shewn in the cut, in which O is the object, and O′ its reflected image, P the prism, and E the eye of the observer, who is thus led to suppose that he sees the object delineated on a sheet of white paper placed at O′. This instrument was invented by Dr. Wollaston, but the name was originally given to an instrument invented by Dr. Hooke, analogous to the solar-microscope.

Cam'era Obscu'ra (*Dark chamber*), an optical instrument, employed for exhibiting the images and colours of external objects, so that they may be traced on paper. The simplest form of it is a darkened room, into which no light is admitted except by a small hole in the window-shutter. A picture of the opposite objects will then be seen on the wall or on a white screen placed so as to receive the light from the aperture. A very simple portable camera obscura is represented in



the annexed cut. ABCD is a small rectangular box, closed on all sides except the space EFGD, which is covered with a piece of ground glass. In the other end is a moveable tube T, with a proper lens, and in the body of the box is a mirror EIHD, set to an angle of 45°. Upon this mirror the image of the object PQ falls, and is reflected upon the ground glass plate EFGD.

Cameralis'tics, the science of finance, German *cameralist*, a financier. The root

of the word seems to be Spanish *camerilla*, a chamber.

Camera'ria, the *bastard manchineel;* a genus of plants, natives of warm climates. *Pentandria—Monogynia.* Name *camararia*, a waiting-maid, in allusion to the light and gaudy appearance of the plants when in bloom.

Cam'erated, vaulted or arched. *Camera*, an arch or vault.

Cam'erlingo, in *Italy;* originally the pope's treasurer, at present the highest officer in the ecclesiastical states, under the pope.

Camer'onians, a sect of Christians who trace their descent from the martyrs of the Scottish church, and hold by the principles of that church as settled at what is called the second Reformation (1649). They take this designation from Richard Cameron, who was killed in a skirmish at Airmoss, Ayrshire, where he and his followers were attacked by Bruce of Earlshall, on the 20th July, 1680.

Cam'ery, that disease of horses called *founce* (q. v.).

Cam'isade, in *military affairs*, an attack by surprise at a time when the enemy is supposed to be in bed; hence the derivation, Ital. *camicia*, Sp. *camisa*, a shirt.

Cami'sards, persecuted Calvinists, inhabiting the Cevennes, in France, who, in the beginning of the 18th century attacked the tax-collectors, dragged them out of bed and hanged them with the tax-rolls about their necks. To disguise themselves, they appeared in their shirts, whence the name.

Cam'let, } A light stuff manufactured
Cam'blet. } on a loom with two treddles, and so named from its being originally made of camel's hair. There are camlets of different kinds, as goat's hair, hair and wool, wool and silk, wool and linen or cotton yarn. Some are watered, others figured, and some striped.

Cam'omile, the *anthemis nobilis*, a well-known plant, the dried daisy-like flowers of which are much used in medicine. Latin name *Chamomilla.*

Camp, from Lat. *Campus*, 1. The place and order of tents for soldiers in the field, in contradistinction to *bivouac*, which denotes the situation of an army which remains in the open air.——2. In *agriculture*, a heap of turnips, potatoes, or other roots, laid up for preserving through the winter.

Campa'na (Latin), a bell; used to denote, 1. In *chemistry*, a receptacle like a bell used for making sulphuric acid; whence the old name *oleum sulphuris per campanum.*——2. In *architecture*, the body of the Corinthian pillar, thus named from its figure.

Campana'ceæ, bell-shaped flowers; an order of plants in Linnaeus's natural method—*Campana*, a bell.

Campan'ile, in *architecture*, a tower appropriated to bells, from Ital. *campana*, a bell. In Italy bell-towers are built apart from the churches.

Campan'ula, the *bell-flower*, an extensive genus of plants mostly perennials. *Pentandria—Monogynia.* Name, dim. of *campana*, a bell. There are several British species of this plant, of which the throat-wort is among the best known. It is used in medicine for sore-throat.

Campanula'ceæ, bell-shaped flowers; a natural order of plants of which the genus *campanula* is the the type.

Campanula'ria, a genus of coralliferous polypi placed among the *Tubularii* by Cuvier. Name from *campanula*, a little bell. The extremities of the branches through which the polypi pass are widened and bell-shaped.

Campan'ulate, Lat. *campanulatus*, bell-shaped, applied to many parts of plants, especially the corolla and nectary.

Camp-ceiling. A roof is said to be *camp* or *tent* ceiled, which has the ceiling under the rafters.

Campeachy-wood, the wood of the *Hæmatoxylon campeachianum*, known better by the name *logwood*, which is said to attain the greatest perfection at Campeachy in America.

Campes'tral, } Lat. *campestris*, per-
Campes'trian, } taining to the open fields, applied as the specific name of many plants.

Camp'-Fight. In *old law writings*, a trial by duel, or the legal combat of two champions for the decision of a controversy.

Camp-Meet'ings, religious meetings among the Methodists held in the open air (*campus*) in Britain and America. In the latter country sometimes 20,000 attend.

Camphi'ne. In *chemistry*, a hydro-carbon, identical with pure oil of turpentine.

Cam'phire, } a peculiar substance which
Cam'phor, } exists in several plants, but is obtained chiefly from two trees: the *Laurus camphora*, found in the forests of Fokein in China and of North America, and the *Dryobalanops camphora*, which grows in the forests of Sumatra and Borneo. From the first-named tree the camphor is obtained by boiling the wood; from the second it is obtained by making incisions into the tree when growing, into which incision the camphor concretes; the tree is then cut down and the camphor extracted. After extraction it is purified by mixing it in a crude state with a twentieth part of its weight of quick lime and subliming it. When pure it has a strong and peculiar fragrance, and a bitter pungent taste. It is white, semi-transparent, unctuous to the touch, brittle, and of irregular crystalline texture. It is volatile, melts at

8° Fahr., and boils at 400°, burns with bright flame and much smoke at higher temperatures. Sp. gr. 984; constituents—arbon, 6, hydrogen, 1, oxygen, 1. It as introduced into Europe by the Arabians, under the names *camper* and *cabor*, Latinised *camphora*, whence *camphor*.

Cam'phorate, a salt formed by the nion of the camphoric acid with a base.

Cam'phorated, containing camphor; g. camphorated spirit of wine.

Camphor'ic Acid, an acid obtained by epeated distillations of nitric acid from amphor. It combines with the earthy, lkaline, and metallic bases, and forms alts called *camphorates*.

Cam'phor Oil, a fragrant essential oil, btained in large quantities by heating he wood of the *Dryobalanops camphora*. t is cheap and forms a good substitute or spirit of turpentine in the arts.

Cam'pitæ, a name given to the Donasts, from their meeting in fields (*campi*) or want of churches.

Campulit'ropus, Gr. from *καμπτω*, I urve, and *τρεπω*, I turn. In botany such vules as bend down upon themselves till heir apex touches the base.

Cam'wood, a red dye-wood, the colouring matter of which seems to differ little rom that of the common Nicaragua ood, either in quality or quantity. It principally obtained from the vicinity f Sierra Leone.

Can-buoy, a buoy of the form of a cone, ade large and sometimes painted.

Can-hook, in *ships*, an instrument to ing a cask by the ends of the staves, rmed by reeving a piece of rope through wo flat hooks, and splicing the ends toether.

Can'ada Balsam, one of the purest turentines. It is obtained from the *Pinus alsamea*, a tree found in Canada.

Can'ada Rice, a name common to all e species of the genus Zizania, but pecially applied to the *Z. aquatica*, a nadian perennial.

Cana'il, the coarser part of meal. The rm is Fr. *canaille*, refuse, dregs.

Cana'l, Lat. *canalis*, a pipe .1. An artial channel filled with water, kept at e desired level by means of locks or ices, and forming a communication beween two or more places.——2. In *architure* this word is sometimes used for e flutings of a column or pilaster. The *nal of the volute* is a spiral channel comencing at the eye of the Ionic capital, d expanding in width until the whole mber of revolutions are completed. The *nal of the Larmier* is a groove recessed the soffit of the larmier upwards, to revent the rain-water from running wn the bed of the cornice.——3. In *conology*, the groove or gutter observable in different parts of certain spiral shells, belonging to the carnivorous tribe (*Zoophaga*), is called the *canal*.——4. In *physiology*, any duct or passage in the body, through which any of the fluids or juices flow, or other substances pass.

Canalic'ulate, Lat. *canaliculatus*, channelled; furrowed.

Canalif'era, Lat. *canalis*, a canal, and *fero*, I bear. Zoophagous univalves, the shell of which is characterised by a long straight canal terminating its mouth.

Canar'diere, a small turret or sentry-box, sometimes erected on the salient angles of works to serve as a shelter to a sentinel. Formerly canardieres were constructed on castles to shelter the warriors when they discharged their missiles.

Cana'ry-grass, a name common to all the species of the genus *phalaris*, but especially applied to the *P. canariensis*, brought from the Canary Islands, but now naturalised in Britain. It affords the canary-seed.

Canas'ter, the rush basket in which tobacco is packed in South America.

Cancella'ria, a genus of shell, comprising many species, some of which are found in a fossil state in the London clay add calc-grossier of Paris. This genus is placed among the Scolyminæ by Swainson. Name from *cancelli*, lattice-work, the shell being generally reticulated and scabrous.

Can'cellated, Lat. *cancellatus*, reticulated; having the appearance of *cancelli*.

Cancelli (Latin), lattice-work: the divisional lines crossing each other at right angles.

Can'cer (Latin), a crab. 1. The *crab*, a genus of malacostraceous crustaceans of the order *Decapoda*, and family *Brachyura*, Cuv. Naturalists have now divided the crabs into swimmers, arcuated, quadrilateral, orbicular, triangular, &c., differing in shape, the number and form of the spines or teeth, the relative proportion of the eyes and their pedicles, &c. Each of these sections is again divided into numerous genera.——2. The *crab*, one of the signs of the zodiac, being the sign of the summer solstice, and represented upon the globe by the figure of a crab. In books it is marked ♋. A lesser circle of the sphere parallel to the equator, and passing through the beginning of the sign cancer, is called the tropic of cancer.——3. The *cancer*, a malignant disease, thus named from the parts affected being raised into a tumour, and surrounded by dilated veins, thereby presenting somewhat the appearance of a crab. In the first stage of the disease it is called *scirrhus*, or *occult cancer*.

Can'cerite, a petrified crab (*cancer*).

CANCHERIZ'ATO, } Musical terms, de-
CANCHERIZAN'TE, } noting a retrogade motion from the end to the beginning of a piece. The terms are Italian, from *canchero*, a crab, the motions of which are reckoned backwards.

CANCRO'MA, the *boat-bill:* a genus of bird inhabiting the hot and marshy parts of South America. Order *Grallatoræ*, and family *Cultrirostres*, Cuvier. It much resembles the heron in habits and form, except in the form of the bill. Name, *cancer*, a crab, and *roma*, food, from its being thought to live on crabs.

CANDELA'BRA (Latin), the stands on which the ancients supported their lamps.

CANDELA'RIA. the herb mullein, from *candela*, its stalk being supposed to resemble a candle.

CANDIDA'TI, Lat. *candidus*, white. In *Roman antiquities*, so called from their being arrayed in white garments, were the aspirants for public offices.

CANDLE, from Lat. *candela*. A long roll made of tallow, wax, or spermaceti.

CANDLEBER'RY MYRTLE, a name common to all the plants of the genus *Myrtica*.

CAN'DLEBERRY TREE, the *Myrtica cerifera*, or wax-bearing myrtle of N. America.

CAN'DLE-BOMB, a small glass bubble containing a drop of water and hermetically sealed. It is placed in the wick of a candle, which, being lighted, the water expands, and the bomb loudly explodes. It is a dangerous plaything.

CAN'DLE-COAL, } A species of coal which
CAN'NEL-COAL. } has obtained its name from the bright flame, unmixed with smoke, which it yields during combustion. *Candle* being provincially pronounced *cannel*. It is black, opaque, compact and brittle, and breaks with a conchoidal fracture. It does not soil the fingers, and, like jet, is capable of a high polish, and of being worked into trinkets and ornaments. It appears indeed to differ from jet only in containing foreign earthy matters, which give it a greater specific gravity.

CANDLE-FIR, moss-fallen fir; fir that has been buried in moss for a length of time, split up and used in some parts instead of candles.

CAN'DLEMAS (comp. of *Candle* and *mass*); a Roman catholic festival, celebrated on the 2nd of February, in honour of the purification of the Virgin Mary, and so called from the great number of lights used on that occasion. On this day the Catholics consecrate all the candles and tapers which are to be used in their churches during the whole year. In Rome, the pope performs the ceremony himself, and distributes wax candles to the cardinals and others, who carry them in procession through the hall of the pope's palace. The ceremony was prohibited in England by an order of council in 1548, but it has given name to one of the four terms for paying and receiving rents and interest, and to a law term beginning 15th Jan., and ending 3rd Feb. Candlemas-day is the 2nd Feb.

CAN'DY, a preparation of sugar, made by crystallizing it several times to render it hard and transparent. The name and art was introduced into Europe by the Arabs.

CANE, Lat. *canna*. 1. In *botany*, this term is applied to several plants belonging to different genera, as Arundo, Calamus, Saccharum, &c. Among them is the *bamboo* of the E. Indies, and the *sugar-cane* of Asia, Africa and America.——2. A measure of length in several countries of Europe; at Naples = 7·292 ft: at Toulouse, in Upper Languedoc = 5·708 ft.; in Lower Languedoc = 6·458 ft., and the same at Montpellier, and in Provence and Dauphiny.——3. In *Scotland*, a duty formerly paid in produce by a tenant to his landlord. Skene derives the term, taken in this sense, from Gaelic *Cean*, the head, and supposes that the *cane* was originally a capitation tax.

CANE'-BRAKE. 1. A cane-thicket.——2. A plant, the *Arundinaria microsperma* of N. America.

CANE'-HOLE, a trench for planting the cuttings of cane on sugar plantations.

CANEL'LA, the generic name of a tree of the W. Indies and S. America. *Dodecandria—Monogynia*. Name, dim. of *canna*, because the bark is brought into this country in the form of reeds. This tree affords the bark called *Canella alba* or false Winter's bark, often confounded with the true Winter's bark, which is the produce of another tree, the *Drimys winteri*.

CANEL'LA AL'BA. 1. The specific name of the canella tree.——2. The false Winter's bark, *Canella cubana*, which is the inner bark of the branches of the Canella-tree. It is brought into this country packed in casks and cases, in long pieces, some rolled in quills and others flat. The odour, when newly broken, is aromatic, something like a mixture of cloves and cinnamon; and the taste slightly bitter, and extremely warm and pungent.

CANEL'LA CELYAN'ICA, Cinnamon, the bark of the *Laurus cinnamonum*.

CANEL'LEÆ, canella being the type, a natural order of plants, consisting of S. American shrubs.

CANE-MILL, a mill on sugar plantations, for expressing the juice of the sugar-cane.

CANEPHO'RIA, in *Grecian archæology*, 1. A ceremony which formed part of a festival celebrated by the Athenian ladies on their marriage-eve: it consisted in presenting a basket of offerings to Minerva, to obtain leave to marry.——2. A festival in honour of Bacchus, in which a train of virgins carried covered baskets. The term

compounded of κανεον, a *basket*, and φερω, to *carry*: hence also a bride was called κανηφορα.

Canes venatici (Latin), the *greyhounds*, two constellations (*asterion* and *chara*,) between the tail of the great bear, *ursa major*, and Boötes' arms, above Coma Berenices.

Cane-trash, refuse of the sugar-cane reserved as fuel to boil the sugar-juice.

Canic'ula (Latin), a little dog; a star of canis major, called also the dog-star or Sirius. It is the largest and brightest of all the fixed stars. The ancients reckoned their canicular or dog-days from the heliacal rising of this star.

Ca'nine, Lat. *caninus*, appertaining to or partaking of the nature of a dog, as—(1). *Canine appetite*, *see* Bulimia. (2). *Canine madness*, *see* Hydrophobia. (3). *Canine teeth*; the four eye-teeth are thus named from their resemblance to those of a dog. (4). *Canine muscle*, the levator anguli oris. (5). *Canine spasm*, the sardonic laugh; a kind of convulsive grin observed chiefly in cases of tetanus and inflammation of the diaphragm.

Ca'nis Ma'jor (Latin), the Great Dog, a constellation of the southern hemisphere, having 64 stars, among which is the brilliant Sirius of the first magnitude. The Canis Major is fabled to have been one of Orion's hounds, but it more probably represents the Egyptian god Anubis. Sirius (*latrator anubis*) is vertical on the 30th June, when the Nile overflows. The Egyptians regarded the Nile as under the influence of this star, and hence gave the constellation of which it is the ornament, the figure of a dog, the most watchful and faithful of the brute creation.

Ca'nis Mi'nor (Latin), the Little Dog; a constellation of the southern hemisphere, said to be the type of one of the beagles of Orion's pack, or from the kennel of Boötes, or it is the sagacious cur Mera; but it is more probably the symbolical companion of Anubis (the Egyptians introducing all their astronomical symbols in pairs). The constellation has 2 stars, of which the chief is Procyon, which comes to the meridian about 50 minutes later than Sirius.

Can'ker, Lat. *cancrum*. 1. A cancerous affection which occurs frequently in salt-trees.——2. A fungous excrescence on the feet of horses discharging a fetid matter from the cliff in the middle of the frog.——3. Small eroding ulcers in the mouth, particularly of children, generally covered with a whitish slough.——4. Any virulent ulcer.

Canker-Fly, a name common to all flies which prey on and destroy green fruit.

Can'ker-Worm, a worm that destroys the leaves of fruit-trees.

Can'na (Latin). 1. a reed or hollow cane.——2. A genus of perennial plants. *Monandria — Monogynia*. There are 25 species all natives of hot climates; popular name *Indian shot*.

Can'nabis, hemp; a genus of plants. *Diœcia — Pentandria*. Name κανναβις, supposed to be from κανναι, a reed. There is properly only one species of this important plant, the *C. sativa*, a native of India and Persia, but now naturalised in the south of Europe. The *C. Indica* is a variety of the same plant; its leaves are used as those of tobacco, and an intoxicating liquor is prepared from them in many parts of Asia.

Can'nel Coal. *See* Candle Coal.

Can'nibals, or anthropophagi; man-eaters, a custom attributed especially to the *Caribee* or people of *Cariba*, whence this term is derived.

Can'non, a long hollow engine for throwing iron, lead, or stone balls by the force of gunpowder. Cannons are commonly made of iron, but frequently also of a mixture of copper, tin, and brass. They are either cast hollow or solid, and then bored; the latter kind are superior. The Moors appear to have used cannon in Spain in 1312. The origin of the term is doubtful; probably it is Lat. *canna*, a tube. The parts of a cannon are as follow; namely,—The *reinforce*, that part of a gun next the breech, which is made stronger to resist the force of powder. This is divided into the first and second reinforce, which differ in size.—The *chace*, the whole space from the trunnions to the muzzle.—The *muzzle*, properly so called, is that part comprehended between the muzzle, astragal, and the end.—The *cascable*, the hindermost part of the breech, from the base-ring to the end of the button.—The *cascable-astragal*, the diminishing part between the two breech-mouldings.—The *neck of the cascable*, the narrow space between the breech-moulding and the button.—The *breech* is the solid piece behind, between the vent and the extremity of the base-ring, which terminates the hind part of the gun, exclusive of the cascable.—The *breech-mouldings*, the eminent parts, as squares or rounds, which serve only for ornaments to the piece, &c.—The *base-ring* and *ogee* are ornamental mouldings; the latter of which is always in the shape of the letter S, after the manner of the ogee in architecture.—The *vent-field* is the part from the vent to the first reinforce-astragal.—The *vent-astragal* and *fillets* are the mouldings and fillets at or near the vent.—The *charging cylinder* is all the space from the chase-astragal to the muzzle-astragal.—The *first reinforce-ring* and *ogee* are the ornaments

on the second reinforce.—The *first reinforce-astragal* is the ornament between the first and second reinforce.—The *chase girdle* is the ornament close to the trunnions.—*Trunnions*, two solid cylindrical pieces of metal in every gun, which project from the piece, and by which it is supported upon its carriage.—*Dolphins*, two handles placed on the second reinforce-ring of brass cannons, resembling the fish of that name; they serve for mounting and dismounting the guns.—The *second reinforce-ring* and *ogee* are the two ornaments joining the trunnions.—The *chace-astragal* and *fillets*, the two last-mentioned ornaments jointly. — The *muzzle-astragal* and *fillets*, the joint ornaments nearest the muzzle.—The *muzzle mouldings*, the ornaments at the muzzle of a piece.—The *swelling of the muzzle*, the projected part behind the muzzle mouldings.—The *mouth of a cannon*, the entrance of the bore, or the hollow part which receives the charge.—The *vent*, that which, in small fire-arms, is called the *touch-hole*, a small hole pierced at the end, or near the end, of the bore or chamber, for the purpose of priming the piece with powder, or to introduce the tube in order when lighted to set fire to the charge.—The *chamber* is the place where the powder is lodged which forms the charge. The tools employed in the use of cannon are as follow:—*Quoins*, or *wedges*, to lay under the breech of the gun in order to elevate or depress it.—*Handspikes*, which serve as levers to move and lay the gun.—*Ladles*, which serve to load the gun with loose powder. *Rammers*, which serve to ram home the wads put upon the powder and shot.—The *sponge* is fixed at the opposite end of the rammer, and serves to clean the gun after it has been fired.—*Screws* are used to field-pieces instead of quoins, by which the gun is kept to the same elevation.—The *searcher* is an iron hollow, at one end, to receive a wooden handle, and, on the other end, has from four to eight flat springs pointed and turned outwards at the ends.—The *reliever* is an iron flat ring with a wooden handle at right angles to it: it is so called because it serves to relieve or disentangle the searcher, when any one of its springs is caught in a hole, on its being introduced into the piece to search it after it is fired.

Cannon Bone. In *farriery*, is the single metacarpal or metatarsal bone of the horse.

Cannon Metal consists of about 90 of copper and 10 of tin.

Cannula, Lat. dim. of *canna*, a reed. A metallic tube used by surgeons for various purposes. It is often adapted to a sharp instrument, along with which it is thrust into a cavity containing a fluid; the perforation being made, the sharp instrument is withdrawn and the cannula left, in order that the fluid may pass through it.

Canoe', a boat used by rude nations, made usually by excavating the trunk of a tree, but sometimes by making a rude framework, and covering it with skins or bark. The word is said to be of Indian origin.

Can'on, Lat. from κανων, that which is established; a law or rule in general; e.g. In *ecclesiastical affairs*; (1.) A law or rule of doctrine or discipline, enacted by a council and confirmed by the sovereign. (2.) A person who possesses a prebend or revenue allotted for the performance of divine service in a cathedral or collegiate church. A *cardinal canon* is one attached to a church (*incardinatus*) as a priest to a parish *Domicellary canons* are not in orders, and have no right to any particular chapters. *Expectative canons* have no revenue, but have the titles and dignities of canons, a voice in the chapter, and a place in the choir, till a prebend shall fall. *Foreign canons* do not officiate in their canonries, in contradistinction to *mansionary* or *residentiary canons*.——2. In *mathematics*, a general rule for resolving all cases of the same kind. The word is seldom used in this sense; instead of it we use the term *formula*.——3. In *music*, (1.) A rule for determining the intervals of notes, invented by Ptolemy; (2.) A kind of perpetual fugue, in which the different parts, beginning one after another, repeat incessantly the same air.

Can'on-bit, a large bit for a horse's mouth.

Canoness, a description of religious women in France and Germany.

Can'on-law, a body of law which was, at different times and in different portions, promulgated under the authority of the see of Rome, for regulating the consciences, and fixing the property, as well civil as ecclesiastical, of all the inhabitants of popish christendom.

Canon'ical Books, } The genuine
Canon'ical Scriptures, } books of the Holy Scriptures, called also the *sacred canon*.

Canon'ical Hours, certain stated times fixed by the ecclesiastical law for prayer and devotion. These hours are from 8 to 12 forenoon, before and after which marriage cannot be lawfully performed in the church.

Canon'icals, the dress worn by the clergy when they officiate

Can'onist, a doctor of canon-law. Canonists and civilians are usually combined in the same person. Hence the titles, *Doctor juris utriusque et legum doctum*, contracted LL.D. and I.U.D.

Canoniza'tion, the act of enrolling a

rson deceased in the catalogue of saints, hich is the practice of the Romish urch, and performed by the pope.

CAN'ONRY, an ecclesiastical benefice in cathedral or collegiate church, which s a prebend or stated allowance out of e revenues of the church; the benefice led by a canon.

CANO'PUS, a bright star of the first magtude, in the rudder of Argo. *Canopus* as the pilot of the ship Argo.

CAN'OPY, a magnificent covering for an ar, throne, tribunal, pulpit, chair, or e like; also the label or projecting ulding that surrounds the arches and ads of gothic niches. The term is Greek, ωνατιον, a pavilion or net spread er the head to keep off gnats, from ωνωψ, a gnat.

CANT (D. *kant*, a corner). An external gle. To cant signifies to toss or turn er, from Lat. *cano*. Cant signifies also piece of wood laid on deck for the supt of a bulk-head.

CAN'TALIVERS, *cantle* and *eaves*. Blocks wood or iron, which are placed at gular distances, projecting at right gles to the surface of a wall, to support e eaves of a house or the upper mouldgs of a cornice. Cantaliver is, therefore, entially the same as modillion, but the ter word is confined to the description regular architecture, while the former a general and trivial use.

CAN'TARO, a weight at Acra = 603 lbs.; Tunis and Tripoli = 100 rottoli, or ·05 lbs. At Alexandria it is also = 100 toli, but the rottolo has different names l weights. At Genoa, the cantaro of lbs. peso sottile, = 69·89 lbs. avoir., l the cantaro of 100 lbs. peso grosso, 76·875 lbs. avoir. At Leghorn the canlo is generally 150 lbs.; but a cantaro of ar is 151 lbs., of oil 88 lbs., of brandy lbs., of stock-fish 160 lbs. At Naples cantaro grosso = 169 lbs.; the cantaro colo = 106 lbs. avoir. At Alicant, in in, the cantaro is a liquid measure eight medios = 3·05 English wine lons.

ANTA'TA a poem set to music. A comition or song intermixed with recitaes and airs, chiefly intended for a gle voice. The term is Italian, from *tare*, to sing.

ANTEE'N, a tin or wooden vessel, used soldiers to carry liquors for drink: it ds three pints.

AN'TERBURY-BELLS, a biennial species he bell-flower, the *Capanula medium* botanists.

ANT-BODY, in *shipbuilding*. *See* FRAME.

ANT-FRAME, in *shipbuilding*. *See* FRAME.

ANTHAR'IDÆ, a tribe of coleopterous cts of the trachelide family. The tharis gives name to this tribe, and all the species possess, in a greater or less degree, epispastic powers.

CANTHAR'IDIN, the peculiar principle of the cantharides, which causes vesication.

CAN'THARIS (plural *Cantharides*), the blister-fly or Spanish-fly, common in Spain, Italy, and France, and well known for its medical uses. Synonyms, *Cantharis vesicatoris*, Geoff.; *Meloë vesicatoria*, Lin.; *Lytta vesicatoria*, Fabr. The insect is about the third of an inch in length, of a golden glossy green, with simple, regular, black antennæ. Name κανθαρις, from κανθαρος, a beetle.

CAN'THARUS. 1. In *archæology*, a cistern in the middle of the atrium, before the ancient churches, wherein persons washed their hands and faces, before they entered. The cantharus of a Roman fountain was the apparatus out of which the water issued, made of many different forms.——2. A genus of acanthopterygious fishes of the sparoid-family. The body is thick and round, not unlike a jug (the literal meaning of *cantharus*). There are two species found in the Atlantic and Mediterranean.

CANTHUS, Lat. from κανθος, the angle or corner of the eye, where the upper and under eyelids meet. That nearest the nose is called the greater, and the other the lesser canthus. Plural *canthi*.

CANTICLE, a song, from Lat. *canticum*. In the plural *canticles*, the Song of Solomon, one of the books of the Old Testament, called by the Jews the Song of Songs (*canticum canticorum*), and generally supposed to be an epithalamium composed by Solomon on the occasion of his marriage with the King of Egypt's daughter.

CANT'ING, *see* CANT. The cutting away a part of an angular body at one of its angles, that the section may form a parallelogram, whose edges are parallel from the intersection of the adjoining planes.

CAN'TLE, a fragment or small portion. This is the root of the word *Scantling*.

CANT-MOULDING, a moulding with a bevelled surface.

CAN'TO, Italian, a song. Used to denote a division of a poem, otherwise called a book. The word is also used to denote the treble part of a song, and with *secundo* added it means the second treble. *Canto-fermo* means the subject song.

CAN'TON, a word found in most European languages, and signifying primarily a corner. 1. In *geography*, a division or small parcel of a country, constituting a distinct state or government, as the cantons of Switzerland.——2. In *heraldry*, an ordinary, so called because it occupies only a cantle or corner of the escutcheon.

CAN'TONED. When the angles of a building are adorned with columns, pi

nasters, rustic quoins, or anything which projects beyond the naked wall, it is called a *cantoned* building.

Cantoning. In *military affairs*, the alloting of separate quarters to each regiment, the town being divided into as many cantons as there are regiments: the separate quarters thus assigned are called *cantonments*.

Can'ton's Phosphorus, a composition made by mixing three parts of calcined oyster-shells, with one of flowers of sulphur, and subjecting them for an hour to a strong heat in a covered crucible. The resulting substance is luminous in the dark.

Can'tred, Can'treth, Can'tref, } an old British compound of *cant*, hundred, and *tref*, village, and signifying a district of 100 villages. In Wales, *cantreths* answer to *hundreds* in England.

Cant-timbers, those timbers which are situated at the two ends of a ship. They derive their name from being canted or raised obliquely from the keel, in contradistinction to those whose planes are perpendicular to it.

Can'vas, a coarse, unbleached cloth of hemp or flax, used for tents, sails of ships, painting, and other purposes. Among sailors, sails in general are called canvas. The word is from Lat. *cannabis*, hemp.

Canzo'ne, Italian, a song or air in two or three parts, with passages of fugue and imitation; or a poem to which music may be set in the style of a cantata. When set to a piece of instrumental music, it signifies much the same as cantata; and when set to a sonata it signifies allegro.

Canzonet', Ital. *canzonetta*, a little song, in one, two, or three parts. It sometimes consists of two parts, each of which is sung twice. Sometimes it is a species of jig.

Caoutch'ouc. 1. The vegetable substance commonly called *India rubber* and *gum elastic*. It is the concrete juice of the *Hæva caouchouc* and *Iatropa elastica*, natives of South America, and of the *Ficus Indica* and *Artocarpus integrifolia*, which grow in the East Indies. It is a soft yielding solid, of a whitish colour when not blackened by smoke, possesses considerable tenacity, and is particularly remarkable for its elasticity. It is inflammable, and burns with a bright flame; is insoluble in water and alcohol, but is soluble in the essential oils, in petroleum and cajeput oil, and readily in the naphtha purified from coal-tar, which is the solvent used in the arts. Its constituents are carbon 90, hydrogen 10.——2 *Mineral caoutchouc* is a bituminous substance, elastic when soft, but brittle when hard. In its appearance it much resembles vegetable caoutchouc: whence its name.

Caoutch'oucine, a peculiar substance obtained by exposing caoutchouc to a temperature of about 600° Fah., when it is resolved into vapour, which, by proper refrigeratory methods, is condensed into an extremely volatile liquid. This liquid has the smallest sp. gr. of any liquid known, whereas in a state of vapour it is heavier than the most ponderous of the gases. It is a solvent (when mixed with alcohol) of all the resins, and mixes readily with oils.

Cap. In *architecture*, the uppermost part of an assemblage of parts, or that which crowns the whole. In this sense the term is applied to the capital of a column, cornice of a door, &c.——In *carpentry*, a thick strong block of wood, used to confine two masts together, when one is erected at the head of the other.

Cap of Maintenance, an ornament of state carried before the Sovereigns of England at the coronation. It is also carried before the mayors of some cities.

Cap-a-pie (French), from head to foot; as, armed *cap-à-pie*.

Cap-pa'per, a coarse paper, so called from being used to make caps to hold commodities.

Cap'-sheaf, the crowning sheaf of a stack.

Capa'city, in *geometry*, the solid contents of a body. In *natural philosophy*, the *capacity for heat* of bodies denotes their power of absorption of heat. Different bodies require different amounts of heat to raise them to the same temperature, and they have therefore different capacities for heat.

Capai'ba, Capaiva. *See* Copaiba.

Capar'ison, anciently a sort of iron armour with which war-horses were covered; latterly, a covering laid over the furniture of a horse, especially a sumpter horse.

Cap'elan, a small fish about six inches long, shoals of which appear off the coasts of Greenland, Iceland, and Newfoundland. It constitutes a large portion of the food of the Greenlanders.

Capel'la, a bright star in the left shoulder of the constellation Auriga.

Capel'lets, a disease of horses called vulgarly *chaplets*. It is a kind of swelling like a wen, growing on the heel of the hock of the horse.

Ca'pers, the pickled buds of the *capparis spinosa*, a low shrub, generally growing out of the joints of old walls and fissures of rocks in most of the warm countries of Europe.

Caph, a Jewish measure of capacity equal to five-eighths of an English pint.

Ca'pi-aga, a Turkish officer who is grand-master of the seraglio.

Ca'pias, from *capio*, to take. In *law*, a writ of two sorts: one before judgment, called *capias ad respondendum*, where an

original is issued to take the defendant and make him answer to the plaintiff: the other, which issues after judgment, is of divers kinds, as a *capias ad satisfaciendum*, or writ of execution; a *capias pro fine*; a *capias utlagatum*; a *capias in withernam*.

Capilla'ire (French), a kind of syrup obtained from maiden-hair.

Capil'lament, a filament; from *capillus*, a hair. A chive.

Cap'illary, Lat. *capillaris*, from *capillus*, a hair. 1. In *natural philosophy*, capillary attraction is properly that force by which water or any other fluid is raised above its level in glass tubes, whose diameters are of the smallness of hairs; but the term is now employed, in a more general sense, to denote that force with which solids act upon fluids, either in raising them above or depressing them beneath their natural level, when the solid is simply immersed in the fluid, or when the fluid is inclosed in a tube or between two plates, nearly, but not in actual contact.——2. In *anatomy*, the capillary vessels are those minute vessels by which the terminal arteries and veins communicate with one another.——3. In *botany*, capillary plants are hair-shaped, as the ferns: this class of plants corresponds to the order Filices of the sexual method. The term *capillary* is also applied to parts of plants which resemble hairs: thus a capillary root is one which consists of many very fine fibres.——4. In *surgery*, the term *capillary* is applied to a linear fracture of the skull, unattended with any separation of the parts of the injured bone.

Capilli'tum, Lat. *capillus*, a hair. A kind of purse or net in which the spores of trichia and similar fungi are retained.

Capil'lus Ven'eris, the true maiden-hair; a British species of adiantum.

Capital, Lat. *capitalis*, appertaining to the head (*caput*): used substantively. 1. In *geography*, the principal town or city of a state or kingdom.——2. In *architecture*, the head or uppermost part of a column, pillar, or pilaster, serving as the crowning, and placed immediately over the shaft, and under the entablature.—— In *letter-press printing*, the large letters serving as initials of proper names, &c., are called *capitals*.——4. In *trade*, capital is that sum of money which a merchant, banker, or trader, adventures in any undertaking, or which he contributes to the common stock of a partnership. It signifies likewise the fund of a trading company or corporation; but in this sense the word *stock* is commonly added: thus we say the *capital stock* of the bank, &c.

Capita'tion-tax, a poll-tax, or imposition upon each head or person.

Cap'ite, in *English law*, a tenant *in capite*, or in chief, is one who holds by knight's service or by soccage, the land immediately of the sovereign, *caput*, the head or lord paramount of all the lands in the kingdom. This tenure was abolished by 12 Charles II.

Ca'pite Censi, anciently, the lowest rank of Roman citizens, who were counted rather by their *heads* than by their estates.

Cap'itol, Lat. *capitolium*, the temple of Jupiter at Rome, and a fort or castle on the Mons Capitolinus. In this the senate of Rome anciently met, and on the same site is still the city-hall or town-house, where the conservators of the Romans hold their meetings.

Cap'itoline Games, annual games, instituted by Camillus, in honour of Jupiter Capitolinus, and to commemorate the preservation of the Capitol from the Gauls; and other games instituted by Domitian, and celebrated every five years.

Capit'ular, an act passed in a chapter (*capitulum*) either of knights, canons, or religious.

Capit'ulary, the body of laws or statutes of a chapter (*capitulum*), or of an ecclesiastical council.

Capit'ulum (dim. of *caput*). 1. A small head or knob.——2. A protuberance of a bone received into the cavity of another bone.——3. An alembic.——4. A species of inflorescence called a head or tuft, formed of many flowers arranged in a globular form, upon a common peduncle.

Cap'nion, chimney-money; a tax levied by the Roman emperors on smoke, καπνος.

Cap'nomancy, Gr. καπνος, smoke, and μαντεια, prophecy; divination by smoke.

Cap'nomor, Gr. καπνος, smoke, and μοιρα, part; an oily substance obtained from the tar of wood.

Ca'poc, a very fine short cotton of the E. Indies, used chiefly to line palanquins, stuff cushions, &c.

Caponnie're, in *fortification* a covered lodgement made four or five feet deep in the ground, encompassed with a parapet about two feet high, serving to support several planks laden with earth. It is usually large enough to contain 20 men, and is placed in the glacis, at the extremity of the counterscarp, and in dry moats with embrasures or loop-holes through which the soldiers may fire.

Capot', a term used at the game of piquet, when all the tricks of cards are won.

Cappar'idaceæ. Capparis the type. A natural order of exogenous plants.

Cap'paris, the *caper-plant*, a genus of plants, mostly shrubs, of 12 species, natives of warm climates. *Polyandria—Monogynia.*

Name, καπταρις, perhaps παρα το καπταναιν αερα, from its supposed efficacy in curing melancholy. The pickled buds of the *C. spinosa* are well known under the name of *capers*.

CA'PRA, the goat: a genus of ruminant mammalia, of which the wild goat (the stock of all the varieties of our domestic goat) and the ibex are species. The name *capra* is the Latin word for a she-goat.

CAPRA'RIA, a genus of tropical plants. *Didynamia—Angiospermia.* The sweet-wood or Mexican tea is the *C. biflora.* Name, *Capraria*, a kind of seagreen good against hemorrhoides.

CAPRE'OLET, Lat. *capreolatus*, resembling the tendrils of a vine, tendril-like.

CAP'REOL, Lat. *capreolus*, a tendril.

CAP'REOLS, the struts or braces of a trussed roof.

CAP'RIC ACID, a peculiar acid discovered by M. Chevreuil in the butter of goats' and cows' milk.

CAPPRICCIO (Ital.), *fancy.* In *music*, applied to passages where the composer indulges his fancy without being bound to keys or moods; called also *Fantasia.*

CAP'RICORN, from *capra*, a goat, and *cornu*, a horn. 1. The name of one of the three divisions of tetramerous beetles.—— 2. In *astronomy*, one of the twelve signs of the zodiac represented on globes by the figure of a goat, and symbolised by ♑, originally intended to represent the horns of a goat. The sun enters capricorn on the 21st Dec., which is the time of the winter solstice, and as he then ascends towards the north, like the goat when it climbs the sides of mountains, some have ascribed the origin of the name to this fanciful resemblance. This constellation gives name to one of the small circles of the sphere. *See* TROPIC.

CAP'RIDÆ, a tribe of mammalia of which the genus *Capra* is the type.

CAPRIFICA'TION, a method of ripening the fruit of the domestic fig-tree, by means of the *cynips* or fig-fly, practised in the islands of the Grecian Archipelago. These insects, which are produced from the winter figs of the *caprificus* or wild fig-tree, are gathered and deposited on the fruit of the garden fig-trees. They enter the fruit by the eye, and the worms produced from the eggs which they lay puncture the fruit, and, it is said, not only accelerate its maturity but render it larger.

CAPRIFOLIA'CEÆ, a family of plants in the natural system of Jussieu; the genus *Caprifolium* is the type.

CAPRIMUL'GUS, the goat-sucker; *capra* and *mulgeo*, to suck; a genus of passerine birds of the family *Fissirostres.* The goat-suckers are allied to the swallows, live solitarily, and never venture abroad except at twilight and at night in fine weather, when they hunt phalanæ and other nocturnal insects. The whip-poor-will of America, and the night-swallow, or night-jar of Europe, are species. The generic names. (*caprimulgus, goat-sucker, ægothelus,*) derive their origin from the whimsical idea entertained by the people of their sucking goats and even cows.

CAP'RIOLE, in the *manége*; the goat-leap, *capriolus*; the leap which a horse makes in the same place without advancing, in such a manner that, when he is at the height of his leap, he jerks out his hind legs, even and near. The common name of this exercise is *the pillared horse*, because the animal to work well upon caprioles is put between two pillars and taught to raise first his forequarters, and when these are yet in the air to raise his hind quarters.

CAP'ROIC ACID, a peculiar acid discovered in butter by M. Chevreuil.

CAP'ROMYS, a genus of mammalia of the order *Rodentia*, belonging to the rat-tribe. The shape is that of a rat, but the size is that of a rabbit or hare. There are two species, the *C. fournieri*, Desmar, and *C. prehensilis*, Pœssig; both inhabit the island of Cuba, where they are known by the name of *Houtias.* Name καπρος, a *boar*, and μυς, *rat*, the boar-rat.

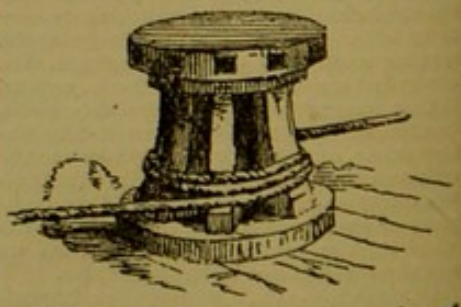
CAP'SA, a genus of mollusca named from the capsular form of the shell.

CAPSEL'LA, (dim. of *capsa*, a box). 1. The herb shepherd's-purse, a British annual.——2. The *echium*, or viper's bugloss.——3. A genus of plants recently detached from the genus *Thlaspi.*

CAP'SICUM, a genus of plants, natives of warm climates. *Pentandria—Monogynia.* Name from καπτω, to *bite*; some of the most pungent peppers, as the cayenne, bird, bell, and cherry peppers, being produced by species of this genus.

CAP'SQUARES, the plates of iron which come over the trunnions of a gun to keep it on the carriage.

CAP'STAN, } If a windlass have its axis
CAP'STERN, } placed vertically, it becomes a capstan. The power is applied



to the capstan by means of a series of levers placed at equal distances round it,

in the direction of the radii. To each of these the force of one or more individuals is applied at the same time. The machine is principally used for raising the anchors of ships. A few turns of the cable are put upon the cylinder; these are sufficient to prevent it from slipping; and as one extremity coils itself, the other rolls off and is stowed away. A conical form is given to the cylinder, to counteract the tendency of the cable to move continually from one end to the other, as by this means the coil, when it approaches the lower end, is made to slide up the inclined plane of the sides of the cone.

Cap'stone, a fossil encrinite, or that genus of encrinite known as *conulus*, thus named from its supposed resemblance to a cap, rising from a circular base into a cone.

Cap'sular, Lat. *capsularis*. 1. Relating to or resembling a capsule.——2. Surrounding a part like a bag: applied thus, in *anatomy*, to a ligament which surrounds every moveable articulation, and contains the synovia as in a bag.

Cap'sulated, Lat. *capsulatus*, inclosed in a capsule.

Cap'sule, Lat. *capsula*, (dim. of *capsa*, a bag). 1. In *botany*, a membranous or woody seed-vessel, internally consisting of one or more cells splitting into several valves, and sometimes discharging its contents through pores or orifices, or falling off entire with the seed. From the number of its valves, a capsule is said to be *one*, *two*, *three*, *four*, *five*, or *many-valved*; from the number of cells, it is *unilocular*, *bilocular*, *trilocular*, *quinquelocular*, *novemlocular*, or *submultilocular*; from the appearance of the external surface, it is *glabrous*, *aculeate*, or *muricate*; from the number of tubercles on the external surface, it is *dicoccal* or *didymous*, *tricoccal* or *tetracoceæ*; from the number of *contiguous* capsules, it is *simple*, *duplex*, *triplex*, *quinquplex*, or *multiplex*; from its substance, a capsule is called *membranaceous*, *corticate*, *woody*, *baccate*, or *spurious*; from the number of seed, it is *monosperm*, *disperm*, *trisperm*, or *polysperm*. The parts are the *valves*, *sutures*, *dissepiments*, *loculaments* and *columella*.——2. In *anatomy*, a membranous production inclosing a part like a bag; as the capsular ligaments, the capsule of the crystalline lens, &c.——3. In *chemistry*, a small basin or cup, commonly of porcelain, but sometimes of platinum or silver, used chiefly for subjecting minute portions of substances to heat.

Cap'tain, the military officer who commands a company, whether of infantry, cavalry, or artillery. In the feudal laws of Europe the title was given to tenants *in capite*, who were bound to attend their prince in the wars, at the head of soldiers; and from this practice the name had its origin. The title of Captain is appropriately given to commanders of ships.

Cap'tain-Lieutenant, an officer who, with the rank of captain and pay of lieutenant, commands a company or troop.

Cap'tion. 1. In *English law*, a certificate subscribed by commissioners in Chancery declaring when and where the commission was executed.——2. In *Scotch law*, a writ issued under her Majesty's signet, commanding the apprehension of a debtor who has disobeyed the charge given him on letters of horning. Peers and married women are by law secured against personal execution by caption upon civil debts, and pupils by special statute 1696, c. 41.

Capuchi'n. 1. A garment for females, consisting of a cloak and hood made in imitation of the dress of Capuchin monks. ——2. A pigeon, the head of which is covered with feathers.

Capuchi'ns, monks of the order of St. Francis, who cover their heads with a *capuce*, *capuchon*, a stuff cap or cowl. They are clothed in brown or gray, go barefooted, and never shave.

Capuloi'da, a family of mollusca; class, *Gasteropoda*; order, *Pectinibranchiata*, Cuvier. This family of shells contains five genera, four of which are taken from the patellæ.

Ca'put Mor'tuum, a fanciful term formerly used to denote the inert residuum of a distillation or sublimation.

Car (Welsh), a small carriage of burden drawn usually by one horse; also a name of the constellation called Charles's Wain or the Bear.

Car'abine, } a short gun, carrying a
Car'bine, } ball of 24 to the pound, borne by light horsemen. The name is French, *carabine*.

Car'abus, Lat. from καράβος. A genus of coleopterous insects; family, *Carnivora*. Cuv. The ancients designated Carabici under the name of *Buprestis*. The carabici are now variously subdivided, each section consisting of numerous genera. There are the Truncatipennes, consisting of *Anthia*, *Graphipterus*, *Aptinus*, *Brachinus*, *Casnonia*, &c.; the Bipartiti, consisting of *Enceladus*, *Siaquona*, *Pasimachus*, *Scarites*, &c.; the Quadrimani, the genera of which are the *Acinopus*, *Daptus*, *Harpalus*, &c.; the Simplicimani, consisting of *Trabrus*, *Pogonus*, *Feronia*, &c.; the Patelimani, consisting of *Dolichus*, *Agonus*, *Chlænius*, *Dicælus*, &c.; and the Grandipalpi, in which we have the *Pamborus*, *Cychrus*, *Scaphinotus*, *Procerus*, *Calasoma* and *Carabus proper*, of which 124 species are described.

Car'acol, Fr. *caracole*, a wheeling round. 1. A semi-round which a horseman makes either to the right or left. Cavalry make a caracol after each discharge, in order to

pass to the rear of the squadron.——2. A stair-case in a helix or spiral form.

Car'acoli, an alloy of gold, silver, and copper, of which inferior jewellery is made.

Car'amel (French), sugar partially decomposed by the action of heat.

Caran'na (Spanish), a resin called also *caragua* and *caranna-gum*. It exudes from a large tree of New Spain, the botanical characters of which are not well ascertained.

Ca'rapa'ce, Lat. *clypeus*, the hard covering or shell which protects the upper part of the body of the Chelonian reptiles.

Cara'ssæ, the bony vault or shell which protects the upper part of the turtle and tortoise; also the analogous part in the crab.

Car'at (Arabic). 1. A weight used in Mecca, equal to the twenty-fourth part of a denarius or denier.——2. A weight of four grains, used in weighing diamonds.——3. A term used in expressing the fineness of alloys of gold. The whole mass is supposed to be divided into 24 equal parts, and as many of these parts as it contains of pure gold, are taken as the number of carats. Thus if a mass contain 22 parts of pure gold out of every 24, it is gold of 22 *carats*. The term *carat* is by some derived from the name of a bean, the produce of a species of *Erythina*, a native of Shangallas, in Africa, a famous mart of gold-dust. The tree is called *kuara*. As the dry seeds are nearly of uniform weight, the savages have used them from time immemorial to weigh gold. The beans were anciently transported to India, and have been long used there to weigh diamonds.

Car'avan, an organised company of merchants or pilgrims, or both, who associate together in many parts of Asia and Africa, that they may travel with greater security through deserts and other places infested by robbers, or where the road is naturally dangerous. The word is derived from Persian, *kârvan*, a trader.

Caravan'sera, a large public building in oriental countries, appropriated to the reception and lodgement of the caravans. The traveller must take his provisions and all necessaries with him to the caravansera, where nothing is provided but lodging and water.

Car'avel, Fr. *caravelle*, a small vessel of 25 or 30 tons' burden, used on the coast of France in the herring fisheries; written also *carvel*.

Car'away, a small biennial plant (the *carum carui*) much cultivated in Essex for its seeds (*caraway-seed*), which are small, oblong, pointed at both ends, and curved. These seeds are chiefly used by confectioners. In Scotland they are called *carvy*; in France and Italy, *carvi*. The term *caraway* is Arabic, *kârawia*.

Carbazot'ic Acid, a peculiar acid formed by the action of nitric acid on indigo, and thus named by Liebig, from *carbon* and *azote*. It is a powerful narcotic poison. Its salts are named *carbazotates*.

Car'bon, from Lat. *carbo*, coal. *Charcoal*, a peculiar substance, which may be obtained from most organic substances by ignition in close vessels. It is commonly prepared from wood. Diamond is pure carbon.

Carbonate, a salt formed by the union of the carbonic acid with a base. When the base is imperfectly saturated with the acid, the salt formed is called a *subcarbonate*; when there is an excess of acid, a *bicarbonate*.

Car'bonated Water, water either pure or holding various saline matters in solution, impregnated with carbonic acid. The carbonated water made for sale, contains usually a little soda, which being charged with the gas, is called *soda-water*.

Carbon'ic Acid, called also fixed air, carbonaceous acid, calcareous acid, and aërial acid, is a compound of carbon and oxygen, and is formed during the combustion of charcoal. It is gaseous, colourless, and cannot support respiration or combustion. It composes 44 of the weight of limestone, marble, &c., and is readily disengaged by any of the strong acids. It is much heavier than common air, and therefore occupies the lower part of mines, caverns, &c., and for this reason it is called by miners *choke-damp*. Sym. C.

Carbon'ic Oxide, called also oxide of carbon; a gaseous compound of carbon and oxygen; transparent, inodorous, inflammable, burning with a pale blue flame. It does not support respiration or combustion. It differs from carbonic acid in having only *one equivalent* of oxygen. Symb. C.

Carboni'ferous (*carbon* and *fero*); containing or yielding carbon.

Car'bonised, converted into charcoal (carbon).

Carboy, a large globular bottle of green glass protected by basket-work.

Car'buncle, Lat. *carbunculus*. 1. The name of a gem highly prized by the ancients. It is a species of the ruby, of a very rich glowing blood-red colour.——2. A disease. *See* Anthrax.

Carbun'culate, Lat. *carbunculatus*; applied, 1. To the nose and face when affected with the disease called *acne rosacea*.——2. To small protuberances on any part of animals, vegetables, or minerals.

Carbuncula'tion, the blasting of the buds and leaves of trees, &c., by excess of heat or cold: from *carbunculo*, to blast.

Car'buret, a compound formed by the chemical combination of carbon with

me other substance, as the carburet of on (steel).

Car'buret of Sulphur, called also *sulphuret of carbon* and *alcohol of sulphur*; a olatile liquid, possessing a penetrating iid smell, and acrid burning taste. It valuable for producing great degrees f cold by its rapid evaporation. Symb. S2.

Car'buretted Hydrogen. There are wo gases to which this name has been pplied: 1. Light carburetted hydrogen, r subcarburetted hydrogen, or bihydruret f carbon, the fire-damp of miners: symb. H2 C.——2. Heavy carburetted hydrogen, r hydruret of carbon, or olefiant gas: H2 C2. Both are inflammable but do not upport respiration or combustion. In il-gas the last, and in coal-gas the first, redominates. In the process of compressing oil-gas into portable gas-lamps, Ir. Faraday discovered two liquid carurets of hydrogen: a *bicarburet of hydron* (C2 H), and *quadro-carburetted hydron* (C4 H4), which is isomeric with efiant gas. Strictly all such substances naphtha, oil of turpentine, oil of wine, outchoucine, otto of roses, &c., which ontain only carbon and hydrogen, are *arburets of hydrogen*, but perhaps more ppropriately *hydrurets of carbon*.

Car'cass. 1. The frame-work of some tructure unfinished and without ornaent; e. g. a house before it is lathed and lastered or the boards are laid, is called *carcass*.——2. An iron case about the ze of a bomb, filled with combustible aterials, to be thrown from a mortar to t fire to buildings or ships. It has apertures through which the fire blazes, and he light afforded sometimes serves as a irection in throwing shells. It is named, erhaps, from the ribs of iron that form , which resemble the ribs of an animal rcass.

Carcer'ulus (Lat.), a little prison. A ame applied to fruits consisting of a mall number of dry indehiscent feweded cells, coherent round a single axis.

Carcino'ma, cancer (*καρκινος*). *See* ancer.

Carcinom'atous, of the nature of carnoma or cancer.

Card, a small letter of intimation, called so when it regards business, a *note*. here are also *call-cards*, containing erely the address of the *caller*; and *otice-cards*, which give some intimation, of the sailing of a vessel. In these nses the word is from Lat. *charta*, paper. or other significations *see* Cards.

Car'damine, the *Lady's-smock*: a genus hardy plants. *Tetradynamia—Siliquosa*. ame from *καρδια*, the heart, which it as supposed to strengthen. One of the ritish species (*C. pratensis*), is called cuckoo-flower, and others have other local names, as meadow-cress, &c.

Cardamo'mum, a perennial plant of the East Indies. This is the true cardamom, but the name is given to various other plants. *See* Cardamoms.

Car'damoms, the seed capsules produced by the cardamom plants, of which there are various species growing in India, Cochin China, Siam, and Ceylon. The lesser cardamoms are the capsules of the *Matonia cardamomum*; the greater cardamoms, called also seeds of paradise, are produced by the *Amomum granum paradisi*. Both kinds are highly aromatic, have a piercing smell, and a bitterish though not unpleasant taste. The best are brought from the coast of Malabar.

Car'diac Arteries, the coronary arteries of the heart.

Car'diac Confection, a medicine possessing stimulant and antispasmodic virtues, prepared from a mixture of cinnamon bark, nutmegs, cloves, cardamom seeds, saffron, &c.

Car'diac Passion, an old name for heartburn.

Car'diac Plexus, the plexus of nerves which supplies the heart.

Car'diac Veins, the coronary veins of the heart.

Cardial'gia, from *καρδια*, and *αλγος*: an uneasy sensation in the stomach, with heat more or less violent; frequently a symptom of other diseases, as dyspepsia, &c. *Heartburn* and *black-water* (Scotland, *water-brash*), are species of this disease.

Car'dinal, Lat. *cardinalis*, fundamental. Taken substantively, *cardinal* is the title of an ecclesiastical prince in the Romish church, who has a voice in the conclave at the election of a pope: the pope is taken from the number of cardinals. The rank of cardinal was originally inferior to that of bishop, but these dignitaries have now changed places.

Cardinal Numbers, the numbers *one two, three*, &c., in distinction from *first, second, third*, &c., which are *ordinal numbers*.

Car'dinal Points, the four intersections of the horizon, North, South, East, and West. In *astrology*, the cardinal points are the rising and setting of the sun, the zenith and the nadir.

Car'dinal Signs, Aries, Libra, Cancer, and Capricorn.

Car'dinal Virtues, prudence, temperance, justice, and fortitude.

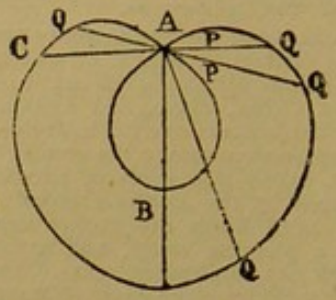
Car'dinal Winds, those winds which blow from the cardinal points.

Car'dinal's Cap, a cap or hat of a peculiar form worn by cardinals.

Card'ing Machine, a machine for combing, cleaning, and breaking wool and cotton. It consists of cylinders thickly

set with teeth, and is moved by water-power or steam.

Car'dioid (from καρδία, and εἶδος); an algebraical curve, so called from its resemblance to a heart.



PQ = AB.
CQ = QQ = 2AB.
AQ = AB = AP.
P always bisects QQ.

Cardita, an inequilateral bivalve, found fossil at various depths in mud and sand. It belongs to the genus *cardium*.

Cardium, the cockle. A genus of bivalve shell, characterised by the teeth of the hinge, and the projection of the beaks: the latter gives the shells a cordiform appearance: 52 species are described. Name *cardium*, from καρδία, the heart.

Cardoo'n, the *Cynara cardunculus*, a hardy perennial plant of Crete. It resembles the artichoke, but is larger. Name, from Lat. *carduus*.

Cards, plural of *Card* (q.v.). 1. Instruments which serve to disentangle the fibres of wool, cotton, or other analogous bodies, to arrange them in an orderly lap or fleece, and thereby prepare them for being spun into uniform threads. Cards are either fastened to a flat piece of wood, and worked by the hand, or to a cylinder, and worked by machinery. The card consists of teeth of wire inserted into a thick leather, the leather being afterwards attached to the wood. In this sense the term *card* is from the Latin *carduus*.——2. *Playing Cards:* these are too well known to need description. They are said to have been introduced in the 14th century, to divert Charles VI. of France. By the hearts were meant choirmen or ecclesiastics; the spades (Spanish, *espadas*, swords) represesented the nobility, who wore swords, or carried pikes. The diamonds (*carreaux*) denoted the citizens or merchants; the trefoil-leaf or clover-grass was an emblem of the husbandman; this is called *clubs* with us, because the Spaniards have *bastos* on their cards. The knaves were the servants of knights; the kings were David, Alexander, Cæsar, and Charlemagne, who established the four great monarchies, the Jews, Greeks, Romans, and Franks. The four queens were Argine (i.e. regina or queen by descent), Esther, Judith, and Pallas.

Careening, the process of heaving a ship on one side, for the purpose of cleaning or caulking the other. The term is from Fr. *carène*, the side and keel of a ship.

Career. 1. In the *manége*, a place inclosed with a barrier in which the ring is run.——2. In *falconry*, the flight of a hawk, or about 120 yards.

Ca'ret, Lat. A mark in writing, ʌ, showing that something omitted in the line is written above, or inserted in the margin, and should be read in that place: *careo*, to want.

Car'goose, a fowl belonging to the genus *Colymbus*, called also the crested diver.

Car'ica. 1. The fig, *Ficus carica*.——2. The *Papaw-tree*, of which there are six species, natives of hot climates; *Diœcia—Decandria*. Name, *carica*, a load.

Caricatu're, Ital. *caricare*, to charge. An exaggerated representation of an object, in which natural defects are overcharged, so as to cause it to appear ridiculous.

Ca'ries, a Latin word for rottenness, applied in medical language to the ulceration of a bone.

Car'illon, Fr. 1. A little bell: a small instrument furnished with bells, properly tuned, and furnished with finger-keys, like those of the piano-forte.——2. A simple air, adapted to be played by musical bells.

Cari'na, Lat. 1. The keel of a ship.——2. The back-bone.——3. The keel, or that part of a papilionaceous flower, consisting of two petals, separate or united, which incloses the parts of fructification.

Carinaria, a very thin univalve, placed by De Blainville in the family *Nectopoda*. It derives its name from its dorsal keel; its inhabitant is unknown.

Car'inated, Lat. *carinatus*, keeled or boat-shaped. Applied to leaves and petals when the back is longitudinally prominent; and to shells when furnished with an elevated ridge, either on the surface or margin.

Carin'thine, a variety of augite, of a dark green or black colour. It obtains its name from being found in Carinthia.

Carli'na, the carline-thistle. A genus of plants, *Syngenesia—Polyg. æqualis*. Name from *Carolus Magnus*, Charles the Great, or Charlemagne; because, as the story goes, an angel showed him the carline thistle, and by the use of it his army was preserved from the plague.

Car'line, Caroline, a silver coin of Naples.

Car'line, } a piece of timber in a ship,
Car'ling. } ranging fore and aft, from one deck-beam to another, directly over

he keel, serving as a foundation for the hip. On these rest ledges, on which the lanks of the deck are made fast.

Car'line-knees, timbers in a ship lying cross from the sides to the hatchway, nd serving to sustain the deck.

Car'line-thistle, a name common to ll the plants of the genus *Carlina*, but specially applied to the *C. acaulis* of taly, and the *C. vulgaris* of Britain.

Car'lock, a sort of isinglass, from ussia, made from the sturgeon's bladder, nd used in clarifying wine.

Carlovin'gian, pertaining to, or descended from, Charlemagne.

Car'melite. 1. A mendicant friar, amed from Mount Carmel, because the rder was founded there.——2. A sort of ear.

Car'men, Carters. The carmen of the ity of London are constituted a fellowhip, by act of Common Council. They re subject to the president and governors f Christ's Hospital.

Car'mine, a beautiful red pigment, rmed of the colouring matter of cochieal. It is a species of *lake*. The name is rench, perhaps from Arabic *kirmón*, ochineal.

Carna'ria, flesh-eating animals. In uvier's arrangement, the third order of ammalia. The families are *Cheiroptera*, *sectivora*, and *Carnivora*.

Carna'tion. 1. *Flesh-colour*; the naked rts of a picture, exhibiting the colour the flesh.——2. A beautiful species of e *Dianthus* (the *D. caryophyllus*), having s colours equally marked all over the wers. It is a British perennial.

Carna'tion-grass, Lat. *caro*, flesh. Any arse species of carex is so named in e north of England and Scotland.

Carne'lian, } a precious stone of va-
Carne'lion, } rious colours; as red, rown, yellow, and white. It is a variety rhombohedral quartz. The finest specmens are brought from India.

Car'nel-work, the putting together e timbers, beams, and planks of a ship, distinguished from *clinch-work*.

Car'neous, fleshy. Applied, 1. In *anamy*, to some muscles of the heart.——2. *natural history*, the term designates sually) flesh-colour.

Car'ney, a disease of horses, in which e mouth is so furred that they cannot t.

Carnival, the season of rejoicing obrved before Lent, in Catholic countries, ith feasts, balls, &c.

Carniv'ora, from *carnis* and *vora*. 1. nimals which subsist wholly on flesh: ey form a family in the order *Carnaria*, uv. —— 2. A family of coleopterous sects which pursue and devour others.

Carno'si, an order of *polypi*, consisting of fleshy animals which usually fix themselves by their base.

Carnos'ity, a little fleshy excrescence in the urethra, neck of the bladder, &c.

Carob-tree, St. John's Bread (*Ceratonia siliqua*), a native of the South of Europe.

Caroche', Fr. A carriage of pleasure.

Carocol'la, Lat. *caro*, flesh, and Gr. κολλη, glue. A genus of land-snails, so called from the tenacity with which their glutinous fleshy foot adheres to limestone rocks.

Car'omel, the smell emitted by sugar at a calcining heat. *See* Caramel.

Car'otid, the name of an artery on each side of the neck, from καρόω, to cause to sleep; because the carotids supply the head with blood, and the ancients believed sleep to be caused by an increased flow of blood to the head.

Carp, a fish, the *Cyprinus carpio*, Lin. The name is in some measure common to all the *Cyprinidæ*, amongst which are the Breams, Gudgeons, Tenches, Suckers, &c.

Carpathian Balsam, an essential oil, distilled from the fresh cones of the trees which yield the common turpentine.

Carpel'lum, Lat. from καρπὸς, a leaf in a particular state of modification. Thus the modified leaves forming the pistil are called *carpella*, and have their under sides turned outwards, and their upper towards the centre of the flower. These leaves are also so folded that their margins are next to the axis; from these a kind of bud is produced.

Car'penter, one whose business is to cut, fashion, and join timber for building. Those who do the work of houses are *house-carpenters*; those who build ships are *ship-carpenters*. Correctly, the framer is a *carpenter*, but the finisher is a *joiner*. The word is French, *charpentier*, from *charpente*, timber.

Car'penter's Rule, a graduated scale, fitted with slides (hence called the *sliding-rule*), to take the dimensions of timber, and cast up the content of artificers' work.

Car'penter's Square. *See* Square.

Car'pentry, the art of employing timber in constructing edifices. It is divided into *house-carpentry* and *ship-carpentry*.

Car'pet, a thick woollen fabric, of variegated colours, for covering floors. This manufacture took its origin in Persia and Turkey. The Axminster carpets are not inferior to those of oriental fabric.

Carpet-way, a border of green sward left round the margin of a ploughed field.

Carpholo'gia, } from καρφος, chaff, and
Carpolo'gia, } λεγω, to pick. A disposition to pick minute objects, which accompanies the delirium of low fever.

It is often witnessed in individuals picking the bed-clothes: it is a very unfavourable symptom.

CARPE'NUS, the hornbeam-tree. A genus of which three species are described, besides several British varieties. *Monœcia—Polyandria.*

CAR'POBAL'SAMUM, Gr. from καρπος, fruit, and βαλσαμον, balsam. The exudation of the fruit of the *Amysis Gileadensis.*

CARPOL'OGY, that branch of botany which treats of fruits; καρπος, fruit, and λογος, doctrine.

CARRAGEE'N, } marine pearl moss,
CARRAGAHEE'N, } found in the West of Ireland. The jelly formed from it is more firm than that deduced from the Iceland moss, or Indian arrow-root.

CAR'RARA MARBLE, a species of white marble, called *marmor lunense* and *ligustrum*, by the ancients. It is distinguished from the Parian or statuary marble, by being harder and less bright. It takes its name from Carrara, in Italy.

CAR'REL, an apartment for privacy; a cross-bow bolt; the arrow used in cross-bows.

CAR'RIAGE, from the root of *carry.* A general term for a coach, or other vehicle on wheels; as a *cannon-carriage* on trucks; a *block-carriage* for mortars; and a *truck-carriage.* In *architecture*, the term denotes the framework which supports the steps of a wooden stair.

CAR'RICK-BEND, a particular kind of knot.

CAR'RICK-BITTS, the bitts which support the windlass in a ship.

CAR'RONADE, a short piece of ordnance, having a large calibre, and a chamber for the powder, like a mortar. This species of cannon is carried on the upper works of ships, as the poop and forecastle. It takes its name from Carron, in Scotland, where it was first cast.

CARROO'N. 1. In *London*, a rent received for the privilege of driving a cart.——2. A variety of cherry.

CAR'RYING TRADE, the trade which consists in transporting goods by water from country to country.

CAR'RYING WIND. In the *manége*, a tossing of the nose as high as the ears.

CARSE LAND, alluvial soil in a state of aration.

CART BOTE, timber to which a tenant is entitled for repairing carts, &c.

CART TIRE, the bands of iron, used to bind the wheels of a cart.

CARTE-BLANCHE (French), white paper; a blank paper signed at the bottom by a person, and given to another, with permission to insert what conditions he pleases; applied usually in the sense of unlimited terms granted to a person.

CAR'TEL, from Lat. *chartula.* 1. A writing or agreement between states at war for exchange of prisoners or other mutual advantage; also the vessel employed to convey the messenger on this occasion.——2. A letter of defiance, a challenge.

CAR'TEL SHIP, a ship employed in the exchange of prisoners, or in carrying propositions to an enemy.

CAR'THAMUS, a genus of plants mostly European. *Syngenesia—Polyg. æqualis.* Name from καθαιρω, to purge. The well-known saffron-flower or bastard saffron, used in dyeing, is the flower of the *C. tinctorius*, an annual much cultivated in Egypt. A variety is cultivated in Spain and the Levant.

CARTHU'SIANS, an order of monks so called from Chartreuse, the place of their institution. They are remarkable for their austerity.

CAR'TILAGE, Lat. *cartilago*, gristle; smooth, solid, animal matter, softer than bone, and harder than ligament. It forms the nidus in which the earthy matter of most bones is deposited.

CARTILAG'INOUS, Lat. *cartilagineus*, gristly. 1. In *icthyology*, fishes form two distinct series, that of *fishes* properly so styled, and that of the *chondropterygii*, otherwise called *cartilaginous fishes.* The skeleton of these contains no osseous fibres, the calcareous matter being deposited in small grains and not in filaments.——2. In *botany*, the margins of leaves are said to be cartilaginous when they are of a hard or strong consistence.

CARTOO'N, Ital. *cartone*, pasteboard; a design made on strong paper, to be afterwards chalked through and transferred to the fresh plaster of a wall, to be afterwards painted in fresco; also a coloured design for working in mosaic, tapestry, &c.

CARTOU'CH, Fr. *cartouche*, from *carte*, paper. 1. An ornament in architecture resembling a scroll of paper, being usually in the form of a table or flat member with wavings, whereon is some inscription or device. It is nearly akin to a modillon, and is called by some workmen a *dentil.*——2. A case holding about 400 musket-balls, and six or eight iron balls of a pound weight, to be fired out of a howitzer for defending a pass.——3. A cartridge-box.

CARTRIDGE (corrupted from *cartouch*), a case of pasteboard or strong paper, holding the charge of powder or powder and ball for a cannon, mortar, musket, or pistol. They are carried in a cartridge-box.

CARTU'LARY, Sp. *cartulario*, from *carta*, paper, a register-book or record of a monastery. Blackstone writes the word *chartulary.*

CARU'CATE, Lat. *caruca*, as much land as one team can plough in a year.

CA'RUM, the *caraway*, a genus of plants. *ntandria — Monogynia.* Named from *ria*, a province in Asia, where it grows undantly.

CARUN'CULE, Lat. *caruncula*, dim. of *o*, flesh, a little fleshy excrescence, applied, 1, to healthy and natural parts, as *lachrymal caruncula;* and 2, to little fleshy excrescences which are the oduct of disease.

CARVING, the art of cutting figures in od, or more generally, it is the art of hioning by cutting any hard body, in ich sense it includes statuary and enaving as well as cutting in wood.

CARYAT'IC ORDER, an order of architecre wherein the entablature is supported female figures clothed in long garnts, instead of columns, the figures pporting the columns being called yatides, cariates, or carians.

CARYAT'IDES, columns shaped like feale figures, and in the dress of the Can women, who were taken captive the Athenians (the males being put to sword) and condemned to wear their tional robes as a mark of ignominy, and perpetuate the disgrace of the vanished Caryates, the architects of the e employed the representation of se women to support the entablatures their public buildings.

CARYOPHILLA'CEOUS is sometimes said of ollas, consisting of petals having long ws dilating into a broad limb.

CARYOPHYL'LEÆ, a natural family of nts: type, genus *Caryophyllus.*

CARYOPHYL'LUM, the clove (*Eugenia yophyllata.*)

CARYOPHYLLUS, the *clove-tree*, a genus *yandria — Monogynia.* Named from *ϱυον*, a nut, and *φυλλον*, a leaf. The *romaticus*, an Indian tree which affords the clove, is by some botanists ced in the genus *Eugenia.*

CARYOP'SIS, Gr., from *καρυον*, a nut, and *ις*, resemblance, the technical name the grain of corn.

CAS'CABEL (Spanish), the knob or pumlion of a cannon.

CASCAL'HO (Portuguese), a deposit of ris, in which the Brazilian diamond ound.

CASCARIL'LA, a name given originally to e specimens of cinchona, but now ap-d to another bark, the *croton cascaa.* The term is a Spanish diminutive *cascara*, bark or rind.

CASE, a covering or box: Fr. *caisse*, Sp. *a.* 1. Any outside covering which ves to inclose a thing entirely.——2. In *hitecture*, the case of a door is the oden frame in which the door is hung. e case of a stair is the wall which surnds the staircase.——3. In *grammar* t. *cassus*, from *cado*), an inflection of nouns, or a change of termination, to express a difference of relation in that word to others, or to the thing represented. The variation of nouns and adjectives is called declension: both *case* and declension signifying falling or descending from the first state of the word.——4. In *law*, an action on the case is an action where the whole cause of complaint is set forth in the writ.——5. In *printing*, is the receptacle for the types. There is always a pair of cases, the upper case and the lower case, which are subdivided into compartments for the different types.

CASE-BAGS, joists which are framed between a pair of girders in naked flooring.

CASED, covered. A brick wall faced with stone is said to be *cased.* Cased sash frames are such as have their interior vertical sides hollow to conceal the weights by which the sashes are hung.

CASE-HARDENING, a method by which articles of iron have their surfaces converted into steel. The piece of iron, after being properly polished, is brought to a red-heat, and is then rubbed over with prussiate (ferrocyanate) of potash in fine powder, and quenched in cold water: the process is then complete.

CA'SEIC ACID, an acid obtained from cheese (*caseum*): its existence is doubtful.

CASE'MATE, from *casa*, a house. 1. A hollow moulding, which some architects make one-sixth, and others one-fourth of a circle.——2. A vault of mason work in the flank of a bastion, next to the curtain, serving as a battery to defend the face of the opposite bastion and the moat.——3. A well, with its subterranean branches, dug in the passage of a bastion till the miner is heard at work and air given to the mine.

CA'SERN, Fr. *caserne*, from *casa*, a house. A lodging for soldiers in garrison towns, usually near the rampart.

CA'SE-SHOT, or CANISTER-SHOT, musket balls, stones, scraps of iron, &c., put into cases and shot out of mortars, &c.

CA'SEUM, the basis of cheese: the purified curd of milk.

CASH, in *trade*, the ready-money, bills, drafts, bonds, and all immediately negotiable paper, in an individual's or company's possession.

CASH-ACCOUNT. 1. In *book-keeping*, an account to which nothing but cash is carried on the one hand, and from which all the disbursements of the concern are drawn on the other. The balance is the *cash in hand.*——2. In *banking*, the name given to the account of the advances made by Scottish bankers to an individual, who has given security for their repayment.

CASHEW'-NUTS, the produce of the *Anacardium occidentale*, a tree of the West Indies. The kernels are used in cooking

and in the preparation of chocolate. *See* ANACARDIUM.

CASH'MERE, a peculiar woollen fabric, first imported from the kingdom of Cashmere, and now well imitated in France and Great Britain. The material of the Cashmere shawls is the downy wool found about the roots of the hair of the Thibet goat.

CA'SING, the operation of plastering a house with mortar on the outside, and marking it while wet with lines, so as to make it resemble a building of polished freestone.

CAS'KET, in *nautical language*, a small rope fastened to gromets or little rings upon the yards, used to fasten the sail to the yard in furling. This word is usually written *gasket*.——2. A small jewel-box.

CASSATION, COURT OF, the highest judicial court in France, so called from its power to quash (casser) the decrees of inferior courts. It is a court of appeal in all cases.

CAS'SAVA, the starch of the root of the Manioc (*Jatropha Manihot*), a tree belonging to the natural family *Euphorbiaceæ*, and found in the West Indies, the tropical regions of America, and upon the African coast. Cassava flour can with difficulty be distinguished from arrow-root. *See* TAPIOCA.

CASSIA, a genus of plants, of which about 70 species are described, nearly all natives of warm climates. *Decandria—Monogynia*. Name Arabic, *katsia*, from *katsa*, to tear off. The Senna fistula and Egyptian lotus are species.

CASSIA-BARK, } the bark of the *Laurus*
CASSIA-LIGNEA, } *cassia*, the Malabar or wild cinnamon-tree.

CAS'SIA-BUDS, the dried berry of the *Laurus cassia*, a tropical tree. The cassia-buds are chiefly the produce of China.

CASSIA FISTULA, the purging cassia: the fruit of the *Cassia Fistula*, a tropical plant.

CASSIA SENNA, one of the plants which produce senna. *See* SENNA.

CAS'SINE. 1. A house surrounded by a ditch, like those of the feudal lords or barons.——2. A genus of greenhouse arborescent plants. *Pentandria—Trigynia*.

CAS'SINO, a game at cards, in which the ten of diamonds, the deuce of spades, and the aces, are the highest cards.

CASSIOPE'IA, one of the northern constellations, representing the wife of Cepheus and mother of Andromeda. It is situated between 45° and 75° N. declination, and lies between 47° and 55° right ascension. It contains 55 stars.

CAS'SIS. 1. The black currant (*Ribes nigra*).——2. The helmet-stone, an enchinite belonging to the *catocysti*.——3. A genus of ventricose univalves. Order *Gasteropoda*, family *Muricidæ*, sub-family *Cassinæ*, &c.

CAS'SIUS PRECIPITATE, a purple oxide (?) of gold precipitated by tin. It is properly a compound of peroxide of tin and protoxide of gold. It is used in enamel painting, and for tinging glass of a fine red colour. It is soluble in ammonia.

CAS'SOWARY, a bird allied to the ostrich. There are two species forming the genus *Cassiarius*, Bris., the one inhabiting the islands of the Indian Archipelago, and the other peculiar to New Holland. The feathers of this bird resemble hairs, and the wings are so short as to be entirely useless even in running. It runs, however, with great velocity, outstripping the swiftest racer. The name is Spanish, *casuel*.

CASSUMUNIAR (Indian). A medicinal root brought from India in irregular slices of various forms. It possesses warm, bitter, and aromatic qualities, and a smell like ginger.

CAST. 1. In *sculpture*, an impression of any figure taken in bronze, plaster, wax, or other fusible material.——2. A tube of wax fitted into a mould, to give shape to metal.——3. A cylindrical piece of brass or copper slit in two lengthwise, to form a canal or conduit in a mould for conveying metal.——4. A little brazen funnel at one end of a mould for casting pipes, by means of which the melted metal is poured into the mould.

CASTA'NEA, the *chestnut-tree*. A genus. *Monœcia—Polyandria*. Named from Castana, a city in Thessaly, where it was abundant.

CAS'TANET, a musical instrument, formed of small shells of ivory or hard wood, shaped like spoons, placed together, fastened to the thumbs, and beat with the middle finger. This instrument, named from Spanish *castana*, a chestnut, from its resemblance to two chestnuts, is used by the Moors and Spaniards, as an accompaniment to their dances, sarabands, and guitars.

CASTE. In *India*, &c., a class or tribe of the same profession. The four castes of Hindoos are the *Brahmins*, or sacred order; the *Chehteree*, or soldiers and rulers; the *Vaissya*, or *Bice*, or husbandmen and merchants; and the *Sooders* or *Sudras*, or labourers and mechanics.

CAS'TELLAN, the governor of a castle. Applied in some parts of the continent to a dignity or charge.

CAST'ER, a small wheel on a swivel, attached to the supports of heavy furniture, that it may be readily moved on the floor.

CAS'TIGATORY, an engine formerly used to punish and correct arrant scolds; called also a *ducking-stool* and a *trebucket*.

CAST'ING. 1. Whatever is cast in a mould.——2. The process of taking casts and impressions of figures.——3. Among

rpenters and *joiners*, a term analogous *warping* (q. v.).——4. Casting of dra-eries, in *painting*, is the disposition of e folds of the garments, with which the gures in the picture are clothed.——5. sting off copy, in *printing*, is to ascer-in accurately how many pages in print given quantity of manuscript will oc-py; or how many pages of a larger type given quantity of print in a smaller type ill occupy.

Casting-net, a net which is cast and awn; in distinction from a net that is t and left.

Casting-vote, the vote of a person who esides in an assembly or council, and hich, there being a parity of the other tes, decides the matter at issue.

Cast-iron, the iron as it is extracted om the ores, being cast in a species of oulds; called also *pig-iron* and *cast-etal*.

Cas'tle, Sax. *castel*. 1. A fortified house. —2. In *ships*, there are two parts called this name; the *forecastle*, which is a ort deck in the fore part of the ship, ove the upper deck; and the *hindercastle* the stern.

Castle-guard, a feudal tenure, or ight's service, which obliged the tenant perform service within the realm with-t limitation.

Castle-ward, an imposition laid upon bjects dwelling within a certain dis-nce of a castle, for the purpose of main-ning watch and ward in the castle.

Cas'tor, Lat. from *καστωρ*. 1. The stematic name of the beaver, a genus of ammalia, of the order *Rodentia*. *See* aver.——2. The English name of the *toreum* of the pharmacopœias; a pecu-r odorous concrete substance, obtained m the *Castor fiber* (common beaver). e castor is contained in two bags, nated in the inguinal region. The best nes from Russia.

Castor and Pollux, a fiery meteor ich, at sea, appears sometimes ad-ring to a part of a ship, in the form of , two, or even more balls. When one y appears it is called *Helena*; two are led *Castor* and *Pollux*, or *Tyndaridæ*.

Castor-oil, is obtained chiefly from the ds of the *Ricinus communis*, or *Palma risti*, an annual plant found in most pical countries. The oil is separated m the seeds, either by boiling them in ter, or by subjecting them to strong ssure.

Castra'tion. 1. In *surgery*, the removal a testicle from the body.——2. In *ny*, the removal of the anther of a wer.

Castra'to (Italian). A male person asculated for the purpose of improving voice for singing.

Cas'uistry, the doctrine or science of conscience, or the science of resolving cases of doubtful propriety, or of determining the lawfulness or unlawfulness of what a man may do, by rules and principles drawn from the Scriptures, from the laws of society, or from equity and natural reason.

Ca'sus Fœderis (Lat.), the case stipulated by treaty. That which comes within the terms of compact.

Cat. 1. The domestic cat is the *Felis catus*, Lin., originally from the forests of Europe. *See* Felis.——2. A vessel formed on the Norwegian model, of about 600 tons burthen, carrying from 20 to 30 keels of coals.——3. A tackle, or combination of pulleys, to suspend the anchor at the *cat's-head* of a ship.——4. A double tripod, having six feet.

Cat'abasion, a place under the altar, in the Greek church, where the relics are kept.

Catachresis, *καταχρησις*, a rhetorical figure, wherein the name of one thing is borrowed to express another thing, as "the *blood* of the grape."

Ca'tabap'tists, *κατα*, against, and *βαπτιζω*, I baptise. Those who oppose infant baptism, or deny the necessity of baptism at all.

Ca'tacaus'tics, *καταϰαιω*, I burn, in *Optics* or *Geometry*, are the *caustic* curves formed by the reflection of light, in contradistinction to *diacaustic* curves, which are formed by refraction.

Cat'aclysm, a deluge, *καταϰλυσμος*. Applied to describe the Noachian deluge.

Cat'acombs, subterranean places for burying the dead, from *καταϰοιμαω*, I sleep away. The term is said to have been first applied to the chapel of St. Sebastian in Rome, where St. Peter was deposited. It is now applied to a vast number of sepulchres on the Appian Way, about three miles from Rome. These are supposed to have been the cells and caves in which were deposited the bodies of the primitive Christians. The Egyptian catacombs extend over a wide tract of country in the neighbourhood of Grand Cairo; and those of Paris under a considerable part of the city.

Catacou'stics, from *ϰαταϰουω*, to hear. That part of acoustics which treats of reflected sounds.

Catadiop'terics, from *ϰατα* and *διοπτομαι*, to see through. The branch of optics which treats of reflected light.

Cat'afal'co (It.), a scaffold. A temporary structure of carpentry, decorated with painting and sculpture, representing a tomb, and used in funeral ceremonies.

Catalau, a sort of smelting furnace in use in the Pyrenees, where malleable iron

is obtained directly from the ores by one fusion. It is not suited to the reduction of the clayey iron ores of this country.

CATALEC'TIC VERSES are such as want either feet or syllables, from κατα and λεγω.

CATALEP'SIA, CATALEP'SIS, CATALEP'SY, from καταλαμβανω, to seize. A trance: a disease which consists in a total suspension of sensibility and voluntary motion, and generally also of mental power; the pulsation of the heart and breathing continuing, the muscles remaining flexible, the body yielding to and retaining any position, in which respect it differs chiefly from ecstacy.

CA'TALOGUE RAISONNEE, a catalogue of books, classed under heads.

CATAL'PIA, a genus of American trees: *Diandra—Monogynia.*

CATAL'YSIS, καταλυσις, dissolution. An imaginary force which is supposed to assist in the decomposition of some bodies, and the composition of others. Thus the conversion of sugar into alcohol by yeast, which itself is not changed, is cited as an instance of catalysis.

CATAMARA'N, a sort of raft, originally used in China as a fishing-boat. The name was applied to explosive vessels, intended to destroy the French flotilla at Boulogne, early in this century.

CATAME'NIA, the monthly discharge of females, κατα, and μην, a month.

CATAPHON'ICS, the doctrine of reflected sounds, κατα, and φωνη, sound.

CATAPH'OR, from καταφερω, to fall down, a term used by some to designate a state of coma, and by others an unusually sound sleep.

CAT'APULT, a military engine used by the ancient Greeks and Romans for throwing stones, darts, and arrows upon the enemy; from κατα, and παλλω, to throw.

CAT'ARACT, from καταρασσω, to fall with violence. 1. A great fall of water over a precipice; a cascade upon a great scale. That of Niagara is the largest in the world.——2. An interruption of sight produced by opacity, either of the crystalline lens or its capsule, or the fluid of Morgagni, or more generally any perceptible obstacle to vision, situated between the vitreous humour and the urea and pupil. The first species is called *true cataract*, and when the disease consists of opaque matter situated before the lens, it is denominated *false cataract*.

CATARR'H, from καταρρεω, to flow from; a cold in the head or on the chest; it developes itself by inflammation of the lining membrane of the air passages. *Common catarrh* is called a *cold*, and *epidemic catarrh* is *influenza*.

CATAS'TASIS, καταστασις. 1. The constitution or state of anything, as of the atmosphere.——2. The restoration of a thing to its natural condition, state, or position.

CATAS'TROPHE, καταστροφη, from κατα and στρεφω. The change or revolution of events which produces the final event of a dramatic piece, or the unfolding of the plot. The ancients divided their plays into prostasis, epitasis, catastasis, and catastrophe; the introduction, continuance, heightening, and development.

CAT-BLOCK, a two or three-fold block, with an iron strap and large hook, used on board ships to draw up anchors to the cat's-head.

CAT-CALL, a squeaking instrument, used in play-houses to condemn plays.

CATCH'DRAINS, the feeders of reservoirs. In the constructing of canals, the same as *counter-drains*.

CATCH-WORD, a word at the bottom of a page which begins the next page Catchwords are not now inserted.

CATCH-WORK MEADOWS, grass lands with very regular surfaces, subject to irrigation, the water as it descends being intercepted by drains.

CATECHU', the *Terra japonica*, an extract of an astringent nature obtained from two plants; viz., the *acacia catechu*, a tree of great abundance in many of the forests of India, and the *nauclea gambir*, a scandent shrub, extensively cultivated in the countries lying on both sides of the straits of Malacca. From the first-named plant the catechu is obtained by boiling the chips of the interior of the trunk; from the latter it is obtained by boiling the leaves. Catechu has long been employed in India for tanning hides, in this country it is chiefly used in dyeing browns.

CATECHU'MEN, an adult who is receiving instruction and preparing himself for baptism. The name, from κατηχουμενα, the place where the catechist taught, is commonly applied to *pagans* not fully instructed in the Christian religion.

CATEGORICAL PROPOSITION, κατηγορια, I declare something of another. A proposition which affirms or denies that the subject does not agree with the predicate.

CAT'EGORY, κατηγορια. In *logic*, an enumeration of all the attributes contained under a genus. In the logic of Aristotle there are ten categories: substance, quantity, quality, relation, action, passion, time, place, situation, and habit.

CATEN'ARY, Lat. *catenarius*, appertaining to a chain (*catena*), used to denote the curve which a chain forms itself into by its own weight when hung freely between two points of suspension, whether those points be in the same horizontal plane or not.

CATEN'ULATE, when a surface presents series of ridges like the links of a chain.

CATERPILLAR, a female papilio or butrfly lays her eggs, from which they are atched, not as butterflies, but animals ith an elongated body, divided into ngs, and a head furnished with jaws id several small eyes, having very short et, six of which are inferior, scaly, and biuted, the rest, varying in number and embranes, being attached to the poste- or annuli. These animals are *caterpilrs*. They live in this state for a cerin period, and repeatedly change their kin. An epoch, however, arrives when om the skin of a caterpillar issues a tolly different being, of an oblong form id without distinct limbs, which soon ases to move, and remains a long time pparently dead and desiccated, under e name of a *chrysalis*. After a time the kin of the chrysalis splits, and the butrfly issues forth, with humid and soft abby wings, which in a few moments large and become firm, and the animal ready for flight. This is what is called e *metamorphosis* of insects. — 2. A me common to all the plants of the nus *Scorpiurus*, which are hardy Euroan annuals.

CAT-FISH. 1. A species of squalus or ark.—2. A species of *cottus* found in e North American rivers.

CAT-FALL. *See* CAT'S-HEAD.

CAT-GUT, the name given very absurdly cords made of the twisted intestines of eep. Whip-cord, hatter's cords, bowrings, clockmaker's cord, and fiddle d harp strings are all made of cat-gut riously prepared.

CATH'AN, *καθαρος*, pure. An oriental ct of Christians.

CATH'ARINE-WHEEL. } 1. An orna-
CATH'ERINE-WHEEL. } mented window compartment of a window in ancient ildings, of a circular form, with rosettes radiating divisions of various colours. —2. A sort of firework constructed in e form of a wheel, which is made to rn round when it is let off.

CATH'ARIST, one who pretends to more rity than others possess; from *καθαρος*, re.

CATHAR'TINE, a substance of a reddish lour, peculiar smell, and bitter nauous taste, obtained from the leaves of nna.

CATHA'RTOCARPUS, a genus of plants serated from the Linnæan genus *Cassia*. e *Cassia fistula* is placed in this genus, d named *C. fistula*.

CATHEDRAL, Lat. *cathedra*, from *θεδρα*, a chair; used to designate the ad church of a diocese, sometimes called *lesia matrix*, or mother church.

CATH'ETER, Lat from *καθιτης*, a long hollow tube introduced by surgeons into the urinary bladder, to draw off urine when the patient is unable to pass it naturally. Catheters are made of silver, of mixed metals, and of elastic gum.

CATHE'TUS, Lat. from *καθιτος*, a line or radius falling perpendicularly on another line or surface: thus, in *optics*, (1). The *cathetus of incidence*, is a right line drawn from a point of the object perpendicular to the reflecting plane. (2). The *cathetus of reflection* is a right line drawn from the eye, perpendicular to the reflecting plane. (3). The *cathetus of obliquation* is a right line drawn perpendicular to the speculum in the point of incidence or reflection. In *architecture*, a cathetus is, (1). A perpendicular line passing through a cylindrical body, as a column or baluster. (2). A line falling perpendicularly, and passing through the centre eye of the volute of the Ionic chapiter.

CATHOL'ICON, from *καθολικον*, a universal remedy: a medicine which was supposed to purge away all vitiated humours.

CATH'ODE, from *κατα*, downwards, and *ὁδος*, a way. The way which the sun sets; the surface at which electricity passes out of a body, supposing the current to move in the apparent direction of the sun.

CAT-HOOK, the strong hook attached to a cat-block.

CATION, from *κατα*, downwards, and *ἰμι*, to go. That which goes down; a substance which in electrolysis passes to the cathode.

CAT'KIN. *See* AMENTUM.

CAT'LING, a long, narrow, double-edged, sharp-pointed knife, used by surgeons chiefly in amputations.

CAT'-MINT, a name common to all the plants of the genus *Nepeta*, but especially applied to the *N. cataria*, a British perennial: cats are said to be fond of it.

CATOCYS'TI, in *malacology*, the second great division of the Echini. They have the opening for the vent in the base of the shell, and are divided into fibulæ, cassides, scuta, and placentæ.

CATOP'TRICS, from *κατοπτρον*, a mirror. The science of reflex vision, or that part of optics which explains the properties of reflected light, particularly that reflected from polished surfaces, whether plain or curved.

CAT'S'-EYE, a beautiful variety of rhombohedral quartz, having an opalescence resembling the light from the eye of the cat: whence its name. The finest specimens of this stone are brought from Ceylon.

CAT'S'-HEADS, two strong short beams of timber, projecting almost horizontally over a ship's bows, one on each side of the bowsprit: called also *cat-heads*. These

beams carry two or three sheaves, about which a rope, called the *cat-fall* or *cat-dole*, passes and communicates with the *cat-block*.

CAT'S'-PAW, among *seamen*, 1. A light air perceived in a calm by a rippling on the surface of the water.——2. A particular turn in the bight of a rope, made to hook a tackle on.

CAT'SALT, a beautifully granulated salt obtained from the bittern or leach-brine that runs from the salt when taken from the pans at salt-works. This salt is used in the making of hard soap and for curing fish. It is very pure.

CAT'S'-TAIL, a name common to all the plants, 1. of the genus *Phleum*; 2. of the genus *Typha*. This last has more commonly the name *Reed-mace*. There are several native species of both genera.

CAT-THYME, the Syrian herb mastich (*Teucrium marum*), a shrub which grows plentifully in Greece, Egypt, Crete, and Syria. The dried and powdered leaves are used in medicine, but chiefly as an errhine.

CAT'TLE, beasts in general serving for tillage or other labour, or for food to man. In the primary sense, the term includes camels, horses, asses, all the varieties of domesticated horned beasts or the bovine genus, sheep, goats, and perhaps swine. Animals of the bovine genus are usually distinguished by the name of *neat*, *horned*, or *black cattle*, while sheep of all kinds, goats, swine, &c., are denominated *small cattle*. The origin of the term *cattle* is doubtful—it may be Norm. *cetal*, goods, or Arm. *chetal*, beasts, or some cognate root.

CAU'CUS, a word used in America to denote a meeting of citizens to agree upon candidates to be proposed for election to offices, or to concert measures for supporting a party. The origin of the word is not ascertained.

CAU'DA (Latin), a tail: applied to parts resembling a tail, as the elongated base of the ventre, lip, or columella of shells.

CAU'DEX (Latin), a stem: applied by some botanists to that part both of the root and stem of a plant which is not ramified.

CAUDIC'ULA, a thin elastic process of the pollen masses of the orchidaceous plants.

CAUF, a chest with holes for keeping fish alive under water.

CAUK, } a name given by English miners
CAWK, } to sulphate of barytes or heavy spar.

CAUL, the English name of the *omentum* (q. v.). A detached portion of the membrane is sometimes found covering the face of a newly born child: this in popular language is named the *caul*. The superstitious believe that this species of membrane, borne about the person, will prevent an individual from ever being drowned.

CAU'LICOLES, the slender stems or stalks of the leaves of the abacus in the Corinthian capital.

CAULIC'ULUS, the slender part which connects the cotyledon of a seed with the radicle.

CAU'LINE, Lat. *caulinus*, appertaining to the stem: applied to leaves and peduncles which come immediately from the stem.

CAU'LIS (Latin), a stem which bears the leaves as well as the flowers.

CAULK'ING. 1. In *nautical language*, *see* CALKING.——2. In *architecture*, the old mode of fixing the binding joists of a floor, or the tie-beams of a roof, by dovetailing into the wall plates: called also *cocking*.

CAULOCAR'POUS, καυλος, stem, and καρπος, fruit. Perennial plants which yield flowers and fruit.

CAU'STIC, from καιω, to burn. A substance which has so great a tendency to combine with organised substances as to destroy their texture. The common caustics are lunar caustic, or nitrate of silver, and caustic potash.

CAU'STIC BARLEY, the seeds of the *Veratrum sabadilla*, a plant of Senegal. They are powerfully caustic.

CAU'STIC CURVE, the curve formed by the collected rays of light issuing from a curved reflector: called also the *catacaustic curve*.

CAU'TERY, from καιω, to burn. The application of a red-hot iron is an *actual cautery*; the application of a caustic is a *potential cautery*.

CAU'TIONER, in *Scots law*, a security or person bound by obligation for another.

CAU'TIONRY, in *Scots law*, the obligation by which one person becomes security for another, that he shall pay a sum of money, &c.

CAVÆ'DIUM, Lat. in *ancient architecture*, an open quadrangle within a house.

CAVALIER, in *fortification*, an elevation of earth, situated ordinarily in the gorge of a bastion, and bordered with a parapet with embrasures.

CAVALIERS, in *history*, the party of Charles I.

CAVATI'NA (Italian), a short air without a return or second part, which is sometimes relieved by recitative.

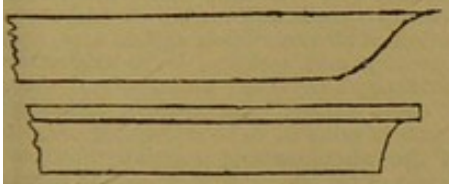
CAVA'ZION, } from Lat. *cavo*, to hollow;
CAVA'SION, } the foundation plan for the walls of a building, which may be as deep as one-sixth part of its height.

CA'VEA. In *ancient architecture*, the subterranean cells in amphitheatres, in which wild beasts were confined, in readiness for the fights of the arena.

CA'VEAT, a Latin word meaning "*let him beware*," used in courts of law to denote a process to stop proceedings, also to denote a notice of intention to apply for a patent for some invention.

Ca'veating (*See* Caveat), a term in fencing applied to the shifting of the sword from one side of an adversary to the other.

Cavet'to, Ital. dim. of Lat. *cavus*, an architectural term used to denote a concave ornamental moulding, opposed in effect to the *ovolo*; the concavity of the



ne and the convexity of the other are not to exceed the quarter of a circle. The projection of the cavetto is equal to its altitude.

Cav'ezon } (French), a sort of nose-
Cav'esson } band of iron, leather, or wood, sometimes flat and sometimes hollow, put on the nose of a horse to wring it, and thus to forward the suppling and breaking of him.

Ca'via, the *guinea-pig* or *cobay*, a genus of quadrupeds of the order *Rodentia*, Cuv. The best known species is the *mus porcellus*, Lin. The word Cavia is Brazilian.

Cavi'ar (French), a substance prepared chiefly in Russia, consisting of salted roes of large fish, especially the sturgeon, caught in the Wolga. The Italians first brought it to Europe, under the name of *caviale*. The root of the word is perhaps Arabic, *gabiar*.

Cavoli'nite, a Vesuvian mineral of a hexahedral form, occurring in the interior of calcareous balls, accompanied by garnets, idocrase, mica, and granular pyroxine, lining the cavity of geode, &c. Named in honour of Cavolini, a Neapolitan naturalist.

Cay'enne, a species of very pungent pepper, called *Cayenne pepper* and *Guinea pepper*. It is prepared from the pods of several species of the capsicum, which originally came from Cayenne, but is now brought from both the Indies.

C. B., Companion of the Bath.

C. C., Caius College. C. C. C., Corpus Christi College.

Ceano'thus, a genus of shrubby plants. *Pentandria—Monogynia*. Name, κεανωθος, the *Serratula arvensis*. The New Jersey tea (*C. Americanus*) is perhaps the best known species of this genus.

Ce'brio, a genus of Pentamerous coleoptera; family *Serricornes*. This genus is the type of the cebrionite tribe, and is now subdivided into *Physodactylus*, *Anetes*, *Sandalus*, *Rhapicera*, &c. These insects are chiefly found on aquatic plants.

Ce'dar, the *Pinus cedrus*, Lin., by Tournefort ranked under *Larix*. It is a coniferous evergreen, bearing large roundish cones of smooth scales, standing erect; the leaves small, narrow, and thickly set. This tree is nowhere found native but on Mount Libanus, and is usually distinguished by the name of the *Cedar of Lebanon*. Few are now found on Lebanon, but those that remain are of immense size. The red cedar, so well known from its being used in the manufacture of black-lead pencils, is the wood of the Virginian cedar, a species of juniper (*Juniperus Virginiana*), a large tree of America, West Indies, and Japan. Like the cedar of Lebanon it is not attacked by worms.

Ce'dra, the fruit of a species of orange, citron, or lemon, a tree which bears the same name. Its peel contains a highly prized essential oil used to flavour preserves.

Cedre'la, the *bastard-cedar*, the generic name of a tree of Barbadoes. *Pentandria—Monogynia*. It is the type of the natural order Cedrelaceæ. Name dim. of *cedrus*, the cedar-tree.

Cel'andine, a name common to all the plants of the genus *Chelidonium*, two species of which are British. The greater celandine, called also *tetterwort*; the lesser celandine is called also *pilewort*. The great tree celandine is a species of *bocconia* found in the West Indies.

Cela'strus, the *staff-tree*, a genus. *Pentandria—Monogynia*. Name from *celastra*, a shepherd's cup. It is the type of the Celastriaceæ, a natural order of shrubby exogens.

Cel'ature, Lat. *cælatura*, from *cælo*, to engrave; the art of engraving or embossing, or that which is engraved or embossed.

Ce'le. Κηλη. A tumour caused by the protrusion of any soft part; a hernia. This word is chiefly used in composition, as *enterocele*, *epiplocele*, &c.

Cel'eres, light horsemen instituted by Romulus when he settled the constitution of Rome.

Celes'tine, native sulphate of strontia, so named from its being frequently found of a blue colour, but it also occurs perfectly colourless and sometimes red.

Celes'tins, a religious order named from Pope Celestin. They have about 100 convents in Italy and 20 in France.

Ce'liac, Lat. *celiacus*, pertaining to the lower belly or intestines.

Cel'larist. } 1. An officer in a monas-
Cel'larer. } tery who has the charge of procuring and keeping provisions.—2. An officer in chapters who has the care of the temporals, and particularly of distributing bread, wine, and money, to canons on account of their attendance in the choir.

Cellula'ria, a genus of coralliferous polypi, forming the type of Cuvier's family of *cellularii*.

Cellula'rii, a family of coralliferous polypiers, bearing a general resemblance to the hydra. Each polypus is adherent in a calcareous cell, and only communicates with the others by an extremely tenuous external tunic, or by the minute pores which traverse the parieties of the cells.

Cellular Integument, the succulent pulpy substance situated immediately under the cuticle of plants. Thus leaves consist chiefly of this substance, and the stems and branches are surrounded by it. It is the seat of colour, mostly green, but is itself colourless, the colouring matter being contained in its vesicles.

Cel'lular Membrane, that tissue of filmy meshes which connects the minute component parts of most of the structures of the animal body.

Celo'sia, a genus of tropical plants. *Pentandria—Monogynia.* There are many species, all producing fine flowers, from which the genus has obtained the name *coxcomb.*

Cem'ent, Lat. *cæmentum.* Chemists give this name to all sorts of lutes, and builders use it to denote a stronger kind of mortar than that commonly employed.

Cementa'tion, a chemical process, which consists in surrounding a body in the solid state with the powder of some other bodies, and exposing the whole for a time, in a close vessel, to a degree of heat not sufficient to fuse the contents. Thus iron is converted into steel by cementation with charcoal; green bottle-glass is converted into porcelain by cementation with sand, &c. The term is also used for the act of cementing.

Cen'obites, a religious order who live in community: opposed to *anchorets.* The term is Gr. κοινοβιοτης, a community, from κοινος, common, and βιοω, to live.

Cense, Lat. *census,* a valuation, a registering, a tax: *censeo,* to enrol, to tax.

Cen'ser, a vase or pan in which incense is burned (*see* Incense). The Jewish censer is a sort of chaffing-dish, covered by a dome, and suspended by a chain, used to offer perfumes in sacrificing.

Cen'sor, Latin. An officer at ancient Rome, whose business was to register the effects of the citizens, to impose taxes according to the property which each man possessed, and to inspect the manners of the citizens, with power to censure vice by inflicting a public mark of ignominy on the offender. (*See* Cense.) The term is now used to designate one empowered to examine manuscripts and books, before they are committed to the press, to see that they contain nothing immoral or heretical.

Censure, Lat. *censura.* (*See* Censor.) Among *ecclesiastics,* this term is used to denote a sentence of condemnation on a member of a church for mal-conduct, by which he is deprived of the communion of the church, or prohibited from performing the sacerdotal office.

Cen'sus, Latin. The declaration made in ancient Rome by the citizens before the censors. (*See* Censor.) This declaration was registered, and contained an enumeration of all their lands and estates, their quantity and quality, with the wives, children, domestics, tenants, and slaves of each citizen. In modern times the word is used to denote the enumeration of the inhabitants of a country. Thus a *census* of the population of Great Britain is made every 10 years.

Cent, contracted from Lat. *centum,* a hundred. Hence, *per cent.* means per hundred, as *five per cent.,* meaning five in the hundred. *Cent* is also the name of a copper coin of the United States of America, of which 100 = one dollar.

Cen'taur, Lat. *centaurus,* a fabulous being, supposed to be half man and half horse. The origin of the fable and name is not ascertained. This name is now given to part of a southern constellation (the Archer), in form of a centaur, usually joined with the wolf. It contains 35 stars.

Centau'rea, the centaury. A very extensive genus of plants, mostly perennials. *Syngenesia—Poly. frustranea.* Name, Lat. from κενταυρια. The knapweed, blue bottle, sultan, and star-thistle, are well-known British species.

Cen'taury. 1. A name common to all the plants of the genus *Centaurea* (q.v.). ——2. The *Chironia centaurium,* a British annual plant.

Cente'nes, the tearic. A genus of mammiferous animals of Madagascar, separated by Illiger from the genus *Erinaceus,* Lin. There are three species, all covered with spines, like the hedgehog, but they are somewhat larger. Order *Carnaria,* family *Insectivora,* Cuv.

Cen'tering or Centre. The temporary woodwork on which any vaulted work is constructed.

Centes'imal, in *arithmetic,* the next step of progression after decimal, answering to the English word hundredth (*centesimus,* from *centum*).

Centesimation, a military mode of punishing for desertion, mutiny, or the like, where one person in a hundred (*centum*) is selected for execution.

Cen'tiare, from *cent* and *are,* a French superficial measure, the hundredth part of an *are,* or 1·196 square yards.

Centifo'lious, from *centum* and *folium,* having a hundred leaves.

Cen'tigrade, from *centum* and *gradus,* a degree, divided into a hundred degrees. Graduated into a hundred divisions or equal parts, as a *centigrade thermometer.* *See* Thermometer.

CEN'TIGRAMME, from *cent* and *gramme*. A French weight, the hundredth part of a *gramme*, or 0·1543 grains. *See* GRAMME.

CENTIL'ITER, from *cent* and *litre*. A French measure of capacity; the hundredth part of a *litre*, or 0·6103 cub. inch.

CENTIME'TRE, from *cent* and *metre*. A French long measure; the hundredth part of a *metre*, or 0·3937 inches.

CEN'TIPED, Lat. *centipeda*, an animal (insect) having a hundred feet (*centum* and *pes*). The term is commonly applied to insects which have many feet.

CEN'TNER, in *metallurgy* and *assaying*, a decimastic hundred (*centum*). Metallurgists use a weight divided into a hundred equal parts, each one pound: The whole they call a *centner*. The pound is divided into 32 equal parts or half ounces; the half-ounce into two quarters; and these into two drams. Assayers use different weights: with them a *centner* is a dram, to which the other parts are proportionate.

CEN'TO, Lat. a patched cloth. Used to designate a composition formed of verses or passages from other authors, disposed in a new order.

CEN'TRAL, Lat. *centralis*, relating to the centre, e.g. the *central forces*, which is the name given in mechanics to those powers which cause a moving body to recede from, or tend towards, the centre of motion.

CEN'TRE, Lat. *centrum*, from κέντρον, a point. Popularly, a point equally distant from the extremities of a line, figure, or body. In the geometry of curves, any point in which two or more diameters concur, is called a *centre*. In mechanical philosophy there is, 1. *Centre of gravity*, that point about which the parts of a body, in any situation, balance each other.——2. *Centre of motion*, the point about which all the other parts of a body move, when that body is put in motion: this is more correctly the axis, and passes through the centre of gravity, if the body be not under constraint.——3. *Centre of oscillation*, that point in a pendulum, in which, if the weight of the several parts were collected, each vibration would be performed in the same time as when those weights were separate. This is the point whence the length of the pendulum is measured.——4. *Centre of suspension*, that point in a moving body wherein the percutient force is greatest, or that point with which, if the body strike against any obstacle, no shock will be felt at the point of suspension. The *centre of a dial* is a point in which the axis of the world intersects the plane of the dial, and therefore, in dials which have two centres, it is the point wherein all the hour-lines intersect. The *centre of a bastion* is the point in the middle of the gorge where the capital line commences, which is generally at the angle of the inner polygon.

CEN'TREBIT, a carpenter's tool, which makes a cylindrical hole, and turns on an axis or centre when used in boring.

CENTRIFU'GAL, from *centrum*, centre, and *fugio*, to flee, tending to recede from the centre. The *centrifugal force* of a body is that force by which any body moving in a curve tends to fly off from the axis of its motion, in a tangent to the periphery of the curve. Thus the centrifugal force arising from the velocity of the earth in its orbit, balances the attraction of the sun, and that arising from the earth's rotation on its axis, is 1-289th of that force with which bodies tend to fall towards its centre. In the centrifugal pump, which has the form of the letter T, and revolves on an axis, this force has been applied to the raising of water.

CENTRIPE'TAL, from *centrum*, centre, and *peto*, to seek; tending towards the centre. The *centripetal force* of a body is that force, whatever it may be, which impels it from a right line towards a point as a centre, as in the case of a planet revolving round the sun as the centre of the system.

CENTRONO'TUS, a genus of Scombroides, characterised by the spines, which, in acanthopterygious fishes, generally form the anterior portion of the dorsal or a first separate dorsal, but in them are free and unconnected by a common membrane; they all have ventrals. The pilot-fish is a species, or rather subgenus (*Naucrates*, Rafinesque) of this genus.

CENTUM'VIR (Latin), one of the 105 judges in ancient Rome, appointed to decide common causes among the people. The word is compounded of *centum*, a hundred, and *vir*, a man.

CENTUMVIRI, Roman judges who were chosen three from each of the 35 tribes, making in all 105, though they were designated in round numbers 100 men.

CENTU'RION (from *centum*); a military officer among the Romans, who commanded 100 men, answering to a captain in modern times.

CEN'TURY, a hundred years (*centum*, hundred); generally anything consisting of a hundred parts. The *centuries of Magdeburg*, is a title given to an ecclesiastical history, arranged in 13 centuries. It is the work of a great number of protestants of Magdeburg.

CEPHALAN'THUS, the button-wood tree of North America, constituting a genus *Triandria — Monogynia*. Name from κεφαλη, a head, and ανθος, a flower.

CEPHALAS'PIS, a fossil fish of the carboniferous series, named from its head (κεφαλη) being covered by a sort of shield

ὰστις), having the bones united into one osseous case.

Cephal'ic, from κεφαλη, the head; pertaining to the head. In *pharmacy*, a variety of medicines are called *cephalics*, as being adapted for the cure of disorders of the head: of this class is *cephalic snuff*, the active ingredient o which is asarabacca.—In *anatomy*, the term is applied to a vein of the arm anciently supposed to have some particular connexion with the head. The jugular vein is also called the *cephalic vein*, and the *carotid artery* is sometimes termed the *cephalic artery*.

Cephalo'dium, in *botany*, a figure resembling a convex shield without an elevated rim.

Cephalom'eter, from κεφαλη, the head, and μετρον, measure; an instrument formerly used to estimate the size of the fœtal head during parturition.

Cephalo'phora, κεφαλη, the head, and φερω, I bear. 1. A name substituted by De Blainville for the Cephalopoda (q. v.) of Cuvier.——2. A genus of South American plants of one species (a perennial), formerly called *Græmia aromatica*, from the name of the discoverer, and the aromatic flavour of the dried leaves.

Cephalopo'da, a class of mollusks comprising only a single order, divided into genera according to the nature of the shell: those which have no shell are arranged by Linnæus in the genus *Sepia* or cuttle-fish. The Sepia, Nautilus, Belemnites, Ammonites, and Nummulites, are the genera included in this tribe according to Cuvier. The feet of the voracious animals are placed round their heads (whence the name, from κεφαλη, a head, and ποδα, feet), and they walk in consequence with their heads downwards. Between the base of the feet is situated the mouth, armed with two stout horny jaws, resembling the beak of a parrot. Their flesh is eaten, and their *ink*, a peculiar and intensely black excretion, with which they darken the surrounding water when they want to conceal themselves, is used in painting: the China or Indian inks are supposed to be made of it.

Ceph'alus, a genus of Gymnodontes found in the European seas: the short sunfish is a species. Name from κεφαλη, a head; the tail being so short and high, that this fish resembles one whose posterior portion has been truncated. The species named is about four feet in length, and weighs upwards of 300 lbs.

Ceph'eus, a constellation in the northern hemisphere containing 35 stars, named in memory of an ancient king of Ethiopia, said to be the father of Andromeda, and husband of Cassiopeia.

Cerain. By the saponification of cerine, margarate of potash is obtained, and a substance resembling wax. This is named *Cerāine* by Boudet and Boissonet. It cannot be converted into soap, fuses at 160°, and may be distilled without alteration.

Cer'asin (from *cerasus*); a name given by chemists to those gummy substances which swell in cold water, but do not readily dissolve in it: the best example of this species of vegetable product is gum tragacanth.

Cerastes (κεραστης, from κερας, a horn). A serpent, a species of Coluber which the ancients supposed to be furnished with horns. (Pliny 8. 23.)

Cerastium, the *mouse-ear chickweed*; a numerous genus of small hardy plants. *Decandria—Pentagynia*. There are many British species.

Cer'ate, Lat. *ceratum*, from *cera*; a composition of wax, oil, or lard, with or without other ingredients. Many cerates are used in medicine. Their consistence is intermediate between that of plasters and that of ointments.

Cerato'nia, the *carob-tree*, or *St. John's bread*; a genus of one species found in Europe and Asia. *Polygamia—Triœcia*. This is the κερατωνια of Galen, and is so named from its horn-like pod.

Ceratot'ome, from κερας, a horn, and τεμνω, to cut; a knife used by surgeons for dividing the cornea of the eye.

Ceratoph'yta, a tribe of coralliferous polypi of two genera, the *Antipathes* and the *Gorgonia*. They have a horny axis (whence the name from κερας, horn, and φυτον, a plant); this is covered by a fleshy substance, from the cavities of which polypi occasionally appear.

Cerau'nia, or Cerau'nia Lapides, } names formerly given to the fossil echinites, from a supposition that they were formed in the air. (Pliny 37, 9 and 10.)

Cer'atrin, the bitter principle of Iceland moss.

Cer'berus, in *ancient mythology*, a monster who guarded the entrance of the infernal regions, who had from 3 to 100 heads, according to the whims of the authors.

Cercopith'ecus, a genus of quadrumana, comprehending the long-tailed monkeys—κερκος, a tail, and πιθηκος, a monkey. Numerous species, of every variety of size and colour, abound in Africa: they live in troops, and do much damage to the gardens and fields under cultivation.

Cerc'osis, from κερκος, a tail. 1. A polypus of the uterus.——2. An enlargement of the clitoris.

Cere, the naked skin which covers the base of a hawk's bill.

Cerebel'lum, Lat. dim. of *cerebrum*; the little brain, situate behind the *cerebrum*. *See* Encephalos.

Cer'emonies, Master of the, an officer of the king's household, instituted for the more honourable reception of strangers of quality.

Cer'eolite, wax-stone (*cera* and λιθος), a substance resembling steatite.

Cereop'sis, the generic name of an Australian goose, characterised by a green cere-like naked membrane, covering the upper portion of the base of the bill.

Ce'res. 1. The mythological goddess of corn and tillage, the daughter of Saturn and Ops.——2. The name of a planet discovered by M. Piazzi, at Palermo in Sicily, in 1801. It is situated between Mars and Jupiter.

Ce'reus, in *botany*, a colour, surface, or texture, resembling that of wax.

Ce'rine, one of the constituents of wax (*cera*). Wax, like the oils and fats, has been found to be composed of two substances, which differ from each other only in their fusibility, and their solubility in alcohol, and which are called *Cerine* and *Myricine*. The first is analogous to *elaine*, and the myricine corresponds to *stearine*. Sp. gr. of cerine 969, melting pt. 138°; soluble in 16 times its weight of boiling alcohol.

Cerin'thians, an early sect of heretics who denied the Divinity of Christ. Named from Cerinthus, the founder of the sect.

Ce'rite, the silicious oxide of cerium; a rare mineral of a rose-red colour, found in the Swedish mine of Bastnäs, and long known to the German mineralogists, under the name of *Bastnäs Schwerstein*, i.e. heavy stone of Bastnäs. It is named cerite from the metal it contains.

Cerith'ium, the name given by Brueir to a turretted or turriculated spiral shell, of which Lamark has discovered upwards of 60 species in the neighbourhood of Paris. Class *Gasteropoda*; order *Pectinibranchiata*; family *Buccinoida*.

Ce'rium, a metal discovered in 1803, by Hisinger and Berzelius, in cerite (q. v.), and named by them after the planet Ceres. It is brittle, white, and volatile at a very intense heat; is not acted upon by nitric acid, but is dissolved in aqua-regia, *nitro-hydrochloric acid*.

Cer'oma, In *ancient architecture*, the apartment in a bath or gymnasium in which persons anointed themselves with wax and oil.

Ceroplas'tic, the art of modelling in wax; it is of very high antiquity.

Cerostro'tum, κηρὸς, wax, and στρωτος, spread. A species of encaustic painting executed on horn or ivory.

Cer'thia, the *creeper* or *ox-eye*, a genus of birds. Order *Passerinæ*; family *Tenuirostres*, Cuv. About 50 species of this little bird are enumerated. They take their name from their habit of climbing trees like wood-peckers. The common ox-eye is well known.

Certif'icate, in a general sense, means any written testimony; but the word is used in a more practical sense to denote the written declaration of some public officer, to be used as evidence in a court or to substantiate a fact, and is considered as being given under the oath of the officer.

Certif'icate Cocket. In *the Customs*. *See* Cocket.

Certif'icates of Origin, written documents subscribed by the proper officers of the places where goods were shipped. These are required by the importers of sugar, coffee, cocoa, and spirits from any British plantation.

Certiora'ri, a writ issued out of Chancery or other superior court, to call up the records of an inferior court, or remove a cause there depending, that it may be tried in the superior court. This writ is obtained upon complaint of a party that he cannot in the inferior court receive justice, or that he is not certain (*certus*) of receiving it.

Ceruse, Lat. *cerussa*. Carbonate of lead, commonly called *white lead*.

Cer'vical, Lat. *cervicalis*, belonging to the neck (*cervix*) as the cervical vertebræ, muscles, and arteries.

Cervicobranchia'ta, the name of an order of shells, in the conchological system of De Blainville, comprising the two families Rotifera and Branchifera, and the genera Patella, Fissurella, Emarginata, and Parmophorus.

Cer'vus (Latin), a stag; a genus of Ruminant mammalia, which have heads armed with antlers; the females, however (the rein-deer alone excepted), are always without them. The elk or moose, roebuck, axis, fallow-deer, &c., are species. The flesh is used as food.

Ces'pitose Plants are such as produce many stems from one root, and which have all their leaves radical, so as to resemble turfs. From *cespes*, a turf.

Cessa'vit, a Latin word meaning *he hath ceased*, from *cesso*, to cease, used in law as the name of a writ given by statute to recover lands, when the tenant or occupier has ceased for two years to perform the service which constitutes the condition of his tenure, and has not sufficient goods or chattels to be distrained.

Ces'sio Bono'rum, a Latin law phrase meaning the surrender by an insolvent debtor of his entire property to his creditors. This exempts him from all personal penalties.

Cessor. In *law*, one who neglects for

two years to perform the service by which he holds lands, so that he incurs the danger of the writ of cessavit.

Cesto'ideæ, a tribe of intestinal worms, comprising those without external suckers. Only one genus is known, the *Ligula*, inhabiting certain birds and fresh water fish.

Cestra'cionts, a sub-family of sharks found fossil in all strata, from the carboniferous to the most recent chalk series. The *Cestracion Philippi*, or Port Jackson Shark, is the only living specimen of the tribe.

Ces'tus, κέστος. The marriage girdle or girdle of Venus among the Greeks and Romans.

Cesu'ra. *See* Cæsura.

Ceta'cea, } an order of marine mam-
Ceta'ceans, } miferous animals, including the whale, porpoise, dolphin, &c. They are warm-blooded and breathe air by means of lungs, and they bring forth young alive and suckle them.

Cetacea Herbivora, herbivorous cetacea. These constitute Cuvier's first family of Cetacea, and comprise the genera Manatus, Halicore (dugong, siren, sea-cow, &c.), and Stellerus. They frequently leave the water to seek pasture on shore. The teeth have flat crowns, they have two mammæ on the breast, and hairy mustachios, two circumstances which, observed from a distance, as they raise the anterior part of the body vertically from the water, give them some resemblance to human beings, and have probably occasioned those fabulous accounts of tritons and sirens which some travellers pretend to have seen.

Cetacea Ordinaria, ordinary Cetacea. These form Cuvier's second family of Cetacea, and comprise the genera Delphinus (dolphin); Phocæna (porpoise); Monodon (narwhal); Physeter (cachalot or spermaceti whale), and Balæna (true whale). The ordinary cetacea are distinguished from the preceding by the singular apparatus from which they have received the name of *Blowers*.

Ce'te, κῆτος, a whale. The sixth order of Mammalia in the *Systema Natura* of Linnæus.

Cet'ic Acid, a name given by Chevreuil to what he supposed to be a peculiar acid resulting from the saponification of cetine, but which he has since found to be merely a mixture of margaric acid and cetine.

Ce'tine, a name given by Chevreuil to spermaceti, from *cete*, a whale.

Ceto'nia, a genus of coleopterous insects commonly termed *gold-beaters*, from their brilliant golden green colours. They are common on flowers, and frequently on those of the rose and elder

Ce'tus (Latin), the *whale*. The name of a large constellation in the southern nemisphere containing 97 stars. The most brilliant is *Menkar*, situated in the upper mandible.

Cev'adic Acid. By the action of potash on the fatty matter of the cevadilla, an acid is obtained which is called the *cevadic*.

Cey'lanite, a dark-green or black variety of dodecahedral corundum, which occurs in the sand of the rivers of Ceylon, from which island it is named.

Chab'asite, rhombohedral zeolite; the *chabasic* of Haüy, and *schabasit* of Werner. The mineral is usually white, but has sometimes a rosy tinge. Silica forms about 50 per cent. of the whole.

Cha'cone or Ciacone (Span.), a kind of dance resembling a saraband, of Moorish origin.

Chærophyl'lum, a genus of small plants. *Pentandria—Digynia*. Name from χαίρω, to gladden, and φύλλον, a leaf, in allusion to the luxuriance of its foliage. The common chervil or cow-parsley, sweet cicely, and bastard hemlock are species.

Chæ'todon a genus of fish abundant in the seas of hot climates, where they frequent rocky shores. They are adorned with the most beautiful colours, and are reckoned good eating. They take their name from their teeth, which in length and tenuity resemble hairs collected in close rows, like a brush.

Chætop'terus, a genus. Class *Articulata*, order *Dorsibranchiata*, Cuv. The mouth has neither jaws nor proboscis. The animal is provided with nine pair of feet, and a pair of long silky fasciculi, resembling wings. The only species known is about 10 inches long, and inhabits a tube resembling parchment. It is found at the Antilles.

Cha'fery. In *iron-works*, a forge in which an ancony or square mass of iron, hammered into a bar in the middle, with its ends rough, is reduced to a complete bar, by hammering down the ends to the shape of the middle.

Chafe-wax, an officer belonging to the lord chancellor, who fits the wax for sealing writs.

Chaf'fer, a small portable furnace.

Chaff-weed, a plant, the bastard pimpernel (*Centunculus*); also cudweed, a species of *Gnaphalium*.

Chaf'fy Paleaceous, when a surface is covered with small, weak, erect, membranous scales, resembling the chaff of corn.

Chain. In *surveying*, a measure of length, composed of a certain number of links of iron wire, serving to take the distance between two places. Gunter's chain consists of 100 such links, each

·92 inches, consequently equal to 66 feet r 4 poles.

Chain-Boat, a large boat fitted for get-ing up mooring-chains, anchors, &c.

Chain-Cable. *See* Cable.

Chain-Pump, a well-known hydraulic nachine for raising water. It is usually nade from 12 to 25 feet in length, and consists of two collateral square barrels, nd an endless chain of pistons of the ame form fixed at proper distances. The hain is moved round a coarse kind of wheel-work, the teeth of which are so ontrived as to receive one half of the lat pistons and let them fold in, and they ake hold of the links as they rise. Half he pistons are ascending when the ma-hine is at work, and bring up a full bore f water in the pump.

Chain-Shot, two balls chained toge-her, used chiefly at sea, to be shot against essels to damage the rigging.

Chain-Timber, a piece of timber in readth equal to the length and breadth f a brick, used for strengthening brick-walls, by insertion in the middle of the eight of the story.

Chain-Wales. In a *ship*, broad and hick planks projecting from a ship's sides, breast and behind the masts, for the urpose of extending the shrouds, for etter supporting the masts, and prevent-ng the shrouds from damaging the gun-vale by rubbing. Every mast has its hain-wales.

Chain'work, a peculiar style of textile abric, to which hosiery and tambouring elong.

Chair, a moveable seat. This name is sed to designate a pedestal or socket of ast-iron used upon railways, for receiv-g and securing the rails upon the blocks, which they are fastened by oak tree-ails. The chair for receiving the ends two rails is termed a *joint* or *double air*, being larger than the *simple* or *in-rmediate chairs*.

Chaise-longue (French), a sort of sofa en at one end.

Chal'aza, Χάλαζα. A hailstone. 1. In *tany*, a point marked on the interior nic of the seeds of some plants, which swers to the insertion of their umbili-l cord. It is sometimes coloured, as in e lemon and orange. —— 2. The two hite bodies attached to the membrane hich covers the yolk of an egg, are lled *chalazæ* or grandines.

Chala'œ, a name applied to the two visted cords attached to the yolk of an g, to maintain it uppermost in every sition of the egg.

Chalcedo'ny, a sub-species of quartz, lled also white agate, named from *Chal-lon*, a town in Asia Minor.

Chalcedo'nyx, a variety of agate, in hich white and grey layers alternate.

Chal'cides, a genus of Scincoideans. They are elongated lizards resembling serpents; but the scales are rectangular, forming transverse bands which do not encroach on each other.

Chalcid'iæ, a tribe of hymenopterous insects, of which the genus *Chalcis* is the type.

Chalci'dicum. In *ancient architecture*, a large building for administering justice; sometimes the tribunal itself.

Chal'cis, a genus of hymenopterous insects so named from their being decorated with extremely brilliant metallic colours (χαλκος, brass).

Chalcog'raphy, the art of engraving on brass; χαλκος, brass, and γραφω, to write.

Chal'dron, a dry English measure; 36 coal bushels make a chaldron, and 21 chaldrons make a score. The bushel contains 2217·6 cubic inches, but when heaped it contains 2815·5 cubic inches, making the chaldron 58·65 cubic feet. The Newcastle chaldron contains 53 cwt., and is just double of the London chaldron.

Chalk, a white earthy limestone, (carbonate of lime), Sp. gr. 2·3. It usually contains an inconsiderable portion of silex and iron.

Chalk Formation. This term is applied, in the nomenclature of geology, to a group of deposits very dissimilar in their compositions, but agreeing in the character of the organic remains which they contain, and referrible to the same epoch of formation. These strata are distinguished into: 1. The Maestricht beds; 2. The upper chalk with flints; 3. The lower chalk without flints; 4. The upper green sand; 5. The gault; 6. The lower green sand. The whole of these are marine deposits, and their greatest aggregate thickness in England may be estimated at from 600 to 1000 feet.

Chalk-Stone, a calcareous concretion in the hands and feet of violently affected gouty persons.

Chal'lenge. In *law*, an exception to jurors; the claim of a party that certain jurors shall not sit in trial upon him or his cause. The right of challenge is given both in civil and criminal cases, for certain causes which are supposed to disqualify a juror to be an impartial judge. The word is Norm., *calenge*, an accusation. Among *sportsmen*, the opening cry of hounds at first finding the scent of the game, is called the *challenge*, and the same name is given to any invitation, verbal or written, of parties, to decide a controversy by duel.

Cha'ma, a genus of inequivalved adhering bivalves, forming the type of the family Chamacea.

Chamace'a, a family of bivalves placed by Lamarck in the order Dimyaria, and

by De Blainville in the order Lamellibranchiata. It comprises the genera chama, diceras, etheria, isocardium, trigonia, &c. In the arrangement of Cuvier it forms the third family of testaceous acephala, and comprising only the genus chama, Lin.

CHA'MA GIGAS, Lin., a species of chama inhabiting the Indian ocean; it is the largest and heaviest shell known, weighing sometimes between 300 and 400 lbs. Its occupant is so large as to furnish 120 men with a good meal.

CHA'MBER, Lat. *camera*, from *καμαρα*, an arched roof, the vaulted room. This word has generally the signification of *apartment*, as the *chamber* of a mine, a place generally of a cubical form, where the powder is confined; the *chamber* of a mortar, which is that part of the chase where the powder lies. In a general sense the word is taken to mean the place where an assembly meets, and also the assembly itself. 1. The *star-chamber*, the authority of which was abolished by the statute 17 Car. 1. This hall was so called because the roof was painted with stars. ——2. *Chamber of Commerce*, an assembly of merchants to discuss the affairs of trade.——3. *Chamber of assurance*, usually a society of merchants and others for carrying on the business of insurance, but in Holland a court of justice where insurance causes are tried.——4. *Chamber of London*, an apartment in London where the city money is deposited.

CHA'MBERED SHELLS, such shells as are divided into compartments by septa, usually called *multilocular*.

CHA'MBERLAIN, an officer charged with the management of a chamber or chambers. The lord chamberlain of Great Britain is the sixth officer of the crown. His office is hereditary, and he is entitled to livery and lodging in the imperial court. He has the oversight of all officers belonging to the royal chambers, except the bed-chamber, wardrobe, &c., and administers the oath to all officers above stairs.—The chamberlains of the Exchequer of London, of Chester, of North Wales, &c., are commonly receivers of rents and revenues, and have certain rights and immunities attached to their situations.

CHA'MBRANLE, an ornamental border on doors, windows, and fire places. This ornament is commonly taken from the architrave of the order of the building. In window frames, the sill is also ornamented, forming a fourth side. The top of the three sided chambranle is called the *transverse*, and the sides *ascendants*.

CHAME'LEON, a name common to all the species (seven) of the genus *Chamæleo*. The chameleon is particularly remarkable for the great size of its lungs, which when fully dilated, make the body almost transparent. This circumstance enables it to change colour at pleasure, by enabling it to throw a greater or less quantity of blood upon the surface of the body, and perhaps also somewhat to change the hue of the blood itself, by varying the degree of its aëration.

CHAME'LEON MIN'ERAL. When peroxide of manganese is mixed with an equal weight of nitre or carbonate of potash, and the mixture fused at a red heat, a green coloured mass is obtained called *chameleon mineral*. When this substance is dissolved in water, the solution is at first green; it then becomes successively blue, purple, and red, and finally throws down a brown precipitate and becomes colourless: from these phenomena it derives its name.

CHAM'FER, } a small gutter or furrow
CHAM'FRET, } cut in wood or other hard material, as in stones, pillars, or other ornamented parts of a building. The word is also used as a verb, meaning to *channel*.

CHA'MOIS, a species of the antelope tribe of animals, whose skin is made into the soft leather called *shammy*. It inhabits the Alpine mountains.

CHAM'OMILE, a name (from *chamæmelum*, from *χαμαι*, the ground, and *μηλον*, an apple), common to all the plants of the genus *Anthemis*, but especially applied to the *A. nobilis*, a well known perennial, cultivated for its medicinal properties.

CHAM'PAIN, in *heraldry*, champain, or point champain, is a mark of dishonour in the coat of arms of an individual who has killed a prisoner of war after he has asked for quarter.

CHAM'PAIN LINE In ornamental carved work formed of excavations, the line parallel to the continuous line, either ascending or descending, is called the *champain line*.

CHAMP DE MARS, in *French history*, the public assemblies of the Franks, which were held in the open air, and in the month of March, whence the name.

CHAM'PERTY, Fr. *champart*, field-rent; a species of maintenance, being a bargain with a plaintiff or defendant, to divide the land or other matter in suit between them, if they prevail; whereupon the champertor is to carry on the party's suit at his own expense. This is equivalent to a purchase of the right of suing.

CHANCE-MED'LEY, in *law*, the killing of a person by chance, when the killer is doing a lawful act; if he be doing an unlawful act the killing is felony.

CHAN'CELLOR, Lat. *cancellarius*, a chief scribe or notary under the Roman emperors; but in England in later times, an officer invested with judicial powers, and particularly with the superintendence of

ll charters, and other official writings hat require to be solemnly authenti-ated. Hence this officer became the eeper of the great seal and keeper of he king's conscience. The *lord high chan-ellor of Great Britain* is at present the ighest officer of the crown. He is privy ounsellor by his office, prolocutor of the ouse of lords by prescription, and judge f the court of Chancery.—From the Ro-an empire, the office of chancellor passed o the church, and hence every bishop as his chancellor; and there are chancel-ors of cathedrals who hear lessons, lec-ure in the church, hear causes, apply the eals, &c. The universities have also heir chancellors, who seal diplomas or etters of degree, &c. The chancellors of ilitary orders are officers who seal the ommissions and mandates of the chapters nd assembly of the knights, and deliver heir acts under the seal of their order.

CHAN'CELLOR OF THE EXCHE'QUER, an fficer who presides in that court, and akes care of the interests of the crown. He has power with the lord treasurer to ease the crown lands, and with others to ompound for forfeitures on penal sta-utes. He is the British finance minister.

CHAN'CERY, the highest court of justice n Great Britain, next to Parliament, onsisting of two distinct tribunals: one *rdinary*, being a court of common law, he other *extraordinary*, being a court of uity.

CHANDELIE'R (French). 1. A frame with anches to hold a number of candles to uminate a large room.——2. In *fortifi-tion*, a moveable parapet serving to pport fascines to cover pioneers.

CHAN'NEL, a part in the Ionic order of chitecture, somewhat hollow under the acus, after the listel; it lies upon the hinus, having its coulters or turning on each, to make the volutes.

CHANKS, CHANK'SHELLS, common conch ells, chiefly fished up by divers in the lf of Manar, on the coast opposite Jaff-patam, in Ceylon. They are of a spiral rm, and constitute a considerable article trade in India, where they are sawn to narrow rings, and worn as orna-nts for the arms, legs, and fingers, by e Hindu women.

CHAN'TER. 1. The pipe which sounds e tenor or treble in a bagpipe.——2. The ief singer or priest of the chantry.

CHAN'TRY, Fr. *chantrerie* A chapel en-wed for the maintenance of one or ore priests, daily to say or sing mass the soul of the endower, or such as he points.

CHAP'EAU (French). In *heraldry*, a cap.

CHAP'EL. 1. A house for public wor-ip. of which there are several kinds, as *rochial chapels*, distinct from the mother urch; *chapels of ease*, built in large parishes for the accommodation of the inhabitants; *free chapels*, founded by wealthy individuals; *domestic chapels*, built by noblemen for the accommodation of their families. The name took its origin thus:—the kings of France, through superstitious notions, carried in times of wa... St. Martin's hat into the field, where it was kept in a tent as a precious relic. This tent took the name *capella*, a little hat, and the priest who had the charge of it was called *capellanus*, now *chaplain*, and hence the word *chapel* came to signify any private oratory.——2. A printer's work-room, said to be so called from printing being first carried on in a chapel.

CHAP'ELET, } Fr. *chapelet*. A pair of
CHAP'LET, } stirrup leathers, with stir-rups made fast to the pommel of the sad-dle by a sort of leather buckle, after they have been adjusted to the length and bearing of the rider.

CHAP'ELLING, turning a ship round in a light breeze, when close hauled, so that she shall lay the same way as before.

CHAP'ERON (French), a cap worn by the knights of the garter in their habits. It was anciently worn by men, women, nobles, and populace; afterwards appro-priated to doctors and licentiates in col-leges. The name then passed to cer-tain devices placed on the foreheads of horses which draw the hearse in pompous funerals.

CHAP'ITER. 1. In *architecture*, a differ-ent word for *capital*.——2. The charge of a justice to an inquest.

CHAP'LAIN. *See* CHAPEL.

CHAP'LET, Fr. *chapelet*. Among *Catho-lics*, a chaplet is a string of beads, by which they count the number of their prayers, usually called a *paternoster*: hence the word is taken by architects to denote any ornamental fillet in the form of a string of beads.

CHAP'TER, Fr. *chapitre*, Lat. *caput*. 1. A division of a book or treatise.——2. A community of clergymen belonging to a cathedral or collegiate church.——3. A place where delinquents receive discipline and correction.——4. A decretal epistle.

CHAPTER-HOUSE, Lat. *capitulum*. The apartment of a cathedral in which the heads of the church transact business.

CHAR'ACTER, a mark or abbreviation used in certain arts and sciences: thus there are the *numeral characters*, 1, 2, 3, &c., used to express numbers; *algebraical characters* used to represent abstract quan-tity: these are usually the letters of the alphabet, with certain other symbols and signs to denote the operations of addition and subtraction, with their abbrevia-tions, multiplication, and division. These characters of operation are + for addi-tion, — for subtraction, × for multipli cation, and ÷ for division. There are

also *astronomical characters* (*see* SIGNS), and *musical characters* (*see* NOTES).

CHARACTERIS'TIC, that which characterises. The *characteristic of a Logarithm* is its index or exponent; the *characteristic triangle of a curve* is a rectilinear right-angled triangle, whose hypothenuse makes a part of the curve, not sensibly different from a right line.

CHAR'ADE (French), a species of riddle, the subject of which is a name or a word that is proposed for solution from an enigmatical description of its several syllables, and of the whole word. The following is a good example from the French:—"My first makes use of my second to eat my whole:" the solution being *chien-dent*, or dog's grass.

CHARA'DRIUS, the *Plover:* a genus of birds. Order *Grallatoriæ*, family *Pressirostres*, CUV. It is now divided into two subgenera, viz. *Œdicnemus*, Tem., and *Charadrius*, CUV.

CHAR'COAL, a black, brittle, and somewhat sonorous mass, obtained in large quantity by burning wood out of contact with the air. (*See* CARBON.) If bones be exposed to a red heat in a covered crucible, a black mass remains, which is charcoal mixed with earthy matter, and is called *animal charcoal*. Charcoal is used on particular occasions as fuel, as it gives a strong steady heat without smoke. It is used in destroying the smell, colour, and taste of various substances, in the manufacture of gunpowder, and in its finer states, as in ivory black, lamp black, &c. it forms the basis of black paints, printers' ink, &c.

CHARGE, Fr. *charge*, from the root of *cargo*.—In *law*, 1. The instructions given by a judge to a jury.——2. The instructions given by a bishop to the clergy of his diocese.——3. A notification to a debtor to make payment under pains and penalties on or before a certain day.—In *gunnery*, the powder and ball with which a gun is loaded.—In *heraldry*, whatever is borne on coats of arms.—In *painting*, an exaggerated representation of a person.—In *physics*, a quantity of electricity collected in a Leyden jar, &c.—In *farriery*, a preparation used as a remedy for sprains, &c.

CHARGE'D'AFFAIRES, the third and lowest class of foreign ministers.

CHARGE OF LEAD, 36 pigs, each 6 stones all but 2 lbs.

CHARITY, SISTERS OF, an institution of females in France, whose office is to attend the sick.

CHARLES'S WAIN. In *astronomy*, seven stars—the constellation called *Ursa Major* or the Great Bear.

CHARR, a fish of the salmon tribe, the *Salmo umbla*, CUV. Yarr. Jen.; *Salmo alpinus* Penn. This beautiful little fish, found in our lakes of Westmoreland, Wales, and Scotland, has various names according to the intensity of its colours, as gold-fish, red charr, &c.

CHART, Lat. *charta;* a hydrographical map. The term is applied to a marine map, while the word *map* is applied to a draught of some portion of land. Charts are of several kinds, as plain, globular, and Mercator charts.

CHARTACEOUS, Lat. *charta*, paper; papery, the paper-like texture of most leaves.

CHAR'TER, Lat. *charta;* a written instrument executed with usual forms, given as evidence of a grant, contract, or whatever is done between man and man. In its most general sense, it is the instrument of a grant conferring powers, rights, and privileges, from some sovereign or party having power to grant such charters.

CHAR'TER-PARTY, a written contract between the owner or master of a ship and the freighter, by which the former lets his ship, or part of it, under certain conditions, for the conveyance of goods of the freighter.—Charter-party is in commercial law what an indenture is at common law.—The term is French, *charte-partie*, a divided charter.

CHAR'TULARY. *See* CARTULARY.

CHASE. In *printing*, an iron frame three-fifths of an inch thick, in which pages of letter are wedged up to prevent the types from getting displaced during the printing. Chases are of different sizes, to suit the pages to be wedged (technically, *locked*) in them.——2. A row of hedge or other plants; also an extent of waste or forest land.——3. *Chase of a gun*, the whole length of the bore.

CHASE GUNS, those *ship* guns which have their ports at the head or stern. A gun at the head is called a *bow-chase;* one at the stern is a *stern-chase*.

CHASING. (*See* ENCHASING.) In *operative mechanics*, screw-cutting is often termed *chasing;* the thread is said to be *chased*.

CHASTE-TREE, a name common to all the species of the genus *Vitex*, but especially applied to the *agnus castus*. It was anciently believed by the Roman ladies to promote chastity, for which reason they strewed their beds with its leaves.

CHATO'YANT, a term used to describe a property of some metallic and other substances, of varying their colours according to the way in which they are held, as is the case with the feathers of some birds, which appear very different when viewed in different positions. The word is composed of *chat*, cat, and *œil*, eye.

CHAT, probably Fr. *chat*, met. small, as *Chat Potatoes*, small potatoes only fit for

eeding pigs, &c.; *Chat-wood*, small wood nly fit for fuel.

Chat'tels. In *law*, all goods moveable r immoveable, except such as have the ature of freehold. The term is only sed in the plural form.

Chay, Chaya-Root, the root of the *Oldenandia umbellata*, a biennial, which grows vild on the Coromandel coast, and is likevise cultivated there for the use of dyers, or the same purposes as madder is with us.

Check, } an order to some person,
Cheque, } usually a banker, to pay a pecified sum to *the bearer on demand*, in vhich respect it differs from a bill of exhange.

Check-Mate, a movement in the game f chess which *kills* or hinders the adverary's king from moving. Mate is from panish *matar*, to kill.

Checky. In *heraldry*, a border that has nore than two rows of checkers, or when he bordure is checkered after the manner f a chess-board.

Cheeks. In *mechanics*, those pieces of machine which form corresponding ides, or which are double and alike, and ave the operative parts of the machine etween them.

Cheese, the curd of milk, coagulated by ennet, separated from the serum or whey, nd pressed in a vat or mould to harden t. The principal varieties of cheese nown in commerce are: — *Brickbat*, ormed of new milk and cream, chiefly n Wiltshire, and sold in square pieces bout the size of brickbats. *Cheddar*, a ich, thick, and round variety, of a spongy ppearance, weighing usually about 00 lbs. *Cheshire*, a rich, solid, and homoeneous quality, weighing from 100 lbs o 200 lbs. *Derbyshire*, a small, rich and hite variety. *Dunlop*, a quality made n Scotland, very like the Derbyshire. *loucester*, a rich and mild variety, of two ualities, the *single* and *double*: the forer contains half the cream of the milk, nd the last the whole. *Sage* or *green* heese is simply coloured by a decoction f sage and other leaves added to the ilk. In Scotland seeds of lovage are dded. *Lincolnshire*, a small and soft quaty, made of new milk and cream. *Norlk* is dyed yellow with annotto or saffron. *lip-coat*, a small and very rich variety, ot unlike butter, but white. *Stilton*, a olid, rich, buttery, and white sort, made Leicestershire. It is seldom used till wo years old, and is the dearest of Enlish cheeses. *Cottenham*, this differs from he former chiefly in shape, being broad, hile the Stilton is twice as high as it is road. The Cottenham is also superiorly avoured. *Suffolk*, a variety made from kim-milk, that is milk deprived of the hole cream. *Yorkshire* is the same as he slip-coat cheese.

Cheese-Press, a machine for pressing curd in the making of cheese.

Cheese Ren'net, a plant, ladies' bed straw (*Galium verum*). *See* Rennet.

Cheese-Vat, the vat or case in which curd is placed to be pressed in the process of making cheese.

Chee'ta, a Mahratta name common to the *Felis jubata* (the hunting leopard), and the *Felis leopardus*. In this country it is confined to the former species.

Che'goe, a tropical insect that enters the skin of the feet, and multiplies incredibly.

Cheiran'thus, the *Stock wall-flower*, a genus of plants. *Tetradynamia—Siliquosa*. Name from χειρ, the hand, and ανθος, a flower; a flower to be borne in the hand.

Cheirop'tera, a family of mammiferous animals which have the fingers of the hand greatly elongated, and a production of the skin extending between the fingers and between the hands and the feet, so as to supply the place of wings, and enable the animals to fly small distances; e. g. the bats. This family stands first in Cuvier's order *Carnaria*. Name from χειρ, a hand, and πτερον, a wing.

Chel'ifer, the name given by Geoffroy to the *Obisium* of Illiger. The chelifers form a genus placed by Cuvier among the *pseudo-scorpions*. They closely resemble small scorpions destitute of tail, run swiftly, and frequently retrograde like crabs, whence the generic name chelifer.

Chelo'nia, Chelonians. The tortoise tribe; χελώνη, a tortoise. In the arrangement of Cuvier, *Chelonia* forms the first order of Reptilia. Linnæus includes Chelonia in the genus Testudo. The order is now divided in the genera *Testudo* or Land Tortoises; *Emys* or Fresh-water Tortoises; *Chelonia* or Sea Tortoises; *Chelys* or Batrachian Tortoises, and *Trionyx* or Soft-shelled Tortoises; and Merremi has distinguished by the name of *Sphargis* those cheloniæ whose shell is destitute of plates. Name from χελώνη, testudo, a tortoise.

Chelsea Pensioner, the name of a nostrum for rheumatism, consisting of gum guaiac, rhubarb, cream of tartar, flowers of sulphur, nutmeg, and clarified honey. It is said to derive its name from a Chelsea pensioner having cured Lord Amherst with it.

Chem'istry, from χημεια, usually derived from χεω, to fuse or melt, but more probably the old name of Egypt (*Chemia*), where the art had its origin. The learned were long unagreed upon the most proper definition of chemistry. Boerhaave calls it an art; Macquer, Black, Fourcroy, and most modern chemists, call it a science. According to Brande, it is that branch of natural knowledge which teaches us the

properties of elementary substances, and of their mutual combinations; it inquires into the laws which affect, and into the powers which preside over their union; it examines the proportions in which they combine, and the modes of separating them when combined; and endeavours to apply such knowledge to the explication of natural phenomena, and to useful purposes in the arts. According to Turner, its object is to examine the relations which affinity establishes between bodies, ascertain with precision the nature and constitution of the compounds it produces, and determine the laws by which its actions are regulated. The objects to which the chemist's attention is directed, comprehend all material substances It is, unquestionably, a *Science*.

Chequers, stones in the facings of walls, of uniformly equal dimensions, so arranged that no interruption occurs in the joints, either horizontally or vertically.

Che'quy, Checky, or Chequered. In *heraldry*, when a field is divided by transverse lines into equal squares of different tinctures.

Cher'ry, the well-known fruit of the *Prunus cerasus*. It was brought from Cerasus in Pontus to Italy, by Lucullus, A.R. 680, and was subsequently introduced into England by the Romans. There are other fruits known popularly by the name of cherries, which are produced by other plants than the Prunus, as the Barbadoes-cherry, Cornelian-cherry, Dwarf-cherry, Hottentot-cherry, Winter-cherry, &c.

Cher'ry-laurel, the *Prunus laurocerasus;* called also poison-laurel, bay-laurel, Alexandrian-laurel, &c. The poisonous quality of this laurel is prussic acid.

Chert. In *mineralogy*, a sub-species of rhomboidal quartz, called also hornstone, petrosilex, and rock-flint. It is coarser, and less splintery than common flint, and fusible. It occurs in large masses in quarries of limestone.

Cher'ubim. *See* Seraphim.

Chess, Fr. *échecs*. A game performed by two parties, with different pieces, upon a *checkered* board: that is a board divided into 64 squares called houses. Each player has eight dignified pieces—a king, queen, two knights, two bishops, and two rooks or castles, besides eight pawns or foot-soldiers. These are all moved according to certain rules, and the success of the game depends entirely upon skill.

Chess-tree. In *ships*, a piece of wood bolted perpendicularly on the side, to confine the clews of the mainsail.

Chest-foundering, a disease in horses, like pleurisy in the human subject.

Chet'wert a measure of corn in Russia, = 5·94 Win. bushels.

Chev'aux de Frise, Fr. the Friesland horse. A piece of timber transversed with wooden spikes, pointed with iron, five or six feet long: used to defend a passage, stop a breach, or make a retrenchment to stop cavalry.

Chev'eril, leather made of kid-skin.

Chev'ron, Fr. a rafter. Applied, in *heraldry*, as the name of one of the honourable ordinaries, representing two rafters of a house joined together in chief, such as carpenters set on the highest part of a house to support the roof. ——2. An ornament in Gothic architecture, to which the name of *zigzag* is also given.

Chev'ronel, an ordinary similar to chevron, but only half the dimensions.

Chevret'te. In *artillery*, an engine for raising guns and mortars into their carriages.

Chian Turpentine, another name for the Cyprus turpentine, obtained from the *Pistachiæ terebinthus*.

Chias'olite, the Holspath of Werner, and the Macle of Haüy, found in clay slate in Cumberland and Argyleshire. The crystals of this mineral are arranged in four-sided, nearly rectangular prisms. Silica, 68·49; alumina, 30·17; magnesia, 4·12; oxide of iron, 2·7; water 0·27. Name from χιαστος and λιθος.

Chica. 1. A fermented liquor used by the Peruvians, and obtained by them from the Indian corn.——2. A red colouring principle, made use of by many of the Indian tribes to stain their skins. It is extracted from the *Bignonia chica*.

Chicken-pox, an eruptive disease, called also *water-pox*. *See* Varicella.

Chickling-vetch, a vetch or pea of the genus *Lathyrus*, used in Germany as food.

Chief. In *heraldry*, the head or upper part of the escutcheon, from side to side, occupying the third part of the field. Anything borne on this part is said to be *in chief*.

Chil'dermas Day, an anniversary observed by the Church of England, on the 28th of December, in commemoration of the children of Bethlehem, slain by Herod. Called also *Innocents' day*.

Chil'iad, χιλια, a thousand. The period of a thousand years.

Chil'iagon, a plane geometrical figure of a thousand equal angles. χιλια, a thousand, and γωνια, an angle.

Chiliahe'dron, a figure of a thousand equal sides. χιλια, a thousand, and ἕδρα, a base.

Chil'iarch, a commander of a thousand men. χιλια, a thousand, and αρχος, a chief.

CHIL'IASTS, a sect; the millenarians. χιλιας, a thousand years.

CHIL'LIES, the pods or fruit of the *Capsicum annuum*, or Guinea pepper, and which, being ground, form *Cayenne pepper*.

CHIL'TERN HUNDREDS. The tract anciently called by this name extends through parts of Buckingham and Oxford shires. The steward was an officer appointed to keep the peace there. Members of Parliament, by accepting a nominal office, such as this stewardship, under the Crown, do virtually abandon their seats.

CHIMÆ'RA, a genus of fishes closely allied to the sharks in their general form. Cuvier places the chimæræ in the order *Curiones*. Name from χίμαιρα, a monster with three heads, &c. "The chimæra is one of the most remarkable among living fishes, as a link in the family of chondropterygians; and the discovery of a similar link in the geological epochs of the oolitic and cretaceous formation, shows that the duration of this curious genus has extended through a greater range of geological epochs than that of any other genus of fishes yet ascertained by Professor Agassiz."——2. A fabulous monster in mythology.

CHIM'INAGE. In *law*, a toll for passage through a forest. The word is Fr. *chemin*, way.

CHIM'NEY JAMBS, the sides rising from the top of the grate to the entrance of the chimney, from the back of which the upper part extends forward under the mantel-piece.

CHIMNEY STALK, a tall upright chimney for carrying away smoke from a furnace, &c.

CHIMPANZE', a variety of the ourang-outang, regarded as a distinct species by Cuvier; the *Simia Troglodytes*, Linn., Common in Guinea and Congo. The chimpanses live in troops, construct huts, arm themselves with clubs and stones, and thus repulse men and elephants. They are easily domesticated, and soon learn to walk, sit, and eat like human beings. In size this monkey is nearly equal to man.

CHINA ROSE, the *Hibiscus rosa-sinensis*, of which there are many varieties.

CHINCHILLA, an animal found in the valleys of Chili. Its fur is of an ash colour, crisped and tangled, and much valued in Europe.

CHINE. 1. The spine of an animal.——2. The chime of a cask, or the ridge formed by the ends of the staves.——3. A narrow fissure with vertical edges.

CHIN'KING, in *nautical affairs*, a temporary species of calking, the oakum being only tightly thrust into the chinks of the deck by means of a chisel or pointed knife.

CHINTZ, chints, fine printed calico first manufactured in the East Indies, but now largely manufactured at home. The name is Hind. *chint*, Per. *chinz*, spotted.

CHI'O, an orifice in the German refining forge, to allow the melted slag or cinder to flow off from the surface of the metal: called also the *floss-hole*.

CHIO'NIS, the *Sheath-bill*; a genus of birds: order *grallatoriæ*, family *macrodactyli*. Only one species is known, and that is from N. Holland, about the size of a partridge, with entirely white plumage; whence the name from χίονιος, *white*.

CHIP'PING-PIECES, the projecting pieces of iron cast on the faces of iron framing when intended to be rested against each other; the chippings form the points of contact.

CHIR'OGRAPH, from χειρ, the *hand*, and γραφω, to *write*. 1. Anciently, a deed, which, requiring a counterpart, was engrossed twice on the same piece of parchment, with a space between, in which was written *chirograph*, through which the parchment was cut, and one part given to each party. It answers to what is now called a *charter-party*.——2. A fine, so called from the manner of engrossing, which is still retained in the chirographer's office in England.

CHIROG'RAPHER (of fines), an officer in the Common Pleas who engrosses fines acknowledged in the court, and delivers the indentures to the parties. *See* CHIROGRAPH.

CHIR'OMANCY, or PALMISTRY; χειρ and μαντια, a *divination*. The art of divination by the hands. This practice, once defended and explained by "learned" authors, is now entirely in the hands of gipsies.

CHIRO'NIA, a genus of plants to which the centaury of Britain belongs. *Pentandria Monogynia*. Name from *Chiron*, the centaur, who discovered its use. The British species are annuals, but those of the Cape of Good Hope are shrubby plants.

CHIRON'OMY, χειρ and νομος, *law*. The science of gesticulation, pantomime, and oratorical action.

CHIROTHE'RIUM, from χειρ, a *hand*, and θηριον, a *wild beast*, the name proposed to be given by professor Kaup to the great unknown animal, whose footsteps have been observed in beds of red sand-stone, on account of their resemblance to the impressions of a human hand

CHIS'EL, a tool for cutting by the impulse of pressure or by the blows of a mallet. The *former* is used, first of all, after the work is scribed, with a mallet; the *paring-chisel*, with a fine smooth edge, is used without a mallet, to smooth the irregularities left by the *former*; the *skew-former* is used for cleaning acute angles; the *mortise-chisel* is narrow, and very thick

and strong, and is used to cut deep square holes for mortises; the *gouge* has a round or curved edge; *socket-chisels* have thin shanks with a hollow socket at top, to receive a strong wooden sprig, fitted in with a shoulder; the *ripping-chisel*, is a socket chisel of an inch broad, with a blunt edge, and no basil.

CHIS'LEU, the ninth month of the Jewish year, answering to a part of November and December.

CHI'TON. Χιτὼν. A genus of shells found both recent and fossil. They belong to Cuvier's order *Cyclobranchiata*. Twenty-eight species are described, seven of which have been found upon our own coasts. The larger species inhabit the S. Seas.

CHIV'ALRY, in *law*, a tenure of lands by knight's service, that is, by the condition of performing service on horseback, (*Chevalerie*), or of performing some noble or military service to his lord. When the tenant held only of the king, the tenure was *regal*, when held of any other person, it was *common*, and was usually called *escuage* or shield-service.

CHIVES, CIVES, in *botany*, 1. the small headed onion, (*Allium schænoprasum*).—2. *See* STAMEN.

CHLO'RAL. Liebig has lately described a new chemical substance under this name. It consists of chlorine, carbon, and oxygen, and may be called a chloride of carbon. It is a limpid colourless liquid, similar in odour and appearance to the oily fluid which chlorine forms with olefiant gas; but in density, volatility, and composition, it is very different. It is formed by passing *chlorine* into *alcohol*, from the first syllables of which words the name is formed.

CHLO'RATE, a salt formed by the union of the chloric acid with a salifiable base, as the chlorate of potash.

CHLO'RIC ACID. This acid, formerly called *hyperoxymuriatic acid*, is a compound of oxygen and chlorine, in the proportion of five equivalents of oxygen to two of chlorine. It has no sensible smell, reddens litmus, and its solution in water is perfectly colourless. It unites with the bases and forms chlorates.

CHLO'RIC OXIDE, the peroxide of chlorine.

CHLO'RIDE, a compound, not acid, of chlorine, with a base.

CHLO'RINE, a gaseous element discovered by Scheele in 1770, and named thus from χλωρὸς, green, on account of its colour. It is one of the most suffocating gases, possesses powerful bleaching qualities, and is highly valued as a disinfecting agent. It is soluble in water, forming *chlorine-water*, and is still more condensed by lime, forming *chloride* or *lime*, or *bleaching-powder*. Chlorine combines with hydrogen, forming hydrochloric or muriatic acid. It unites with oxygen in various proportions, forming the following list of compounds:—*Protoxide of chlorine*, 35·45 chl. + 8 oxy. by weight, or 2 chl. + 1 oxy. by measure; *peroxide of chlorine*, 35·45 chl. + 32 oxy. by wt., or 2 chl. + 4 oxy. by meas.; *chloric acid*, 35·45 chl. + 40 oxy. by wt., or 2 chl. + 5 oxy. by meas.; *perchloric acid*, 35·45 chl. + 56 oxy. by wt., or 2 chl. + 7 oxy. by meas. To these compounds some chemists add a fifth, under the name of *chlorous acid*. Those compounds of chlorine which are not acids, are termed *chlorides* and *chlorurets*.

CHLO'RIODATE, a compound of the chloriodic acid with a salifiable base.

CHLO'RIODIC ACID, a peculiar volatile substance possessing acid properties, obtained by subliming iodine in a great excess of chlorine.

CHL'ORIS (χλωρὸς, green). 1. The greenfinch, a small bird.—2. A genus of exotic small plants. *Polygamia—Monœcia*. The species are mostly American.

CHLO'RITE, a mineral of a grass green colour (χλωρὸς), a variety of talc. Chlorite and talc pass, by insensible gradations, into each other, and in this state they supply the place of mica in most of the granitic rocks in the vicinity of Mont Blanc. There are several varieties.

CHLOROCARBON'IC ACID, a colourless gas, composed of 1 eq. of chlorine, and 1 eq. of carbonic oxide. It is better known by the name of *phosgene gas*.

CHLOROCY'ANIC ACID, an acid composed of hydrocyanic acid and chlorine, and formerly called *oxyprussic acid*. It consists of equal volumes of chlorine and cyanogen.

CHLOROM'ETRY, the name given to the process for testing the discolouring power of any combination of chlorine, but especially of the commercial articles, the chlorides of lime, potash, and soda.

CHLORONI'TROUS GAS, formed of equal volumes of chlorine and binoxide of nitrogen.

CHLOR'OPHANE, a variety of fluor-spar, found in Siberia, of a violet colour. Name from χλωρὸς, green, and φαινω, to show, from its transmitting only the green rays of light.

CHLOROPHÆ'ITE, } a scarce mineral found
CHLOROPHE'ITE, } in some amygdaloids in nodules, from the size of a radish seed to that of a pea. It is named from χλωρὸς, green, and φαιος, black, because its colour is green when newly broken, but it speedily becomes black.

CHLORO'SIS. 1. In *medicine*, the green sickness (χλωρὸς, green), a disease which principally affects young unmarried females.—2. In *botany*, constitutional debility, the plant being pale, weak, and

slender; supposed to arise from the want of sufficient light.

Chloroxal'ic Acid, a compound obtained by exposing acetic acid and chlorine to bright sunshine. It may be regarded as a compound of 1 of hydrochloric acid, and 1 of oxalic acid.

Chlorurets, compounds of chlorine.

Cho'anite, a zoophyte of the chalk-formation, called the petrified sea-anemone by lapidaries: it bears a close resemblance to the recent Alcyonia. Named from χοανη, a funnel, in allusion to its shape, which is sub-cylindrical, with root-like processes, and having a cavity or sac, which is deep and small in comparison to the bulk of the animal.

Chock, in *marine language*, a kind of wedge, for confining a cask or other body to prevent it from moving. The *chocks of the rudder* are pieces of timber kept in readiness to stop the motion of the rudder in case of an accident, &c. In the construction of framing a *chock* is an angular, commonly a triangular shaped piece, checked into the ends of the two pieces, to be joined and fastened by treenails to the ends forming the joint. *See* Coak.

Choc'olate, an article of diet prepared from the cacao-nut, and thus named, according to Dr. Alston, from two Indian words, *choco*, sound, and *atte*, water, because of the noise made in its preparation. To prepare it, the nuts are first roasted like coffee; and being next reduced to powder, and mixed with water, the paste is put into moulds of the desired shape. It speedily hardens, and is then taken out, wrapped in paper, and sent to market. This alimentary preparation was first used in Mexico, from which country the Spaniards introduced it into Europe in the year 1520. It was by them long kept a secret from the rest of the world. The proper flavouring admixture is vanilla, but cinnamon and cloves are more commonly used because of their comparative cheapness. *See* Cacao.

Choir (χορος). In *architecture*, the part of a church in which the choristers sing divine service.

Choke'-damp, a name given by miners to all irrespirable gases, especially carbonic acid gas.

Chole'dochus (χολη, and δεχομαι, I receive): one of the ducts of the liver is called the *ductus communis choledochus*.

Chol'era, a word derived, according to Celsus, from χολη, bile, and ρεω, to flow, thus signifying a flow of bile; according to Alexander of Tralles, it is derived from χολη, the intestine, and ρεω, to flow, signifying intestinal fluid; others again derive it simply from χολη, bile. The name *cholera* is now applied to two diseases utterly dissimilar, viz., to a common bilious disease long known in this and most other countries, and to a malignant disease of recent origin which commenced in Hindustan, and has since diffused itself epidemically in various directions. The first is usually called *common*, and here *British cholera*, and the second is malignant, Asiatic, blue, and pestilential cholera, or cholera morbus.

Cholester'ic Acid. When cholesterine is treated with nitric acid, a peculiar acid is formed called the *cholesteric*. It is in crystals of a yellowish white colour, little soluble in water, but abundantly so in boiling alcohol.

Choles'terine, a pearly substance found abundantly in human biliary calculi, whence its name, from χολη, bile, and στερεος, solid.

Choliam'bic, a verse having an iambic foot in the fifth place, and a spondee in the sixth or last. The word is χωλος, (*claudus*), and *iambic* (q.v.).

Chondril'la, the gum-succory. A genus of perennial plants. *Syngenesia—Poly. æqualis.* Name from χονδρος a grain of corn, and so called because it emits small particles of gum-like grains.

Chondrol'ogy, a description of the cartilages of the human body. χονδρος and λογος.

Chon'dro-pharyngæ'us, a muscle so named from χονδρος and φαρυγξ, because it rises in the cartilaginous part of the tongue, and is inserted in the pharynx.

Chondro-ptery'gii, a class of fishes divided into two orders, *Chondropterygii branchiis liberis*, and *Chondropterygii branchiis fixis*. The skeleton of these fishes is essentially cartilaginous; hence the name from χονδρος, cartilage, and πτερον, a fin, that is *cartilaginous-finned*. The sturgeon and shark are examples of this class, and of the orders composing it.

Choragic Monument, χορος. In *Grecian architecture*, a monument erected in honour of the Choragus who gained the prize by the exhibition of the best musical or theatrical entertainment at the festivals of Bacchus.

Chord, Lat. *chorda*, an intestine of which strings were made. In *music*, 1. The string of a musical instrument.—2. The union of two or more sounds, forming an entire harmony; as a third, fifth, and eighth, which are *perfect chords*. The fourth and sixth are *imperfect chords*. In *geometry*, the right line which joins the two ends of an arc.

Chore'a, St. Vitus's dance, χορος, a dance. A disease which chiefly attacks young people of weakly constitution, and which manifests itself in convulsive motions of the limbs, occasioning strange and involuntary gesticulations.

CHOR'EPIS'COPI, χωρα, a country place, and επισκοπος, a bishop. Country bishops, who were anciently appointed to rural districts.

CHORIAM'BUS. In *poetry*, a foot of four syllables, being a trochee (χορειος), and iambus united.

CHO'RION. The external or involving membrane of the fœtus is thus named, from χοριον, meaning protection.

CHOROG'RAPHY, χωρα, a district, and γραφω, I describe. The description of a district, in contradistinction to geography and topography.

CHO'ROID, resembling the chorion. Applied to the second tunic of the eye, lying immediately under the sclerotica; and to a plexus of blood-vessels situated in the lateral ventricles of the brain.

CHO'RUS, χορος. A band of singers and dancers, who performed in honour of the gods, particularly Bacchus. In modern times, it signifies the joint performance of music by the whole orchestra.

CHOW'DER-BEER, a drink prepared by boiling black spruce in water, and adding molasses to the liquor obtained.

CHREMATIS'TICS, χρηματα, wealth, the science of wealth. A continental appellation.

CHRESTOM'ATHY, χρηστος, useful, and μανθανω, I learn. Applied to books of extracts, chosen with a view to utility.

CHRISM, an oil consecrated by the priests of the Greek and Roman Churches, upon Holy Thursday, to be used in the administration of baptism, confirmation, extreme unction, &c.

CHRIS'TENDOM comprehends all realms under Christian sovereigns and institutions.

CHRISTIAN KNOWLEDGE, Society for promoting, founded in the year 1699. It has circulated vast quantities of the Bible and Testament, and of the Book of Common Prayer. It is a powerful engine of the Established Church.

CHROAS'TACES, from χροα, colour. A name for all those gems which reflect different colours according to their different positions.

CHRO'MATE, a salt formed by the union of the chromic acid with a salifiable base.

CHROMAT'IC, music which proceeds by several consecutive semitones.

CHROMAT'ICS, the science of colours, *chroma*, colour. That part of optics which explains the relations of light and colours.

CHROME. *See* CHROMIUM.

CHROME-IRON ORE, a native chromate of iron, or rather a mixture of the oxides of chromium and iron. Its chief use is in the manufacture of chromate of potash.

CHROM'IC ACID. A red or orange coloured powder, of a peculiar rough, metallic taste, is extracted from the red lead-ore of Siberia, by treating it with potash, and separating the alkali. This powder is soluble in water, and crystallises into longish prisms of a ruby red colour. This is chromic acid.

CHRO'MIUM, a metal thus named, from χρωμα, colour, because it is remarkable for giving colour to its combinations. Its principal ore is the red lead ore of Siberia, which is a chromate of lead. It may also be obtained from chrome-iron ore.

CHRO'NOGRAM, from χρονος, time, and γραμμα, a letter. An inscription in which a date is given in letters instead of figures.

CHRONOL'OGY, from χρονος, time, and λογος, discourse. The science of time; the method of computing it, by marking it off into portions, with appropriate names, and arranging the events and occurrences of history in conformable sequent order.

CHRONOM'ETER, from χρονος, time, and μετρον, measure. Any instrument that measures time exactly. Many machines for this purpose have been invented under the name of chronometers.

CHRYSALIS. Χρυσαλις. The middle state in which all lepidopterous and most other insects remain for some time, between the caterpillar form and their appearance as perfect insects. *See* CATERPILLAR.

CHRYSAN'THEMUM, a genus of plants of many species, mostly perennials. *Syngenesia — Polygamia.* Name from χρυσος, gold, and ανθεμον, a flower. The sunflower or marigold; great ox-eye daisy or maudlin-wort; golden lotus, &c., are species.

CHRY'SOBER'YL, from χρυσος, gold, and βηρυλλιον, a gem; a mineral; the cymophane of Haüy, and chrysopal of Delametherie. Colour, asparagus green; lustre, vitreous; fracture, conchoidal; semitransparent, scratches quartz. Sp. gr. 3·8. Found in Ceylon, in the Brazils, and Siberia.

CHRY'SOCHE'ORIS, from χρυσος, gold, and χεω, to shed. A genus of insectivorous mammalia, whose mode of life is similar to that of the moles. Type the golden mole (*C. Asiaticus*), smaller than the European mole, and the only quadruped that presents any appearance of those splendid metallic tints which adorn so many birds, fishes, and insects. Its fur is green, changing to a copper or bronze.

CHRY'SOCO'MA, the *Golden-locks*, a genus of plants (exotic). *Syngenesia — Polyæqualis.* Name from χρυσος, gold, and κομη, hair, in allusion to its golden-hair

ike appearance. The *Achillæ millefolium* as also been called by this name.

CHRYSOG'RAPHY, χρυσος, gold, and γραφω, I write. The art of writing in letters of gold.

CHRYS'OLITE, from χρυσος, gold, and λιθος, a stone; a mineral, the Peridot of Hauy, and Krisolith and Olivin of Werner. Chrysolite is of a green colour, inclined to yellow; its texture is foliate and fracture conchoidal. It causes double refraction, and loses its transparency when heated to 150° Fah., and becomes dark grey. The chrysolites of commerce come from Upper Egypt, the Brazils, Ceylon, and Bohemia. The stone consists of magnesia and silica, coloured with oxide of iron.

CHRYSOL'OGY, χρυσος, gold, and λογος, discourse. A continental term applied to that part of political economy which relates to the production of wealth.

CHRYS'OPRASE, from χρυσος, gold, and πρασον, a leek. A precious stone of a leek-green colour. It is a variety of calcedony, and owes its colour to the presence of nickel and iron in small quantities. Found chiefly in Silesia.

CHUB, a river fish, a species of cyprinus, called also the *chevin*. Named from the size of its head.

CHUCK (for a turning-lathe), an appendage to fix any material for the purpose of turning it into any determinate form. The term therefore includes all those tools which serve to connect the material to be operated upon to the mandril of the lathe. Those which are capable only of communicating a motion round a determinate axis, such as they themselves receive, are called simple chucks. Those again which are of such a character that the axis of the work can be changed at pleasure, so as to throw the centre of motion to any point, and make the work revolve round any axis, form a large class of complicated chucks which are individualised by particular names, as concentric chucks, oval chucks, segment, engine, geometric chuck, &c., according to the kind of work for which they are suited.

CHU'NAM, the name given in India to lime obtained by the calcination of shells.

CHYAZ'IC ACID, a name of hydrocyanic or prussic acid, formed of the initial letters of carbon, hydrogen, and azote.

CHYLE, from χυλος, juice; the milky liquor observed, some hours after eating, in the lacteal vessels of the mesentery, and in the thoracic duct. It is separated by digestion from the chyme, and is that fluid substance from which the blood is formed.

CHYLIFICA'TION, from *chylus* and *fio* to become; the process carried on in the small intestines, and principally in the duodenum, by which the chyle is separated from the chyme.

CHY'LOPOET'IC, concerned in the formation of chyle—χυλος and ποιεω, to make.

CHYME, from χυμος, humour or juice; the indigested mass of food from which the chyle is prepared.

CHYMIFICA'TION, from *chymus* and *fio*, to make; the conversion of food into chyme.

CIBO'RIUM, κιβωριον. In *architecture*, an insulated erection, opening on each side with arches, and having a dome, of a cup form, carried by four columns. It also denotes the case which contains the Host.

CICA'DA, the *frog-hopper*, *balm-cricket*, or *flea-locust*. A genus of hemipterous insects of many species. They live on trees and shrubs, of which they suck the juices. Name from κιττος or κὶς ἄδων. Plentiful in the south of Europe.

CICADA'RIÆ, a family of hemipterous insects, of which the genus *Cicada* is the type.

CICAT'RICLE, Lat. *cicatricula*, from *cicatrix*; the germinating or fœtal point in the embryo of a seed or yelk of an egg.

CIC'ELY, a popular name, common to all the plants of the genus *Scandix*, but especially applied to the *S. odorata*, or Great Chervil. The name is also given to a species of *Chærophyllum*.

CI'CER, the *vetch* or *chick-pea*; a genus of one species. *Diadelphia—Decandria*. "*Cicer* nomen habet à forma, quæ orbicularis, ut plerumque in leguminibus." The *Cicerones* took their name from this pulse, as the *Pisones* did from the pisum or pea, and the *Lentuli* from the lens or lentil.

CICERO'NE (Ital.) Any individual who acts as a *guide*.

CICHO'RIUM, the *succory* or *endive*; a genus of plants. *Syngenesia—Polyg. æqualis*. British type a perennial. Name, according to Pliny, is of Egyptian origin, written κιχοριον and κιχορειον.

CICHORY, the *cichorium intybus* or wild succory.

CICINDE'LA, the glow-worm; from *candela*, a candle. Order, *Coleoptera—Pentamera*; family, *Carnivora*, Cuv.

CICINDELE'TÆ, a tribe of carnivorous coleoptera, comprising the genus Cicindela, Lin., now divided into various subgenera, as *Cicindela*, *Marticora*, *Megacephala*, &c.

CICIS'BEO (Ital.). Synonymous with *cavalier servente*, and applied to a class of persons in Italy who attend on married ladies with all the respect and devotion of lovers.

CICO'NIA, a genus of birds, the *Stork*, of which there are several species. Order, *Grallatoriæ*; family, *Cultrirostres*. Name of doubtful origin.

Cicu'ta, the *water-hemlock* and *cow-bane*; a genus, *Pentandria—Digynia*. Name, the Latin word for hemlock, and also for a shepherd's pipe, made of the hollow stalks of hemlock.

Cid, Arab., seid, *lord*. The name of an epic poem of the Spaniards, celebrating the exploits of their hero, Roderigo Diaz, Count of Bivar.

Cid'aris, a family of echinites characterised by their hemispherical form, and named from κίδαρις, the cap of state worn by the ancient Persian kings, which they were supposed to resemble. From other characters, derived from their spines, they have obtained the names of sea-urchins, sea-hedgehogs, sea-thistles, &c., and those in a fossil state have obtained many fanciful names expressive of their supposed origin, as *ombria*, from ὄμβρος, heavy rain, from the notion that they fell in a heavy shower of rain; *brontia*, from βροντη, thunder, from an idea that they were thrown to the earth by thunder; *ceraunii lapides*, under the impression that they were generated by lightning; *chelonites*, from their resemblance to the shells of the tortoise; and *ova anguina*, from the notion that they were the eggs of serpents.

Cil'ery, ornaments of foliage and drapery on the heads of architectural columns.

Ci'lia, Lat. plural of *cilium*, the hair of the eye-brows; the eye-lashes.—In *botany*, a species of pubescence which consists of hairs on the margin of a leaf or petal, giving it a fringed appearance.—In *zoology*, the hair-like organs of motion in the radiated animals. The cilia resemble very minute hairs, and are only visible with the microscope.

Cima, κυμα. In *architecture*, a moulding which is generally the upper one of a cornice. It is called by workmen an *ogee* (O G), being an undulating ornament.

Cimbia. In *architecture*, a list, string, fillet, or cincture.

Ci'mex, the generic name of the wall-louse or bug, from κιμαι, to inhabit. Order *Hemiptera*, family *Geocorisæ*, Cuv. This genus, of which our common *bed-bug* is a too familiar example, is now divided into upwards of forty subgenera.

Cimo'lian Earth. } Fullers' earth. It is
Cim'olite. } of a greyish white colour, and consists of alumina, silex, oxide of iron, and water. It is named from Cimolus, an island in the Cretan sea.

Cin'arocephali'æ, a natural family of plants, named from κιναρα, an artichoke, and κιφαλη, a head, in allusion to the shape of their inflorescence, as the thistle, burdock, blue-bottle, &c.

Cincho'na. 1. The Cinchona or Peruvian bark tree. *Pentandria—Monogynia*——2. The pharmacopœial name of several kinds of Peruvian barks. The trees which afford these barks grow wild in the hilly parts of Peru: whence the name *Peruvian*. The name *Cinchona* is derived from the circumstance that, among the earliest cures effected by this medicine was, in 1638, that of the Spanish viceroy's lady, the Countess del Cinchon, at Lima, when it came to be distinguished as the *Cortex cinchonæ*, and *Pulvis comitissæ*. On the recovery of the Countess, she distributed a large quantity of the bark to the Jesuits, in whose hands it acquired great celebrity, and by them was introduced into Europe, whereby it acquired the name of *Cortex jesuiticus*, or Jesuit's bark. *See* Bark.

Cinch'onine, the salifiable base or alkali obtained from the *Cinchona condaminæ*, or gray Peruvian bark, as quinine is from the yellow bark (*Cinchonæ cordifolia*).

Cincina'ceæ, Cinchona the type; a natural order of shrubby or arborescent exogens.

Cinc'ture, Lat. *cinctura*. The circular concavity near the head or base of a column; from *cingo*, to surround. It is supposed to be in imitation of the girths or ferrules anciently used to strengthen wooden columns.

Cin'nabar, the native red sulphuret of mercury, named from Arabic, *kennabar*. It is the most prolific ore of mercury, and occurs in veins, surrounded by a black clay, and associated with native quicksilver, amalgam with iron-ore, lead-glance, blende, copper-ore, and sometimes gold. That of Almaden, in Spain, is said to be the richest. The artificial red sulphuret of mercury, or factitious cinnabar, is called in commerce vermilion.

Cin'namon, κίνναμον. The bark of the cinnamon-tree (*Laurus cinnamomum*), a native of Ceylon, where it grows in great abundance; it is also found in Cochin-China. It is thin, light-yellow in colour, smooth, and shining; has an agreeable, warm, aromatic flavour, and a mild, sweetish taste. Cassia barks are often mixed with cinnamon: these are thick, brown in colour, and pungent to the taste.

Cin'namon-stone, a hyacinth-red variety of the dodecahedral garnet, called also Essonite. The finest specimens are brought from Ceylon.

Cinque Ports, or Five Ports. The seaport towns of Dover, Sandwich, Hastings, Hythe, and Romney; to which three others were afterwards added, viz. Winchilsea, Rye, and Seaford. These towns possess peculiar privileges, and are under the government of a lord-warden.

Ci'pher, from an Arabic word meaning empty: the arithmetical character 0

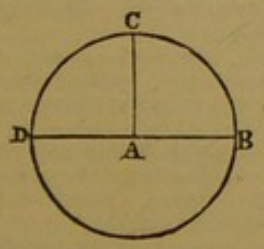
The name has also been given to an admixture of letters, as the initials of a name, engraved on a seal, plate, &c., so as to have an enigmatical appearance. These are plentiful on ancient tombs, gravestones, &c. It has also been used as the name of a disguised manner of writing, wherein such arbitrary characters are made use of as may be agreed on by two or more persons corresponding, to stand for letters or words, and which characters are supposed to be understood only by the persons agreeing to use them. This kind of writing has been extensively used in times of war, to conceal from the enemy the facts contained in any letters which they might intercept. This mode of writing gave rise to another art, that of *deciphering*, or reading letters written in *cipher;* and hence, also, the word *cipher* came to signify the key to unravel the characters of *cipher-writing*.

Cip'olin, an Italian marble, containing a slight admixture of quartz and oxide of iron. Its colour is green, with white zones. Name from Ital.*cipollina*, a shalot.

Ciprin'dæ, the carp family of fishes. Type, *Cyprindus*, Lin.; Order, *Malacopterygii abdominales*, Cuv.; Genera, *Cyprindus*, Lin.; *Cobitis*, Lin.; *Anableps*, Blum.

Circæa, the Enchanter's Nightshade, a genus of British perennial plants. *Diandria—Monogynia.* Name from *Circe*, an enchantress, supposed to have used it in her magical operations.

Cir'cle, Lat. *circulus*, from *circus*. A geometrical figure contained under one line called the circumference; and is such, that all straight lines drawn from a certain point within the figure called the centre, to the circumference, are equal to one another. Thus, in the figure, AB = AC = AD. These are called *radii* of the circle, of which the line BD, passing through the centre, is the diameter.



The diameter of a circle is to its circumference nearly as 1 to 3, more nearly as 7 to 22, more nearly as 106 to 333, more nearly as 113 to 355, more nearly as 1702 to 5347, &c.; or, taking the diameter as 1, the circumference is

$$4 \times (1 - \tfrac{1}{3} + \tfrac{1}{5} - \tfrac{1}{7} + \tfrac{1}{9} - \tfrac{1}{11} + \tfrac{1}{13} - \&c.)$$

Circle of curvature; that circle the curvature of which is equal to that of any curve at a certain point; called also the *circle of equi-curvature.*——*Circles of the sphere;* such circles as cut the mundane sphere, and have their circumference on its surface. They are either moveable or fixed. The first are those whose peripheries are in the moveable surface, and which therefore revolve with its diurnal motion, as the meridians, &c.; the latter have their peripheries in the moveable surface, and do not revolve, as the ecliptic, equator, and its parallels. The circles of the sphere are, besides, either great or little: a great circle divides it into two hemispheres, having the same centre and diameter with it as the horizon: a little or less circle divides the sphere into two unequal parts, having neither the same centre nor diameter with it as the parallels of latitude.——*Circles of Altitude. See* Almucantar.——*Circles of declination;* great circles intersecting each other in the poles of the world.——*Circles of excursion;* circles parallel to the ecliptic, and at such a distance from it (usually 10°) as that the excursions of the planets towards the poles of the ecliptic may be within them.——*Circle of illumination;* a circle passing through the centre of a planet perpendicular to a line drawn from the sun to the respective body. This is supposed to separate the illumined part from the unillumined part, which it does nearly.——*Circles of latitude;* great circles, called also *secondaries of the ecliptic*, perpendicular to the plane of the ecliptic, passing through the poles thereof, and through every star and planet. They are so called because they serve to measure the latitude of the stars, such latitude being simply the arc of one of the circles intercepted between the star and the ecliptic.——*Circles of longitude;* several lesser circles parallel to the ecliptic, diminishing in proportion as they recede from it: on these arcs the longitude of the stars is reckoned.——*Circle of perpetual apparition;* one of the lesser circles parallel to the equator, described by any point of the sphere touching the northern point of the horizon, and carried about with the diurnal motion. All the stars within this circle never set.——*Circle of perpetual occultation;* a lesser circle parallel to the equator, and containing all those stars which never appear in our hemisphere. The stars situated between the circles of perpetual apparition and perpetual occultation, alternately rise and set at certain times.

Circuit, from Lat. *circum*, round. The journey or progress which the judges take twice every year through the counties of England and Wales, to hold courts and administer justice. Thus England is divided into six circuits—the Home Circuit, Norfolk Circuit, Midland Circuit, Oxford

Circuit, Western Circuit, and Northern Circuit. In Wales there are two circuits —the North and South In Scotland there are three—the Southern, Western, and Northern.

Circuity. In *law*, a longer course of proceeding than is necessary to recover the thing sued for.

Cir'cular, an advertising letter. A *circular* is printed with a fly-leaf, a *bill* has no fly-leaf. When a circular is very small it is called a *card*.

Circular Instruments. All instruments for measuring angles, in which the quadration extends round the whole circumference, from 0° to 360°.

Circular Numbers, numbers whose powers terminate in the roots. Thus, all the powers of 5 terminate in 5.

Circular Parts. The name given by Lord Napier to a proposition invented by him, which gives all the relations of the parts of a right-angled spherical triangle.

Circular Sailing, the method of moving or sailing a ship upon a great circle of the globe.

Circulate. In *arithmetic*, a circulating decimal is sometimes so called.

Circulating Decimals, called also *recurring decimals*, are such as consist in a repetition of the same figures, as ·656565, &c. When the circulation consists of the same figure repeated, the decimal is called a *simple circulate*, as ·333, &c.; when the period of circulation consists of more than one figure, it is called a *compound circulate*, as ·123123123, &c.

Circula'tion (*of the blood*), the natural motion of the blood in the living animal, whereby it is alternately sent by the action of the heart through the arteries to all parts of the body, and returned to the heart through the veins.

Circumferen'tor, an instrument used by surveyors in taking angles. It consists of a brass index and circle, all of a piece; on the circle is a compass, the meridian line of which answers to the middle of the breadth of the index. There are also two sights to screw on and slide up and down the index: also a spangle and socket screwed on the back part of the circle, to put the head of the staff in.

Circumpo'lar Stars, are those stars situated so near the north pole of the heavens as to revolve round it without setting.

Circumscri'bed Figure. In *geometry*, a figure drawn about another figure so as to touch it on every side.

Circumscribed Hyperbola, one of Newton's hyperbolas of the second order, which cuts its asymptotes, and contains the part cut off within itself.

Circumstan'tial Evidence. In *law*, that evidence which is obtained from circumstances which usually attend facts of a particular nature, from which arises presumption.

Circumvalla'tion, from *circumvallo*, to wall round; the surrounding of trenches with a wall or rampart; also the rampart or fortification surrounding a besieged place.—This word denotes properly the wall or rampart thrown up, but as the rampart is formed by entrenching, and the trench makes a part of the fortification, the term is applied to both.

Cir'cus. 1. In *antiquity*, a large oval building for the exhibition of popular games and shows: that of Maximus was nearly a mile in circumference.——2. In *modern times*, a circular inclosure for the exhibition of feats of horsemanship.

Cirrhop'oda, the sixth class of Mollusca in the arrangement of Cuvier. Named from *cirrhus*, and *πους*. The cirrhophods are almost always inclosed in multivalve shells, secreted from the outer surface of a fleshy, thin, enveloping mantle, and are attached to submarine bodies either by their base or by a fleshy tubular peduncle. The position of the animal in the shell, is such that the mouth is at the bottom, and the cirri near the orifice.

Cir'rhus, Lat. *cirrus*, a tendril. Applied to describe the apices of bodies, which are terminated by a spiral appendage.

Cir'rus, Lat. from *κιρρα*, a horn. 1. In *botany*, a clasper or tendril: one of the fulcra or props of plants.——2. In *conchology*, a genus of fossil spiral shells of the chalk deposit.

Cis'soid, in the *higher geometry*, a curve line of the second order, invented by Diocles, an ancient Greek geometrician, for the purpose of finding two continued mean proportionals between two other given lines; and named by him from *κισσος*, ivy, and *ειδος*, like.

Cist, *κιστη*, a chest. In *architecture*, a chest or basket.

Cista'ceæ, Cistus the type. A natural order of shrubby or herbaceous Exogens, inhabiting the South of Europe and North America.

Cis'tvaen, a stone receptacle often found in barrows, containing the bones of persons interred there. Some of them are not sepulchral.

Cis'tus, *κιστος*. A genus of plants. *Polyandria — Monogynia*. Rock rose species numerous, mostly evergreens, shrubs: natives of warm climates.

Cita'tion, from *cito*, to cite. Citation in ecclesiastical courts is the same with summons in civil courts.

Cith'ern, Lat. *cithara*, Gr. *κιθαρα*. An ancient musical instrument somewhat resembling the guitar. The precise form is not well known.

Citharex'ylum, a genus of plants. *Didynamia—Angiospermia.* Fiddle-wood. There are five species, natives of the West Indies and warmer parts of America, where they grow to large trees. Name from κιθαρα, a harp, or a fiddle, and ξύλον, wood: the wood being particularly adapted for stringed musical instruments.

Cit'rate, a salt formed by the union of the citric acid with a salifiable base.

Cit'ric Acid, the acid of lemons. *Citrus*, a lemon.

Cit'ron, an agreeable fruit, the produce of the *Citrus limonium*, extensively cultivated at Madeira. It is a native of Asia. It differs from the lemon in being less acid.

Cit'rus. Κιτρος. A genus of plants. *Polyadelphia—Polyandria.* This genus comprises the orange, lemon, citron, bergamotte, lime, and other trees. Warm climates.

City, Lat. *civitas.* A borough or town corporate, which is or has been the seat of a bishop, or the capital of his see: it differs in no other respect from another borough.

Civet, an unctuous perfume taken from the civet-cat. It is worth, when genuine, from 30*s.* to 40*s.* an ounce.

Civet-cat, or Civet. This name is common to all the species of the genus *Viverra*, but especially applied to the *V. civetta*, Lin., an animal of an ash-colour, irregularly barred and spotted with black, and not unlike a cat, but more closely resembling the fox. It inhabits the hottest parts of Africa. From the civet, and zibet (the Indian species), the perfume called *civet* is obtained. The name *Civet* is Arabic, *zebet*.

Civ'ic Crown, a garland of oak leaves which was given to a Roman soldier who had saved the life of a citizen (*civicus.*)

Civil Architecture, the architecture which is employed for the purposes of civil life, in distinction from military and naval architecture.

Civil Law, the law of a state, city or country; appropriately the Roman law comprised in the Institutes, Code, and Digest of Justinian, and the Novel Constitutions.

Civil List, the officers of civil government; also the revenue appropriated to support civil government.

Civil'ian, one learned in civil or Roman law; particularly a member of the "College of Doctors of Law exercent in the Ecclesiastical and Admiralty Courts" in England and Wales.

Clack, from W. *clec*, noise; the instrument that strikes the hopper of a grist-mill for the purpose of shaking it and discharging the corn.

Clack-valve, a valve much employed in hydraulics, consisting of a circular piece of leather covering the bore of the tube in which it is fixed, and moving by a hinge, sometimes of metal, but generally of leather. Semicircular valves of this description are called *butterfly valves.*

Clamp, in general something that binds. In *ship-building*, the name is given to thick planks in the inner part of a ship's side, used to sustain the ends of beams. Clamps consisting of bent plates of smooth iron are also used to strengthen masts and fasten the masts and bowsprits of small vessels; and similar irons are forelocked to the trunnions of a cannon, to keep it fast to the carriage. *Clamp* is also the name used in some parts, as the vicinity of London, to denote a pile of bricks laid up for burning.

Clan. The Clans are tribes consisting of many families bearing the same surname, which, according to tradition, descend from a common ancestor.

Clare-obscure, light and shade in painting.

Clar'ichord, from *clarus*, clear, and *chorda*, a string; a musical instrument in the form of a spinet; called also a *manichord.* It is furnished with about 50 keys and 70 strings, some of these being in unison. It is a great favourite in nunneries.

Cla'rion, from Fr. *clairon*, a wind instrument differing from the common trumpet in this, that its tube is narrower, and its tone more acute and shrill.

Clar'ionet, dim. of *clarion* (q. v.).

Cla'ro-obscu'ro (*clarus* and *obscura*). In *painting*, the art of disposing advantageously the lights and shades of a piece. It also denotes a painting in two colours, as black and white.

Class, a term used to denote an assemblage of beings or things having some marked character in common. Classes are made up of orders. What the genus is to the species, or the order to the genera, the class is in respect to the orders. Every class comprehends part of the series of genera collected into several orders; every order is an assemblage of genera, every genus an assemblage of similar species, and every species is made up of homogeneous individuals.

Classic. In the *fine arts*, such an arrangement of the subject that all the parts are suitable to the general design. In *literature*, signifies the highest and purest class of writers in any language.

Cla'vate, Lat. *clavatus*, club-shaped; applied to parts of plants.

Cla'viary, from *clavis*, a key; a scale of lines and spaces in music.

Cla'vichord, from *clavis*, a key, and *chorda*, a musical instrument. *See* Clarichord.

Clavicor'nes, the fourth family of the pentamerous coleoptera. Name from

clava, a club, and *cornu*, a horn; club-horned, the antennæ being always thicker at the extremity, and often club-shaped.

Clavus (Lat.), a nail. An excrescence from the grains of rye. Also a parasitical fungus, termed *spermœdia clavus*. Also a severe pain in the forehead like the driving of a nail.

Claw or Unguis, the narrow part at the base of a petal, which takes the place of the foot-stalk of a leaf.

Clay, a name common to all unctuous tenacious earths. The common clays generally consist of about equal parts of alumina and silica, with various impurities. Pure clay is alumina (q. v.). *Potters' clay* consists of about equal parts of alumina and silica, with a small addition of lime. *Loam* is an impure potters' clay. Kaolin or porcelain clay is formed by the disintegration of the felspar of granite. Clays are often named according to their colours, which they generally owe to a slight admixture of some metallic oxide.

Clayes, plu., from Fr. *claie*, a hurdle; a sort of fortification, consisting of wattles or hurdles made with stakes interwoven with osiers to cover lodgments.

Clay'ing, the operation of puddling.

Clay'slate, argillaceous schist; the argillite of Kirwan. It is an indurate clay common to the fossiliferous and metamorphic series. Usual colours, bluish-grey and greyish-black, of various shades. Constituents, silica about 50 per cent.; alumina 25; magnesia 10 or 12, with some metallic oxides, potash, sulphur, and carbon. It occurs in great beds, and is extensively quarried for roofing and other purposes.

Clay'stone, an earthy stone resembling indurated clay. It is a variety of prismatic felspar.

Clear. 1. *To clear a ship at the Custom-House* is to exhibit the documents required by law, give bonds to perform other acts requisite, and procure a commission to sail.—2. To *clear the land* is, in nautical language, to gain such a distance from shore as to have plenty of sea-room.—3. To *clear a ship for action* is to remove all incumbrances and prepare for an engagement.

Clear'ance, a certificate that a ship has been *cleared* at the custom-house.

Clear'ing, among *London bankers*, a method adopted for exchanging the drafts of each other's houses. Thus at half-past 3 o'clock, a clerk from each banker attends at the *clearing-house*, where he brings all the drafts on the other bankers which have been paid into his house that day, and deposits them in their proper draws, (a draw being allotted to each banker); he then credits their accounts separately with the articles which they have against him, as found in his draw. Balances are then struck from all the accounts, and the claims transferred from one to another, until they are so wound up and cancelled, that each clerk has only to settle with two or three others, and their balances are immediately paid.

Cleat, from κλειθρον, a fastener; a piece of wood used in a ship to fasten ropes upon. Cleats are of different shapes; some have one arm, some two, or are simply hollow in the middle to receive a rope, and are called belaying-cleats, a deck-cleat, and a thumb-cleat.

Cleav'age, a term applied to the mechanical division of crystals, by showing the direction in which their *laminæ* can separate. It enables us to determine, the faces of cleavage being constant, the mutual inclination of these *laminæ*, and consequently the primitive crystalline form of the mineral.

Cleche. In *heraldry*, a kind of cross, charged with another cross of the same figure, but of the colour of the field.

Cledge. In *mining*, the upper stratum of fullers' earth.

Clef. In *music*, a character placed at the beginning of a stave to determine the degree of elevation occupied by that stave in the system, and to point out the names of all the notes contained in the line of the clef.

Cleft-Graft, a graft made by cleaving the stock, and inserting the cion.

Clema'tis, a genus of plants. *Polyandria—Polygynia*. Virgin's Bower. British type, Traveller's Joy (*C. vitalba*) Name from κλημα, a tendril

Clepsy'dra, from κλεψυδρα (from κλεπτω, to hide, and ὑδωρ, water). An instrument used by the ancients to measure time, by the dropping of water through a hole from one vessel to another; also a chemical vessel perforated in the same manner.

Clev'y, the draught-iron of a plough, &c.

Clew. In *nautical language*, the lower corner of a square-sail, and the aftmost corner of a stay-sail.

Clew-garnets, a sort of tackle of rope and pulley fastened to the clews of the main and fore-sails of a ship, to truss them up to the yard.

Clew-lines, a tackle similar to the clew-garnets, but applied to the smaller square-sails.

Clicks, small pieces of iron falling into a notched wheel, attached to the winches in cutters, &c., and thereby serving the office of pawls.

Cli'ent, from *cliens*. Anciently, one who put himself under the protection of a man of distinction, who became his patron: at present, one who puts himself

to the mercy of a lawyer, who often becomes his tormentor.

Climac'teric, from κλιμαξ, a gradation. A term applied to certain years of a person's life, which are supposed to mark a certain degree in the scale of his existence, and also to a particular disease observed in persons advanced in life, wherein a general decay of the system takes place without any assignable cause being observed.

Clinan'thus, from κλινη, a bed, and ανθος, a flower. The enlarged and flattened top of a common peduncle, which supports several sessile flowers.

Clinch. In *nautical language*, the part of a cable, or the kind of knot and seizings fastening it to the ring of an anchor, &c.

Clinch'er, a cramp or piece of iron bent down to fasten anything.

Clinch'er-built, made of clincher-work.

Clinch'er-work, the disposition of the planks; the side of any boat or vessel, when the lower edge of every plank overlays that next below it, like the slates on the roof of a house.

Clinch'ing. 1. The operation of driving the point of a nail backward, when it has penetrated quite through a piece of wood.——2. The driving of a little oakum into the seams of a ship, to keep out the water; an imperfect kind of caulking.

Clin'ium, used to denote the summit of a floral branch, of which the carpella are the termination.

Clink'ers, bricks impregnated with nitre, and more thoroughly burnt by being placed next to the fire in the kiln.

Clink'stone, phonolite, a felspathic rock of the trap family, named from its yielding a metallic sound when struck.

Clinom'eter, from κλινω, to lean, and μετρον, measure. An instrument for measuring the dip of mineral strata.

Cli'o, a genus of Mollusks, order Pteropoda. The *C. borealis*, Lin., is the chief food of the whale.

Cli'toris, κλειτορις. A small glandiform body, above the nymphæ and before the opening of the urinary passage of females.

Cloa'ca, (Lat.) a common sewer. Used to designate the cavity formed by the extremity of the intestinal canal in birds, fish, reptiles, and the monotrematous animals.

Cloff, that in which any goods are put for convenience of carriage; as the bags of pepper, hops, &c.

Clois'ter, *claustrum*. Literally an inclosed place. The principal part of a regular monastery, consisting of a square peristyle or piazza, between the church, the chapter-house, and the refectory, and over which is the dormitory.

Close-hauled, the trim of a ship's sails when she endeavours to make progress in the nearest direction possible towards that point of the compass from which the wind blows.

Close-quarters, strong barriers of wood, used in a ship for defence when the ship is boarded.

Clos'er. In *masonry*, the last stone in the horizontal length of a wall, which is smaller than the rest to fill up the row.

Close-string, in dog-leg stairs, a staircase without an open newel.

Clouted or Clotted Cream, produced on the surface of milk by setting a pan of new milk on a hot hearth.

Clove, a pungent aromatic spice, the fruit or rather calyces of the unopened flowers of the clove-tree. Cloves are shaped like a nail, whence their name, from Fr. *clou*, a nail. *Clove* is also the name given, 1. To 7lbs. of wool. 2. To 8lbs. of cheese or butter.

Clo'ver, Clover-grass, a name common to all the species (about 100) of the genus *Trifolium*. Dutch, *klaver*, a club, quasi *club-grass*.

Clove-tree, the *Caryophyllus aromaticus*, a native of the Molucca Islands. It grows to the size of the Laurel.

Club-moss, a name common to all the species of the genus *Lycopodium*.

Clump. 1. A mass of trees or shrubs, or both, generally compact in its outline, and always small as compared with extensive plantations.——2. The compressed clay of coal strata.

Clunch, an indurate clay found dividing the coal-seams.

Clu'peæ (plural of *clupea*, a herring), the herring family of fishes. Type, genus *Clupea*.

Clym'ena, a genus of Articulata. Order *Abranchiata*, family *Abranchiata setigera*, Cuv. Name from κλυμενος, plain, their bodies having but few rings compared with the earth-worm.

Cly'peate, Lat. *clypeus*, shield-like. The same as scutate.

Coaduna'tæ, a natural family of plants, which have a number of flowers clustered together (*coadunatus*) so as to resemble a single flower.

Coag'ulum, Lat. the tenacious substance formed from a fluid by coagulation.

Coak, in the construction of wood framings, a small cylinder of hard wood, let into the ends of the pieces to be joined, to render the joining more secure. The several pieces forming the timbers of ships are at present *coaked* together: formerly they were *chocked* together by triangular *chocks*, made fast by tree-nails, which sustained all the stress at the joint in whatever direction; and, therefore,

when the chock decayed, the joining was left without any support whatever. The mode of coaking is thus reckoned an improvement.

Coal, from Sax. *cole*. An important combustible mineral, divided by mineralogists into three great families: black coal, uninflammable coal, and brown coal. These, again, are divided into many subordinate species. Coal is composed of charcoal, bitumen, and earthy matter, and its value, for the purposes of combustion, depends on the relative proportions of these constituents.

Coal-fields, a district having its peculiar series of strata, unconnected with any other. Coal-fields are of limited extent, and are commonly arranged in basin-shaped cavities, the strata dipping to a common centre.

Coal-formation, the carboniferous group of strata succeeding the grauwacke in the ascending series of Europe, and so called because the great mass of European coal is included among the rocks which compose it. It consists of indefinite alternations of shales and sandstones, coal-beds, ironstone layers, and layers of limestone.

Coarcta'tion, from *coarcto*, to straiten. Contraction of the diameter of a canal, &c.

Coat of Arms, a habit (kind of surcoat) worn by the ancient knights over their arms. This habit was diversified by bands and fillets of several colours, called *devices*, being composed of several pieces sewed together. The representation of these is still called a *coat of arms*.

Coat of Mail, a piece of armour in form of a shirt, consisting of a network of iron rings.

Coat-armour, a coat of arms.

Co'balt, a metal of a reddish gray colour, with but little lustre; of a fibrous texture. Sp. gr. 86, melt. pt. 130° Wedgw. = 17977° Fah. It is with the oxides of this metal that glass and porcelain are coloured blue; and its muriate forms one of the most interesting sympathetic inks, the letters being invisible in the cold, but becoming blue when gently heated. (*See* Smalt and Zaffre.) Cobalt takes its name from an old German superstition, that the mines of that country were haunted by certain demons, called *kobolden*, and that those ores which appeared rich to the eye, but afforded nothing of value, were manufactured by those spirits, and were called *kobold:* the ores of the metal in question were supposed to be of this useless kind, and retained the name, now written *cobalt*.

Cobwalls, walls formed of mud mixed with straw.

Coccinel'la, a genus of insects. Order *Coleoptera*, family *Fungicolæ*. Species *cone-bug*, *lady-bug*, &c. Name dimin. of *coccus*, a berry, in reference to the shape of some of the species.

Cocco'on, the silken case which the larvæ of certain insects spin for themselves.

Coc'culus In'dicus, the Indian berry; the fruit of the *Menispermum cocculus*, a large tree of Malabar. It is narcotic and poisonous, and has been much employed in the adulteration of ale and beer. Its use in this way is prohibited under severe penalties.

Coc'cus, κοκκος. 1. In *botany*, a cell or capsule.——2. In *entomology*, a genus of hemipterous insects constituting the family *Gallinsecta*. The cochineal insect is the *C. cacti*, Lin., a native of Mexico, where it is domesticated, and reared with the greatest care on a species of opuntia.

Coccyx, the *coccygis os*, a bone forming a small appendage to the end of the sacrum, terminating in a point, resembling, it is said, the bill of a cuckoo (κοκκυξ).

Cochine'al, Sp. *cochinilla*, an insect; the *Coccus cacti*, Lin., reared chiefly in Mexico on the *Cactus opuntia*, India fig or Nepal tree, and highly valued for the crimson dye it furnishes. It is imported in bags, and has the appearance of shrivelled rugose berries. Value 8*s*. to 10*s*. per lb.

Cochlea'ria, a genus of herbaceous plants. *Tetradynamia—Siliculosa*. Scurvy-grass; horseradish. Name from *cochleare*, a spoon, in reference to the form of its leaves.

Cock'et, a certificate given by the officers of the custom-house to merchants, as a warrant that their goods have been duly entered. Fr. *cachet*, a seal.

Cock'le. 1. In *conchology*, a shell (κοχλος) of the genus *cardium*.——2. In *botany*, the cornrose (Sax. *cocle*), a species of agrostemma; also applied to the darnel or lolium.——3. In *mineralogy*, a local name for shorl, from *cockle*, the shell of that name.

Coc'kle-oast, that part of a hop-kiln where the fire is made.

Cock-pit. In a *ship of war*, a place on the lower deck abaft the main capstan, where are partitions for the purser, surgeon, and his mates. Also the place where game-cocks fight their battles.

Cockroach, a name common to all the insects of the genus *Blatta*.

Cock's-comb. In *botany*, a name applied, 1. To the species of the genus *Celosia*.——2. To a species of *Rhinanthus* or yellow-rattle.——3. To the *Hedysarum crista galli*.

Cock-water, among *miners*, a stream of water brought into a trough to wash away sand from ores.

Co'coa, the fruit of the *Theobroma cacao*, which is about the size of a kidney-bean and inclosed in a thin shell.

Co'coa-nut, the fruit of the *Cocos nucifera*. Within the nut is found a hollow kernel of a sweet and agreeable flavour, and within this a liquid like milk, which the Indians use.

Co'coa-nut Oil, an orange-coloured oil of a strong but not disagreeable smell, obtained from the nuts of the *Cocos butyracea*, called also *palm-oil*. Large quantities of it are manufactured in Bengal.

Co'coa-nut Tree, a name common to all the species of the genus *Cocos*, but especially applied to the *C. nucifera*, a native of the warm climates of both Indies.

Coco'on, Fr. *cocon*; the ovoid nest formed by the silk-worm (*Bombyx*), and consisting of the filaments comprising the silk. It serves as a defence against enemies and the changes of temperature.

Co'cos, a genus of palmaceous plants. *Monœcia—Hexandria*. One species affords the cocoa-nut, and another the cocoa-nut oil, called likewise palm oil. Name contracted from Portu. *macoco*, or *macao*, a monkey, the three holes at the end of the cocoa-nut shell giving it some resemblance to a monkey's head. The name *cocos* is also given to petrifications resembling cocoa-nuts.

Cod, Sax. *codd*; a fish, the *Gadus morrhua*, Lin., *Morrhua vulgaris*, Yarr. From two to three feet long; black, spotted with yellowish and brown: it inhabits the N. ocean.

Coda, It. *a tail*. In *music*, the passage at the end of a movement which follows a lengthened perfect cadence.

Code, from *codex*, a board on which accounts were written; used to designate a digest of laws, especially that digest of the laws and constitutions of the Roman Emperors, made by order of Justinian, hence called the *Justinian Code*.

Codet'ta. In *music*, a short passage which connects one section with another.

Co'dex (Lat.), a manuscript volume.

Coeffi'cients. In *algebra*, numbers or letters prefixed to unknown quantities, to show how many times such quantities are repeated. The coefficient is a multiplier of the quantity to which it is prefixed.

Cœli'aca, in *nosology*, a class of diseases embracing those of the digestive organs.

Cœnac'ulum (Lat.), anciently, the supper-room of the Romans.

Cœna'tio, anciently, a refreshment room.

Cœno'bio, applied to that class of fruits which consists of two or more carpels separate at the apex and united at the base.

Cœ'nobite, κοινος, and βιος, life; one living under a rule in a religious community.

Coffe'a, a genus of arborescent plants. *Pentandria—Monogynia*. The coffee-tree —warm climates, especially Arabia.

Cof'fee, Coffee-beans, the berries of the coffee-tree (*Coffea arabica*), generally of an oval form, somewhat smaller than a horse-bean, and of a rough, close, and hard texture.

Cof'fee-roaster, the iron utensil in which coffee is dried over the fire before being ground.

Cof'fee-tree, the *Coffea arabica*, a native of Upper Ethiopia and Arabia Felix. It rises about 15 feet, its trunk sending forth opposite branches in pairs, and producing its berries in clusters.

Cof'fer. 1. A chest.——2. A trough in which tin-ore is broken.——3. A recess or sinking between the modillions in the soffits of the cornices of the Greek and Roman orders of architecture.——4. A hollow lodgment across a dry moat, raised to repulse besiegers when they endeavour to pass the ditch.

Cof'fer-dam, an inclosure formed by a double range of piles, &c., with clay between, for laying the foundations of piers and other works in water, to exclude the surrounding fluid and protect the work and workmen.

Cof'fin, in *farriery*, the whole hoof of a horse's foot above the coronet.

Cof'fin-bone, a small spongy bone in the middle of a horse's hoof.

Cog, the tooth of a wheel, by which that wheel acts upon another.

Cogna'tion, in *civil law*, natural relation between males and females, both descended from the same father.

Cog'nizance, in *law*, an acknowledgment; as in fines, the acknowledgment of the cognizor or deforciant that the right is in the plaintiff or cognizee by gift or otherwise.

Cogno'vit Actio'nem, in *law*, an acknowledgment by a defendant that a plaintiff's cause of action is just.

Cog-wheel, a wheel having cogs or teeth.

Cohe'sion, that species of attraction by which the particles of bodies are held together.

Cohoba'tion, a repeated distillation of the same liquid from the same materials.

Co'hort, the tenth part of a Roman legion.

Coif, a sort of cap formerly worn by sergeants at law, &c.

Coin. 1. Money stamped: from Ital. *conio*, a die.——2. A block to support a body on an inclined plane: from *cuneus*, a wedge.——3. The angle made by two surfaces: from Fr. *coin*, a corner.

Coir, a species of yarn manufactured out of the husks of cocoa-nuts. It is extensively used in the East.

Col'arin. In *architecture*. *See* Cincture.

Colch'icum, a genus of perennial plants. *Hexandria—Trigynia*. Meadow saffron.

Named from Colchis, a country in Asia, where some of the species were plentiful.

Col'cothar, the brown-red oxide of iron which remains after the distillation of the acid from sulphate of iron. It is used for polishing glass, &c.

Coleophyl'lum, κολεός, a sheath, and φύλλον, a leaf; applied to a monocotyledonous structure, the young leaves being evolved from within a sheath.

Coleorhig'a, denoting the sheath within which is inclosed the radicle of monocotyledonous plants.

Coleop'tera, from κολεός, a sheath, and πτερόν, a wing; an order of insects furnished with elytra or sheaths to their wings. The inferior wings are merely folded transversely and covered with others which form cases or covers for them. Of all insects the coleoptera are the best known and the most numerous. They have six legs and four wings, and experience a complete metamorphosis. The elytra are horizontal and crustaceous.

Collap'se, Lat. *collapsus*, a falling together. This term is used in medicine to denote an entire prostration of the vital powers, such as occurs in adynamic fever.

Col'lar. In *heraldry*, an ornament for the neck, worn by knights, as the collar of the order of the garter.

Collar-Beam, a beam above the lower ends of the rafters of a roof.

Collari'no. In *architecture*, an astragal.

Colla'ting, among *printers*, the examining the sheets of a book to ascertain that they are gathered correctly.

Colla'tion. 1. In *canon law*, the presentation of a clergyman to a benefice by a bishop who has it in his gift.——2. In *common law*, comparison of a copy with its original.——3. In *Scots law* the right which an heir has of sharing the property of the deceased equally with others of the same degree of kindred.——3. A repast between full meals.

Collec'tive Noun. In *grammar*, a noun which, though itself in the singular number, denotes more than one, as *assembly*.

Collecta'nea, } a selection of passages
Collec'tion, } made from various authors for purposes of instruction.

Collectors. In *botany*, dense hairs covering the styles of some species of Compositæ, &c.

Col'lege, Lat. *collegium*, a collection; from *con* and *lego*, to send. This term means an assemblage or society of men invested with certain powers and rights, and performing certain duties, or engaged in some common pursuit, as the *College* of Physicians, the *College* of Heralds. Such colleges are usually established by the supreme power of the state. In Russia the name *college* is given to the councils of state; and in Britain the term is used to designate an edifice appropriated to the use of students in the Universities.

Col'let (French), a collar; a term used by jewellers to designate the horizontal plane or face at the bottom of brilliants; also the part of a ring in which the stone is set.

Collima'tion, *collimo*, I aim at. The line of collimation in a telescope is the line of sight passing through the centre of the object-glass, and the intersection of the wires placed in its focus.

Collima'tor, floating. An instrument invented by Kater for finding the horizontal point.

Colo'bus, Gr. κολοβός, mutilated; a genus of long-tailed quadrumanes or monkeys, so called because the fore-hands want a thumb.

Coloca'sia, the Pontic or Egyptian Bean (*Nymphæa nelumbo*), a perennial plant growing in marshy grounds in Egypt.

Colo'cynth, Lat. *colocynthis* (κολοκυνθις, from κολοκυνθα, a gourd), the Coloquintida, Bitter Cucumber, or Bitter Apple of the shops, the produce of an annual plant (*Cucumis colocynthus*), which grows in Turkey, Nubia, India, and other places, much resembling the cucumber in herbage. When ripe, the fruit is peeled and dried, and in this state is sent to England. It is an exceedingly drastic cathartic. It is a round berry or pepo of the size and colour of a small orange.

Colocyn'thine, a brittle orange-coloured substance obtained from colocynth, and regarded as the active principle of the drug.

Co'lon. Κῶλον. 1. The largest of the intestines. It commences at the cæcum and terminates in the rectum.——2. A mark [:] denoting a pause greater than the semicolon, and less than the period.

Colonel-Lieutenant, the commander of a regiment of guards of which the king, prince, or other person of eminence is colonel.

Colonels. In *architecture*, the posts of a truss frame.

Colonna'de, from Ital. *colonna*, a column; a row of columns. The colonnade is termed, according to the number of columns which it contains, *tetrastyle*, *hexastyle*, *octastyle*, &c. When in front of a building they are termed *porticoes*; when surrounding a building, a *peristyle*, and when double or more, a *polystyle*.

Colopho'nite, a variety of garnet of a brown or red colour, and resino-adamantine lustre; hence its name, from the resin *colophony*. Its constituents are silica and alumina, coloured with the oxides of iron and manganese.

Colophony, the dark-coloured resin which remains in the retort after distilling rough turpentine without water, named thus from Colophon, a city of Ionia, whence it was first brought.

Coloquintida. *See* Colocynth.

Color (Latin), a property of bodies by which they separate the elementary rays of light, and absorb some and reflect others. Thus the colours of the spectrum are red, orange, yellow, green, blue, indigo, and violet; and any body which appears to possess any of these colours, has simply the property of absorbing all the rays of the spectrum except that one, which it reflects. The primary colours are red, yellow, and blue; all others may be produced by combinations of these.

Coluber (Latin), a serpent; a genus of venomous serpents with isolated fangs.

Columba Noachi (*Noah's Dove*); one of the new constellations situated immediately below Lepus.

Columbic Acid, the peroxide of Columbium, evincing acid properties. It is a white powder.

Columbia, a bitter crystalline principle, obtained from Columbo root.

Columbium, from *Columbia*, America, a metal discovered by Mr. Hatchett in 1801, in a mineral brought from North America. It is also called *Tantalium*, from the mineral *tantalite* found in Sweden.

Columbo Root, the root of the *Cocculus palmatus*, which grows in the forests of Mozambique, where it is named *kalumb*; the Portuguese import it under the name of *Raiz de Columba*. The root is perennial, and is used as an antiseptic and tonic.

Columel, Lat. *columella*, a column or little pillar, as that which unites the partitions of the capsule of a plant, or that in the centre of most univalve shells.

Column, Lat. *columna*, a prop. In *architecture*, a round pillar, the parts of which are the *base*, on which it rests, its body called the *shaft*, and the head called the *capital*. The capital finishes with an *abacus*, and the base is supported on a *plinth*. The shaft is in general either *plain* or *fluted*, but *carolytic* columns have foliated shafts. Columns are moreover distinguished as to their form into Tuscan, Doric, Ionic, Corinthian, and Composite.

Columnula (Latin), a little column; the name of the filament which passes through the middle of the capsule of frondose mosses, to which the seeds are connected.

Colure, from κολος, mutilated, and ουρα, a tail; a name common to two great circles of the sphere, supposed to intersect each other at right angles in the poles of the world; one of them passing through the solstitial, and the other through the equinoctial point of the ecliptic, thereby dividing the ecliptic into four equal parts. The points where these lines cut the ecliptic are called *cardinal points*. The colures take their name from a part being always below the horizon.

Colym'bus, a genus of birds of the Palmipede order, comprehending the Divers, Grebes, and Guillemots. Name from κολυμβάω, to swim.

Col'za, a variety of the cabbage plant, the *Brassica oleracea*, whose seeds afford by pressure an oil much used on the continent for burning in lamps and other purposes.

Coma. 1. In *medicine*, a morbid state resembling sound sleep, produced by compression of the brain and various other causes; from κῶμα, sound sleep.——2. In *botany*, a comb or fascicle of leaves on the top of a stem or stipe, from κομη, hair.

Coma Berenices (*Berenice's hair*), an asterism situated north by Canis venatici, east by Boötes, south by Leo and Virgo, and west by Leo and Ursa Major, 43 stars.

Combe. The term *combe* is usually applied to that unwatered portion of a valley, which forms its continuation beyond and above the most elevated spring that issues into it; at this point or spring-head the valley ends and the *combe* begins.

Combination, from *com* and *binus*, two and two. 1. In *chemistry*, the intimate union resulting from the action of that species of attraction which we call affinity. *See* Affinity.——2. In *mathematics*, the variations which may be made in the arrangement of any given number of things in groups, are called *combinations*. Thus the combinations or different ways in which five articles may be arranged or combined are 120, and are found by multiplying together the terms 1, 2, 3, 4, 5=120.——3. In *law*, combination may take place for the performance of an unlawful act, and is punishable before such act is done.

Combustible, a body which, in its rapid union with others, causes disengagement of light and heat. The simple combustibles are sulphur, phosphorus, carbon, hydrogen, all the metals, and boron.

Comet, from *coma*, hair; an opaque, spherical body like a planet, performing revolutions about the sun in an elliptical orbit, having the sun in one of the foci. In popular language comets are *tailed*, *bearded*, or *hairy*, these terms being taken from the appearance of the light which attends them. In their different positions with respect to the sun, the body appears to have a tail or train, a beard, or to be bounded by a fringe of light.

COMETA'RIUM, a machine for exhibiting the revolution of a comet.

COMI'TIA. In *ancient history*, the assemblies of the Roman people.

COM'MA, from κομμα, a segment; a mark in writing or printing, thus [,] denoting the shortest pause in reading; also the difference between a major and a minor semitone in music.

COMMAN'DER. In the *navy*, the next in rank above lieutenant, corresponding to major in the army.

COMMANDER-IN-CHIEF, the officer invested with the supreme command of all the land forces of the British empire.

COMMANDERY or PRECEPTORY. By the usages of some orders of knights, a district attached to a manor, under the control of a member of the order.

COMMEN'DAM, a benefice or living *commended* by the sovereign or head of the church to the cure of a clerk, till a proper pastor be provided. This may be temporary or perpetual.

COMMEN'SURABLE QUANTITIES, in *geometry*, are such as have some common divisor, which yields quotients in whole numbers.

COM'MERCE, from *commutatio mercium*; the exchange of one sort of produce or service for some other sort of produce or service.

COMMINA'TION, from *con* and *minatio*, a threatening; an office in the liturgy, being a recital of God's threatenings, appointed to be read on Ash Wednesday or the first day of Lent.

COM'MISSARY, from *commissarius*, a commission. In *ecclesiastical affairs*, a deputy of the bishop, in places of the diocese far distant from the see. In *military affairs*, (1). An officer who has the charge of furnishing provisions, &c., for an army; (2). An officer appointed to inspect the muster-rolls, usually called *General of the Musters*.

COMMIS'SION, from *commissio*; from *con* and *mitto* to send. In *law*, the warrant or letters patent by which one is authorised to exercise jurisdiction. In *military affairs*, the warrant or authority by which one holds a post in the army. In *commerce*, the order by which one traffics or negotiates for another; also the per centage given to agents and factors for transacting the business of others.

COMMIS'SION-MERCHANT, a merchant who transacts business as the agent of other men, in buying and selling, and receives a rate per cent. as his commission.

COMMIS'SURE, Lat. *commissiora*, a joint or seam. Applied in *architecture* to the joint between two stones; and in *anatomy* to the corners of the lips where they meet together; also to certain parts of the brain, where its fibres cross and join one hemisphere to the other.

COMMIX'TURE, Lat. *commixtura*, a compound mass. Applied in *Scots law* to the method of acquiring property by blending different substances belonging to different proprietors.

COMMODO'RE, from Ital *comandatore*, a commander. An officer who commands a squadron destined on a particular enterprise: he bears the rank of brigadier-general in the army. Commodore is also used as a title of courtesy to the senior captain, when three or more ships of war are cruising in company. The leading ship of a fleet of merchantmen bears also the name of commodore.

COM'MON, from Goth. *gamana*, fellowship. In *architecture*, a *common centering* is a centering without trusses, having a tie-beam at the bottom. *Common joists* are the beams in naked flooring, to which the joists are fixed. The *common rafters* of a roof are those to which the laths are attached.—In *botany*, a *common bud* is one which contains both flowers and leaves; a *common peduncle*, one which bears several flowers; a *common perianth*, one that incloses several fructifications; a *common receptacle*, one that connects several distinct fructifications.—In *law*, a *common* is an open ground equally used by many persons. A *right of common* is a privilege claimed by one or more persons, to use in some part or portion that which another man's lands, woods, waters, &c., produce, without having an absolute property in the same, as common of pasture, &c. *Common law* is the body of rules for administering justice within the kingdom, grounded upon the general customs or usages of the realm, and distinguished from the statute laws, as having been the law of the land before any acts of Parliament now extant were made.—*Common pleas*, pleas including all civil actions between subject and subject: for the deciding of these there is instituted the *Court of Common Pleas*, which is one of the Queen's Courts, now held in Westminster Hall, and consisting of a Chief and other three Justices: appeal lies to the Court of Queen's Bench.—*Common recovery*, a process for recovering an estate or barring entail.

COM'MONS, in a general sense, the whole body of the people as distinguished from the nobility; in a particular sense, the knights and burgesses who represent the Commons in Parliament, and who are designated the *House of Commons*.

COMMON TIME. In *music*, the time which counts four crotchets or their equivalent in a bar.

COM'MONTY, in *Scots law*, land belonging to two or more common proprietors.

COM'MUNE, in *France*, one of the subordinate divisions of the country, introduced in the revolution of 1792.

COMMUTA'TION. In *astronomy*, the angle

of commutation of a planet is measured by the difference between the sun's longitude and the geocentric longitude of the planet.

Compan'ion, the covering over a ladder or staircase in a ship.

Com'pany. 1. In *military affairs*, a subdivision of a regiment under the command of a captain.——2. In *commercial affairs*, a number of merchants associated together in one common interest and for some special purpose. When there are only a few individuals associated, the concern is called a *copartnery*, leaving the term *company* to be applied to large associations, as the East India Company.

Compar'ative Anat'omy, the anatomy of all organised bodies, animal or vegetable, compared with a view to illustrate the general principles of organisation. *See* Anatomy.

Compar'ison. 1. In *grammar*, the formation of an adjective in its several degrees, as *good, better, best.*——2. In *rhetoric*, a figure by which two things are considered with reference to a quality possessed by both, as "a hero is like a lion in *courage.*"—The distinction between *comparison* and *similitude* is, that the former has reference to the *quantity*, and the latter to the *quality*. Comparison is between *more* and *less*; *similitude* is between *good* and *bad*.

Comparti'tion, division into parts. Applied in *architecture* to the distribution of the ground plan of an edifice into rooms and passages.

Compart'ment, a separate part or division of a design, as a *compartment ceiling*, a ceiling divided into panels; *compartment tiles*, an arrangement of white and red tiles.—In *gardening*, compartments are assemblages of beds, plots, borders, walks, &c.—In *heraldry*, a *compartment* is called a *partition*.

Com'pass, from *con* and *passus*, opening. An instrument used in surveying, constructed in the main like the mariner's compass, but the needle is not fitted into the card moving with it, but plays alone, the card being drawn upon the bottom of the box, and a circle divided into 360° on the limb.—The *mariner's compass* consists of a circular card or fly, on which are drawn 32 points of direction, called the *points* of the compass, and a small bar of steel magnetised, called the *magnetic needle*, and which (excepting the variation) always points to the north, and the box or framework which contains the card and needle. The card and needle are fastened to each other in such a manner, that the north pole of the magnet coincides with the northern point of direction marked on the card, and turn on the point of a pin fixed in the centre of the box.

Compasses, or *pair of compasses*, a mathematical instrument for describing circles, measuring figures, &c., consisting of two pointed legs made of iron, brass, or steel, and jointed at the top by a pivot on which they move. There are several sorts of compasses in use, as the *triangular compasses*, which resemble the common compasses, with the addition of a third leg, which has a motion every way, and which suits the instrument for laying down triangles on maps, &c.; the *cylindrical* and *spherical compasses*, which have four branches joined in a centre, two of which are circular and two flat: their use is to take the diameter of cylindrical and spherical bodies; the *German compasses* are common compasses with the legs bent; the *hair compasses* are adjusted with a fine screw in one of the legs, so as to take an extent with great exactness; the *proportional compasses* have the joint, not at the ends of the legs, but between the points terminating the legs: they are convenient for reducing designs, for whatever space is measured by one end, a proportionate space will be marked by the legs at the other end. The *elliptical compasses* are *intended* to be used in drawing ellipses, but are very inconvenient. *Spring compasses* are more commonly called *dividers* (q. v.) *Beam compasses* consist of a beam with a fixed point at one end and a moveable one at the other.

Compass-saw, a saw with a broad edge and thin back to cut in a circular form.

Com'passing. In *carpentry*, bringing a piece of timber into the form of an arch.

Compita'lia, Lat. *compitum*, a street. A Roman feast in honour of the Lares and Penates.

Com'plement, from *complementum*, a filling (*con* and *pleo*, to fill). In *astronomy*, the distance of a star from the zenith, otherwise called the co-latitude. In *mathematics*, the *complement of an arc* is what that arc wants of 90°, or of a quadrant; the *complement of an angle* is what that angle wants of being a right angle. The *arithmetical complement of a logarithm* is what that logarithm wants of 10,000,000, &c. *Complements of a parallelogram* are the two smaller parallelograms, formed by drawing two right lines parallel to the sides of the quarter, through a point in the diagonal. In *fortification*, the *complement of the curtain* is that part of the interior side which makes the demigorge.

Complu'vium, anciently an area in the centre of Roman houses, so constructed as to receive the water from the roof.

Compos'ing Stick, an instrument used by compositors in setting types.

Compos'itæ, one of Linnæus's natural orders of plants, comprising those which have composite or compound flowers, as the sun-flower, dandelion, &c.

Com'posite, from *compositus*, compound. In *architecture*, the *composite arch* is the pointed or lancet arch; the *composite order* forms one of the five architectural orders, and is thus named from its being composed of the Ionic and Corinthian orders. In *arithmetic*, Composite numbers are such as can be measured by a number exceeding unity. Thus 12 is measured by 6, 4, 3, and 2.

Composi'tion. In *grammar*, the joining of two words together or prefixing a particle to another word to modify its signification; thus *composition* is formed of *com*, from *con*, and *position* from *pono*, to place. In *logic*, composition is a method of reasoning by which we proceed from a general truth to particular ones. In *music*, composition is the art of adapting sounds according to the rules of the art, to songs, &c., also the piece of music so composed. In *painting*, composition denotes the choice and disposition of the figures of a picture. In *commerce*, the sum paid by an insolvent debtor to his creditors when the latter agree to take a part of the debt in lieu of the whole. In *chemistry*, the combination of different substances by affinity. In *printing*, the act of arranging the types into words, &c.

Compo'sitor. In *printing*, one who sets types.

Com'post, Lat. *composta*, a mixture; applied by agriculturists to a composition of various manuring substances.

Compostel'la, St. James of, an ancient order of knighthood in Spain.

Com'pound, from *con* and *pono*, to set; composed of two or more parts: thus a *compound word* consists of two or more words, as *ink-stand*. A *compound flower* consists of several florets inclosed in a common perianth. A *C. stem* is one which divides into branches. A *C. leaf* consists of several leaflets. A *C. spike* consists of several spikelets. A *C. umbel* has all its peduncles bearing umbelules at the top. A *C. fructification* consists of several confluent florets. *C. interest.* *See* Interest. *C. motion.* *See* Motion. *C. ratio.* *See* Ratio. *C. quantity.* *See* Quantity. *C. affinity.* *See* Affinity.

Com'press. In *surgery*, soft linen, lint, or other soft substance folded together into a sort of pad, for the purpose of being placed over parts which require pressure.

Compres'sor. 1. In *anatomy*, a name given to those muscles which press together the parts on which they act.—— 2. In *surgery*, a name common to an instrument invented by M. Dupuytren for compressing the femoral artery, and another invented by Nuck, for compressing the urethra in cases of incontinence of urine.

Compurga'tion, from *con* and *purgo*, to purify, a species of wager at law, whereby a man is cleared by the oath of others, who swear to their belief of his veracity. The defendant having made oath himself brings into court a certain number of his neighbours (usually eleven), called *purgators*, who avow on their oaths that they believe that he has affirmed the truth.

Coms, Cooms, Coomes, or Chives. The points of the radicles of malted grain, which drop off during the process of turning. They are sold as malt dust, and are an excellent manure.

Cona'tus (Latin) effort; applied to designate the tendency which a body has to pursue its course in the same line of direction.

Concamera'tion, an arched chamber (*camera*, an arch), applied in conchology to designate those small chambers into which multilocular shells are divided by transverse septa.

Con'cave, Lat. *concavus*, from *cavus*, a hollow; depressed in the middle, opposed to convex.

Conca'vo-Concave, concave on both sides, as a concave lens.

Conca'vo-Convex, concave on the one side, and convex on the other, as a concavo-convex lens.

Concav'ity, from *concave*, the internal surface of a hollow spherical or spheroidal body.

Concep'tacle, Lat. *conceptaculum*, a receptacle; the vessel which contains the reproductive corpuscles of cryptogamic plants. It is variously named in different tribes.

Con'cert, from *con* and *certo*, to strive, a musical performance in which any number of practical musicians unite in the exercise of their talent.

Concerta'nte (It.), those parts of a musical composition which continue throughout the piece.

Conce'rto (Italian), a musical composition consisting of several parts to be performed in concert.

Concet'ti (It.), ingenious but misplaced thoughts or terms of expression.

Conch, Lat. *concha*, a marine shell; applied to various objects from their shape.

Conchæ, plur. of *concha*, a shell; shells consisting of two or more pieces or valves, as bivalves and multivalves.

Conch'oid, from κογχη, a conch, and ειδος, like. The name of a geometrical curve invented by Nicomedes.

Conchoi'dal, shell-like Used to characterise the fracture of minerals, when marked by convex elevations and concave depressions, like the valves of conchæ.

Conchol'ogy, from κογχη, a shell, and λογος, science. That branch of natural history which treats of testaceous animals, or animals having a testaceous

covering, whether they inhabit the land, the fresh water, or the ocean. Shell-fish are arranged by the characteristics of their shells.

Concia'tor. In *glass-works*, the person who proportions the materials to be made into glass.

Con'clave (Lat.), an inner room. The room in the Vatican where the cardinals meet to elect a pope: also the assembly itself.

Conclu'sion. In *logic*, that proposition which is inferred from certain former propositions, termed the premises of the argument.

Concoc'tion, from *concoquo*, to digest. Digestive; also that operation of nature upon morbid matter which renders it fit to be separated from the healthy fluids.

Con'cord, from *con*, and *cor*, *cordis*, the heart. In *grammar*, the agreement of words according to their several inflexions, as adjectives with nouns, in gender, number, and case. In *law*, an agreement between the parties in a fine, made by leave of the court. In *music*, the union of two or more sounds, in such a manner as to render them agreeable.

Concor'dat. In *canon law*, an agreement concerning some beneficiary matter, in particular when made between the pope and a prince.

Con'crete, Lat. *concretum*, a compound mass. A mass formed by the cohesion of heterogeneous materials. The concrete used by engineers and architects is a compact mass of pebbles, sand, and lime, worked together with water, to form the foundations of structures.

Con'crete Numbers. *See* Applicate Numbers.

Concre'tion, from *concresco*, to grow together. 1. The growing together of parts which in a natural state are separate.——2. The process by which soft or fluid bodies become consistent, solid, or hard.——3. The mass formed by concretion; as a urinary concretion formed in the animal body.

Concus'sion, Lat. *concutio*, I shake. A term generally applied to injuries of the brain, from blows and falls.

Condensa'tion, causing a mass of matter to occupy less space by means of the closer approach of its particles. When this is accomplished by external force, it is called *compression*. The term is generally used with regard to *air*, *gas*, and *vapours*. The two former are condensed, and their elasticity increased by *compression*. The latter are condensed into liquids and solids by the abstraction of heat.

Conden'ser, a pneumatic engine, whereby an uncommon quantity of air is forced into a given space. It is a sort of syringe, which is worked upon the principle of the force-pump, and performs an operation the reverse of the air-pump.

Con'der, from *con*, and *duco*, to lead. 1. One who directs the helmsman of a ship how to steer.——2. One who stands upon an elevated part of the sea-coast, in the time of the herring-fishery, to point to the fishermen by signs the course of the shoals of fish.

Condition. In *law*, is a restraint annexed to a thing, so that by the non-performance the party shall receive loss, and by the performance, advantage.

Conditional Proposition, in *logic*, is one which asserts the dependence of one categorical proposition on another.

Con'dor, a species of vulture, the *V. gryphus*, Lin., the largest bird known. It is found on the most elevated mountains of the Andes, in South America. It is blackish, the wings ash-coloured; collar, silky and white, and the male, in addition to his superior caruncle, has another under the beak, like the cock.

Condottie'ri. In *Italian history*, a class of mercenary military adventurers in the 14th and 15th centuries.

Conduc'tor, Lat. from *con*, and *duco*, to lead. 1. A body which has the property of transmitting heat or electricity; opposed to a *non-conductor*. Most natural bodies, but especially the metals, are conductors. ——2. A pointed metallic rod, affixed to buildings, ships, &c. to conduct lightning to the earth or water, and protect the edifice from its effects.——3. A surgical instrument to direct the knife in certain operations; sometimes called a *director*.

Con'dyle, from κονδυλος, a knot. A process of a bone in the shape of a flattened eminence.

Con'dyloid, from κονδυλος, a condyle, and εἶδος, like. An apophysis of a bone.

Condylu'ra, a genus of carnivorous Mammalia, named from κονδυλος, a joint, and ουρα, a tail. The condylura resemble the mole, except that the tail is longer, and their nostrils are surrounded with little moveable cartilaginous points, which when they separate radiate like a star. The *Sorex cristatus*, Lin., or radiated mole of North America, belongs to this genus.

Cone, Fr. *cone*, from Lat. *conus*, from κωνος, that which shoots to a point. In *botany*, a conical fruit of several evergreen trees, especially of the pine-tribe. *See* Stro'bilus. In *geometry*, a solid with a circular base, and tapering equally upwards till it terminates in a point. Were the base a right-lined figure, the solid would be called a *pyramid*; and in either case, all the lines drawn from the periphery, or bounding line of the base to the apex or top, are straight lines. When the axis is at right angles to the base, the

solid is called a *right cone*, otherwise it is an *oblique* or *scalene* cone. In *optics*, it includes all the rays which fall upon a given surface from a given point.

Cone'pate, Conepatl, an American animal of the weasel kind, resembling the polecat in form and size, and in its fetid stench.

Confed'eracy, from *con* and *fœdus*, a league; a term used in law to denote a combination of two or more persons to commit an unlawful act.

Con'ference, a meeting of delegate members from both houses of parliament to discuss the provisions of a bill respecting which there may be a disagreement between them. Also a meeting of divines for ecclesiastical purposes.

Confer'va, Lat. from *confervec*, to knit together; a genus of plants. *Cryptogamia—Algæ*. The tribe of cryptogamic plants comprising the jointed algæ or water weeds, are called *Confervæ*. These are chiefly fresh-water plants, but many are marine. They are composed of capillary jointed tubes, containing granules variously arranged; but the plants grow by the addition of one tube to the end of another, and multiply by means of the granules contained in the tubes.

Confession, Auricular. In the Church of Rome a part of the sacrament of penance. It must be of every mortal sin, and made to a priest, who is solemnly obliged not to reveal it.

Confession of Faith, a formulary setting forth the opinions of a body.

Confessor, one who has undergone persecution for Christianity only short of death.

Confirma'tion, from *con* and *firmo*, to make firm. In *law*, an assurance of title by the conveyance of an estate or right *in esse* from one man to another, by which a voidable estate is made sure or unavoidable. In *church affairs*, (1). The ratification of the election of a dignitary of the church by the sovereign; (2). The ceremony of laying on of hands in the admission of baptised persons to the enjoyment of Christian privileges.

Con'fluent, flowing together (*confluens*), applied in physiology to eruptions, especially that of small-pox, and in *botany*, to leaves which run together at their base.

Conform'able. In *geology*, a term used to express the parallelism of strata: thus, when several horizontal strata are deposited one upon another, they are said to be *conformable*, but when horizontal are placed over vertical strata, the strata are said to be *unconformable*.

Conform'ist. In *church matters*, one who conforms to, or complies with, the worship of the Established Church.

Con fu'ria. In *music*, furiously; an Italian term.

Congé' d'é'lire (French), the sovereign's license or permission to a dean and chapter to choose a bishop.

Conge'ner, Lat. from *con* and *genus*, a thing of the same kind or nature: species of the same genus. Also applied in anatomy to muscles which concur in the same action.

Congen'ital, from *con* and *genitus*, born, a term applied to that which pertains to an individual from his birth, as a *congenital disease*.

Con'ger, Con'ger Eel, a large species of eel (*Muræna Conger*, Lin., *Conger vulgaris*, Yarr.) found in the European seas, sometimes weighing 100 lbs. The name is Latin, from κογγρος, quod polypi cirros divoret? *See* Muræna.

Conges'tion, from *congero*, to amass; a preternatural accumulation of blood, bile, or other fluids in their proper vessels. Diseases arising from this cause are called *congestive diseases*.

Con'gius. In *modern latinity*, a gallon.

Con'globate, from *con* and *globus*, a ball; formed or gathered into a ball, as a *conglobate* flower.

Conglom'erate, from *con* and *glomus*, a clew. 1. In *anatomy*, applied to a gland which consists of a number of smaller glomerate glands, the excretory ducts of which all unite in one common duct.—— 2. In *botany*, applied to flowers which are closely, compacted together on a footstalk, to which they are irregularly, but closely connected: opposed to *diffused*. ——3. In *geology*, conglomerate has the same meaning as breccia (Mantell), and pudding-stone (Lyell). According to Bakewell, "conglomerate consists of large fragments of stone, whether rounded or angular, imbedded in clay or sandstone."

Congregational'ists, Brownists, or Independents, a sect of Protestant Dissenters who maintain that every congregation for religious worship is independent of every other.

Con'gress, Lat. *congressus*, from *congredior*, to come together (*gradus*, a step.) 1. An assembly of envoys, commissioners, deputies, &c., particularly a meeting of the representatives of several courts, to concert measures of mutual concern. ——2. An assembly of delegates of the several British colonies in America, which met in 1774 to resist the claims of Great Britain, and finally declared the colonies independent. The name has since been transferred to the assembly of deputies from the different states of the union.

Con'ic Sections, a branch of mathematical science which treats of the properties of certain curves that are formed by the cutting of a cone in different directions. If a cone be cut by a plane pa-

rallel to the base, the section will be a circle; if cut by a plane passing through the vertex, the section will be a triangle; but both the circle and triangle belong to common geometry, and are therefore not treated of under the head of Conic Sections. There are, however, three other sections—the ellipsis, the parabola, and the hyperbola (q. v.).

Conif'eræ, the cone-bearing tribe of dicotyledonous plants. It comprises the pines, firs, &c., which bear cones.

Coniros'tres, a numerous family of passerine birds, distinguished by their strong conical beak; whence their name from *conus*, a cone, and *rostrum*, a beak. The bunting, bulfinches, crows, birds of Paradise, &c., belong to this family.

Con'ium, a genus of plants. *Pentandria —Digynia.* Hemlock. Greek name κωνειον, or κονιον.

Con'joint Degrees. In *music*, two notes which follow each other immediately in the order of the scale.

Conjoint Tetrachords. In *music*, two fourths where the same chord is the highest of the one and the lowest of the other.

Con'jugate, Lat. *conjugatus*, yoked. Applied to a winged leaf with only one pair of leaflets.

Con'jugate Diameter or Axis (of an ellipsis), the shortest of the two diameters or that which bisects the transverse axis. *See* Ellipsis.

Conjunc'tion, from *con* and *jugo*, to join, connection: thus, in *astronomy*, the meeting of two or more stars or planets in the same degree of the zodiac, which is either *true* or *apparent*, *heliocentric* or *geocentric*. When the bodies agree both in latitude and longitude, the conjunction is *true*; when they agree only in longitude, the conjunction is *apparent*. A *heliocentric conjunction* is that which would appear to an observer at the sun; a *geocentric conjunction* is that which appears to an observer at the earth, and is *superior* when the planet is seen on the same circle of latitude with the sun, but beyond him; and *inferior* when seen between the earth and the sun. *Grand conjunctions* are those wherein several of the planets are seen near together. In *grammar*, an indeclinable word or particle which joins words or sentences together, showing their mutual relation and dependence.

Conjuncti'va, one of the membranes or coats of the eye, the *C. tunica.*

Conjunc'tive Mood, that modification of the verb which expresses the dependence of the event in conditions.

Con'nate, Lat. *connatus*, growing together. Applied to leaves which are united at their base.

Connec'tor. In *chemistry*, a small tube of caoutchouc for connecting together the ends of glass tubes in pneumatic experiments.

Conni'vent, Lat. *connivens*, winking. Applied, 1. In *anatomy*, to the folds on the mucous surface of the small intestines. ——2. In *botany*, to petals of flowers, as those of the *Rumex*, and to the receptacle of the fig, which the fruit really is, being a fleshy connivent receptacle inclosing and hiding the florets.

Connoisse'ur (French), one who is versed in a knowledge of the fine arts.

Conohe'lix, an intermediate genus of shells, between *cones* and *volutes*.

Con'oid, from κωνος, a cone, and ειδος, like; a solid generated by the revolution of a conic section about its axis. There being three conic sections, the ellipsis, parabola, and hyperbola, there are consequently three conoids, the *spheroid*, *paraboloid*, and *hyperboloid*.

Conscience, from *con* and *scio*, to know, is considered by some an original faculty, and called the *moral sense*; others question the propriety of considering conscience as a distinct faculty, and hold that it is to be regarded simply as a general principle of moral approbation or disapprobation, applied to one's own conduct and affections; alleging that our notions of right and wrong are not to be deduced from a single principle or faculty, but from various powers of the understanding.

Con'science, Courts of, are for the recovery of small debts.

Con'script, Lat. *conscribo*, a title of the Roman senators.

Conscrip'tion, a compulsory enrolment for military or maritime service, taken from the population at large.

Consigne'e, a person to whom goods are consigned for sale or superintendence: the person who sends them is the consigner.

Consigna'tion, } from *con*, and *signo*, to
Consign'ment, } seal. 1. The act of consigning or sending goods to an agent. ——2. The goods consigned to a factor or agent.——3. The writing by which anything is consigned.

Consis'tory, Lat. *consistorium*, a place of meeting. The place of justice in the spiritual court; also the court itself. The court of every diocesan bishop, held in their cathedral churches, for the trial of ecclesiastical causes arising within the diocese.

Consolida'tion, from *con*, and *solidus*, solid. In *parliament*, the annexing of one bill to another. In *law*, the uniting of the profit of land, &c. with the property. In *ecclesiastical affairs*, the combining of two or more benefices in one.

Con'sonance. In *music*, the agreement of two sounds simultaneously produced.

Con'sonant, from *con*, and *sono*, to sound. A letter so named because it is considered as sounded only in connection with a vowel. Consonants are better named *articulations*, as they are the names given to the several junctions of the organs of speech.

Con Sordi'ni, It. In *music*, a direction to play a passage on the piano with the dampers down, and on the violin with the mute on.

Conspir'acy, from *conspiro*, to plot. A law-term for an agreement between two or more persons to indict, or procure to be indicted, an innocent person of felony. The persons so conspiring are called *conspirators*.

Con'stable. an officer whose duty it is to preserve the peace, and to arrest all public offenders who have committed the offence in his presence, or against whom he has the warrant of a justice of the peace. In England, there are *high constables*, chosen by the court leets of hundreds; *petty constables*, chosen by the juries of court leets; and *constables of London*, nominated in each precinct by the inhabitants. The office of Lord High Constable of England was so improperly used, that its suppression was found necessary in 1521. This officer took his title from his being *comes stabuli*, or count of the stables. He was the seventh officer of the crown.

Constant Quantities. In *algebra*, those quantities which remain constant, and whose values are considered as known, or which remain constantly the same; in contradistinction to those which are variable, and whose values are not known. Constant quantities are usually denoted by the first letters of the alphabet, as *a*, *b*, *c*, &c.; and variable ones by the last, as *x*, *y*, *z*, &c.

Constat, a Latin word, meaning "it appears." Applied as the name of the certificate given by the clerk of the pipe, and auditors of the exchequer, to a person who intends to plead or move for a discharge of anything in that court. The effect of it is to show what appears upon the record, respecting the matter in question. The same name is also given to an exemplification under the Great Seal of the enrolment of any letters patent.

Constella'tion, from *con*, and *stella*, a star. A cluster or assemblage of fixed stars, expressed and represented under the name and figure of some animal, or other emblem, which are convenient in describing the stars.

Constitu'tion, from *con*, and *statuo*, to set. 1. The general condition of the body, as evinced by the peculiarities in the performance of its functions.——2. A system of fundamental principles for the government of rational and social beings; the established form of government in a state, kingdom, or country.——3. A particular law made by a sovereign or other superior power.

Constric'tor, from *constringo*, to bind together. A muscle which draws together any opening of the body.

Construc'tion, from *con*, and *struo*, to dispose, fabrication. In *mathematics*, the drawing of those lines of a figure which are necessary to make the demonstration of a proposition more plain. The *construction of equations* is the method of reducing equations to geometrical figures, in order to a geometrical demonstration. In *grammar*, the arrangement and connection of words in a sentence, according to established usages.

Consubstantia'tion, the doctrine of Luther, that, in the sacrament of the Supper, the body and blood of Christ are transferred into the material of the bread and wine.

Con'sul, a chief magistrate of the ancient Roman Republic, who took his title from *consulo*, to consult. The title is now given to an officer appointed by competent authority to reside in foreign countries, with the view of facilitating and extending the commerce carried on between the subjects of the country which appoints him, and those of the country or place in which he is to reside.

Consulta'tion, Writ of. In *law*, a writ granted by the king's court, whereby a cause which had been removed into such court by prohibition out of the ecclesiastical court, is returned thither again.

Consump'tion, from *consumo*, to waste away, slow decay. This term is applied in *medicine* to the disease technically called *Phthisis pulmonalis*, pulmonary consumption. *See* Phthisis.

Con'tact, Angle of. In *geometry*, the angle made by a curve line with its tangent.

Conta'gion, from *con*, and *tango*, to touch. The communication of disease, 1, by contact; 2, by effluvia evolved from the body of the sick. *See* Infection. This term is also used by some writers generically to denote all atmospheric and morbid poisons; all the effluvia, miasmata, infections, and poisons that cause fevers, of whatever kind; and those poisons which uniformly excite the diseases which give birth to them, as syphilis, itch, &c.

Contem'pt, from *con*, and *temno*, to despise. Applied in law to express the offence of disobedience of the rules and orders of a court.

Content', from *con*, and *teneo*, to hold. Used in the House of Lords to express assent to a bill or motion.——2. The quantity contained. Used in geometry to

express the area or quantity of matter or space included within certain limits.

Continen'tal System, the celebrated plan of Napoleon for excluding the merchandise of England from all parts of the Continent.

Contin'ued Propor'tion, in *arithmetic*, is where the consequent of the first ratio is the same with the antecedent of the second, as A : B : : B : C.

Continu'ity, Law of, may be thus stated: nothing passes from one state to another without passing through all the intermediate states.

Contort'ed. 1. In *botany*, &c., twisted. ——2. In *architecture*, wreathed.

Con'traband, from *contra* and ban (q.v.). A term used in *commerce*, to designate, 1, a commodity prohibited to be exported or imported, bought or sold.——2. That class of commodities which neutrals are not allowed to carry during war to a belligerent power.

Contrabas'so, the largest of the violin species, usually called the double-bass.

Contractil'ity, a property of the living fibre, by which it contracts on the application of a stimulus.

Contrac'tion, from *con*, and *traho*, to draw. The lessening of the dimensions of a body, by causing the parts to approximate more closely; the action arising from excited contractility.

Con'tra-Dance, } Fr. *contredanse*; a
Coun'ter-Dance, } dance in which the partners are arranged in opposite lines, called vulgarly a *country dance!*

Contradic'tory Proposi'tions, in *logic*, are those which having the same terms differ in quantity and quality.

Con'tra-fis'sure, a counter or opposite fissure, applied in *surgery* to designate a fracture at some distance from the part whereon the blow was received.

Con'tra-Harmon'ic Propor'tion, in *arithmetic*, is that relation of three terms wherein the difference of the first and second is to that of the second and third, as the third is to the first.

Con'tra-Indica'tion, a counter or opposing indication, applied in *medicine* to designate a symptom which forbids the use of a remedy which might otherwise be employed.

Contral'to or Contra-Ten'ore (It.) In *music*, the part immediately below the treble, called also the counter-tenor.

Con'traries, in *logic*, are propositions which destroy each other, but of which the falsehood of the one does not establish the truth of the other.

Con'trast. In *fine arts*, an opposition of lines and colours to each other, so that each increases the effect of the other.

Con'tra-Ten'or. In *music*, a middle part between the tenor and treble; the *Counter*.

Con'trate-Wheel. In *watchwork* the wheel next to the crown, the teeth and hoop of which lie *contrary* to those of the other wheels, whence its name.

Contravalla'tion, from *contra* and *vallo*, to fortify. A line formed to defend besiegers against the sallies of a garrison.

Contrayer'va-Root, the root of the *Dorstenia contrayerva*, a perennial plant of South America. The name is Sp. *contra*, against, and *yerba*, an herb, being used as an antidote *against* poisons.

Con'tumacy, from *contumacia*, stubbornness; a term of *law* for wilful contempt and disobedience of any lawful summons or order of court.

Co'nus, a genus of mollusks, named from the conical shape of the shell. Class *Gasteropoda*; order *Pectinibranchiata*; family *Buccinoida*. The shells are highly prized; one, the *cedo nulli*, is valued at a hundred guineas. Found on rocky shores in tropical seas.

Convalla'ria, a genus of plants. *Hexandria—Monogynia*. May lily. Lily of the valley. Solomon's Seal. Name from *convallis*, a valley, because some of the species abound chiefly in valleys.

Conven'tion, from *con* and *venio*, to come. 1. A treaty, contract, or agreement between two parties.——2. An extraordinary meeting of parliament or states of the realm held without writ of the sovereign.——3. A treaty between military commanders concerning terms for a cessation of hostilities.

Converg'ing Lines, those which tend to a common point.

Converg'ing Rays, those which tend to a common focus.

Converg'ing Series, those whose terms continually diminish.

Con'verse, in *mathematics*, commonly signifies the same as *reverse*, from *vertor*, to be turned.

Conver'sion (of proportion), is when, of four proportionals, it is inferred that the first is to its excess above the second, as the third to its excess above the fourth. ——2. In *logic*, a proposition is said to be *converted* when the terms are so transposed that the subject is made the predicate, and *vice versâ*.

Conver'sion (centre of). In *mechanics*, the centre of revolution. "If a stick be laid on stagnant water and drawn by a thread fastened to it, so that the thread makes always the same angle with it, the stick will be found to turn about a certain point, which point is called the *centre of conversion*."

Convex'o-Con'cave, convex on the one side and concave on the other. *See* Lens.

Convex'o-Con'vex, convex on both sides. *See* Lens.

Convey'ance, from *con* and *veho*, to carry. The instrument or means of passing from one place or person to another.

thus an aqueduct is a *conveyance* for water; a deed of conveyance is an instrument or writing by which lands, &c., are conveyed or made over to another person. The term is also used in the sense of transference, assignment, &c.

Convoca'tion, from *con* and *voco*, to call; an assembly of the clergy of the Church of England by their representatives, to consult on ecclesiastical affairs. It is held during the session of parliament, and consists of an upper and lower house; but is now a mere form.

Convolvula'ceæ, a natural tribe of plants of which the genus *Convolvulus* is the type.

Convol'vulus, the *Bindweed*; a genus of plants. *Pentandria—Monogynia*. Name from *convolvo*, to roll up. Upwards of 100 species are enumerated, among which are the jalap, scammony, and turbith plants, the Spanish potato, &c.

Con'voy. In *navigation*, a ship or ships of war, appointed to escort or protect the merchant ships. The word is sometimes applied to the protected ships, and sometimes to both the protecting and protected vessels. In the *military service*, it signifies a detachment of troops who guard supplies of provisions, ammunition, &c., on their way to the army.

Coo'ler or Refrigera'tor, an apparatus used by brewers and distillers for cooling worts.

Coomb. 1. A dry measure of 4 bushels. —2. A term in geology. *See* Combe.

Co-or'dinates, in the theory of curves, denote any abscis with its corresponding ordinate.

Coot, a name common to all the birds of Linnæus's genus *Fulica* (q. v.). The *tree* Coots form the genus *Fulica*, Brisson. These birds form the link between the grallatoriæ and palmipedes.

Copai'ba, from *copal*, the American name for any odoriferous gum, and *iba* or *iva*, a tree, a yellow resinous juice of a bitterish biting taste, obtained from the *copaifera officinalis*, a tree which grows in the Brazils and New Spain.

Co'pal. The substance called *gum copal* is imported from Guiana, and is the produce of the *Rhus copallinum*, from which it exudes spontaneously.

Copar'cenary, Lat. *con* and *particeps*. An estate is held in coparcenary, and the tenants are coparceners, when it descends from an ancestor to two or more persons.

Coper'nican System, a particular system of the sphere proposed by Pythagoras, and revived by Copernicus, in which the sun is supposed to be placed in the centre, and all the other bodies to revolve round it in a particular manner.

Cop'per, a well known metal named from the island of Cyprus, whence it was first brought. It is found in nature in the metallic state, in the state of oxide, sulphuret (*vitreous ore of Brochant*), carbonate (*malachite*), hydrosilicate, sulphate (*blue vitriol*), phosphate, muriate, and arseniate. There are many varieties of these ores. Sp. gr. of copper 8·9, melting pt. 27° Wedgw. In tenacity it yields to iron, but surpasses gold, &c.

Cop'peras, a name formerly synonymous with *vitriol*, and hence applied to blue, white, and green vitriol, but especially the green, a factitious sulphate of iron.

Cop'per-bot'tomed, having the bottom sheathed with copper: applied to ships, &c.

Cop'per-fas'tened, fastened with copper-bolts.

Cop'per-plate Print'ing, the process of taking impressions from copper-plates, which is done by means of a rolling press.

Cop'rolite, from κοπρος, excrement, and λιθος, stone; the petrified fæcal matter of carnivorous reptiles, found in all strata containing the remains of these animals.

Cop'ula (Lat.), a shackle. 1. In *logic*, the verb which connects two terms of a proposition, the subject and predicate, as "virtue *is* indispensable to happiness:" here *is* is the copula.——2. In *anatomy*, a ligament.

Cop'y, in *printing*, is the subject-matter to be printed.

Cop'yhold, in *law*, is a species of *customary estate*, said to be held by copy of court roll; that is, by copy of the rolls of a manor made by the steward of a lord's court.

Cop'yright, the right which an author has in his own literary compositions.

Cora'cias, from κορακ, a crow; a genus of birds—the *Rollus*. They belong to the Eastern Continent, and resemble the Jays in their habits, but their plumage is vivid. Order *Passerinæ*, family *Conirostres*.

Cor'acle, a boat used by fishermen in Wales, made by covering a wicker frame with leather or oil-cloth.

Cor'aco-bra'chial, in *anatomy*, is applied to the muscle by which the arm is raised upwards and forwards, from its origin and insertion.

Cor'acoid, from κορακ, a crow, and ειδος, like; shaped like the beak of a crow. Applied to the upper anterior process of the scapula from its form.

Cor'al (κοραλλιον), a general name for those stony envelopes formed by *coralliferi*, in certain seas, as the Red Sea, Persian Gulf, Coast of Sumatra, &c. It is a calcareous substance, has a shrub-like appearance, and is of various colours, as red, white, and black. Its value depends on its size, solidity, &c.: some is worth 10*l.* an ounce, while other descriptions do not bring 1s. per lb. The islands of the South

Seas are mostly composed of coral covered with earth, and many more are in process of being formed.

Corallif'eri, an order of coral-bearing (*corallium* and *fero*) polypi. The coralliferi constitute that numerous suite of species which were long considered as marine plants, and of which the individuals are in fact united in great numbers, to constitute compound animals, mostly fixed like plants, either forming a stem or simple expansions, by means of a solid internal substance. Their volition and their nourishment are in common; whatever is eaten by one goes to the nutrition of the general body and all the other polypi.

Coral'lina, a generic name given by Linnæus to certain bodies which exist in the ocean, resembling the corals or polypiers, both in substance and general form, but in which polypi have not yet been discovered. Some consider them as plants, but others regard them, and with more probability, as being inhabited by coralliferous polypi.

Cor'alline. 1. The animal which secretes and inhabits coral.——2. The *corallina officinalis*, or *C. alba*, administered in medicine as an anthelmintic, and popularly known as sea-moss, white worm-seed, &c.

Cor'al-rag. In *geology*, a member of the middle division of oolite.

Cor'al-reef, Coral-island, a reef or island formed chiefly of coral (q. v.), but usually containing a large variety and amount of shells and other marine matters.

Co'ram No'bis (Lat.), before us: a law phrase.

Corb, contracted from *corban*, an alms basket; a basket used in collieries.

Cor'beil, from Fr. *corbeille*, a basket. In *architecture*, corbeils are sculptured baskets of flowers or fruit sometimes placed on the heads of caryatides.

Cor'bels. In *architecture*, a row of stones projecting from the wall to support the parapet in castellated and gothic edifices, instead of brackets or modillions. The term is also applied to a horizontal row of stones and timber in a wall or vault, to sustain the roof or floor; also to denote the vases of Corinthian capitals. *Corbel* is moreover frequently used in the same sense as *corbeil* (q. v.).

Cor'bel-Table. In *architecture*, a series of semicircular arches which cut one another in a wall, supported by timbers with their ends projecting out, and carved into heads, faces, lion's heads, &c.

Corcle, Lat. *corculum*, a little heart (*cor*, a heart); that point of a seed from which the life and organisation of the future plant originate, called also the *embryo*, or germ.

Cord (Welsh). 1. A string or small rope ——2. A pile of firewood containing 128 cubic feet, originally measured with a cord or line. The cord is 4 feet high, 4 feet broad, and 8 feet long.

Cordeli'ers, an order of friars so named from the knotted *cord* worn about their middle.

Cor'don. 1. In *architecture*, the edge of a stone at the outside of a building. ——2. In *fortification*, a row of stones made round on the outside, and set between the wall of the fortress which lies aslope, and the parapet which stands perpendicular.

Cordovan', a sort of leather made of goatskin at Cordova in Spain.

Cord'wainer, Fr. *cordonnier*, a shoemaker, from *cordovan* (q. v.). Cordwainers is the title under which the shoemakers are incorporated.

Coria'ceous, Lat. *coriaceus*, leathery, applied to leaves and pods that are thick and tough without being pulpy or succulent.

Corian'der, a name applied to both species of the genus Coriandrum, but especially the *C. sativum*.

Corian'drum, a genus of annual plants. *Pentandria—Digynia*. The *C. sativum* is a native of Britain. Name κορίανον, from κόρις, a bug, which the fresh plant resembles in smell.

Corin'thian Or'der. In *architecture*, the noblest, richest, and most delicate of the five orders, and so named because first erected at Corinth.

Cork, the outer bark (*cortex*) of a species of oak, the *Quercus suber*, a tree which grows abundantly in the southern provinces of France, Italy, Spain, Portugal, and Barbary.

Cork-Jacket, a jacket lined with thin layers of cork, used by persons learning to swim.

Cork-Tree, the *Quercus suber*, which closely resembles the *Quercus ilex*, or evergreen oak. It lives to a great age, and is periodically barked. *See* Cork.

Cor'morant, a bird, the *pelicanus carbo*, Lin., and aquatic crow of Aristotle. Its size is that of a goose. It breeds among the rocks by the sea, and feeds on fish. The name is corrupted from *corvus marinus*, sea-raven. The French call it *cormoran*, a corruption of *corbeau marin*, on account of its black colour. The Welsh call it *morvran*, sea-crow.

Corn'age, from *cornu*, a horn; an ancient tenure of lands which obliged the occupant to give notice of an invasion by blowing a horn.

Corn'brush, a provincial name for a coarse, shelly limestone, which occurs abundantly in Wiltshire.

Cor'nea (Latin), the anterior transparent portion of the ball of the eye.

Corner-Teeth (of a horse), the foreteeth between the middling teeth and the tusks, two above and two below, on each side of the jaw. They shoot from the horse at 4½ years old.

Cor'net. 1. A musical instrument closely resembling a trumpet, used in the army.——2. A commissioned officer in a troop of horse or dragoons.——3. *Cornet of a horse. See* Coronet.

Cor'net-a-piston, Fr., a brass wind musical instrument.

Cor'nice, from κορωνη, a summit; any moulded projection that crowns or finishes the part to which it is affixed, as the cornice of a room.

Cor'nish Chough, a sort of crow of a fine blue or purple-black colour, with red beak and legs, reckoned the finest bird of its kind, and therefore borne in coats of arms.

Corn-Sal'ad. 1. A name common to the plants of the genus *Fidia*.——2. The *Valeriana locusta*.

Corns, thickening of the cuticle of the toes, of a horny texture, arising from continued pressure.

Cornu Ammo'nis, the fossil shells called Ammonites.

Cornuco'pia, horn of plenty (*cornu*, a horn, and *copia*, plenty), fabled to be the horn which Hercules broke from the head of Achelous, and which was filled by the nymphs with all manner of flowers, and made the emblem of abundance. It is sculptured in ornamental architecture. Plural, *cornucopiæ*.

Cornula'ria, a genus of *Tubularii* (q.v.), whose tubes are conical, and from each of which issues a polypus with eight dentated arms.

Cor'nus, the dog-wood. A genus of hardy plants. *Tetrandria — Monogynia*. The cornel-tree, cornelian cherry, &c., are species. Name given by Pliny to an undetermined species.

Co'roa, a medicinal bark lately introduced into Europe from the East Indies. Plant unknown.

Cor'ody, } from Ital. *corredare*, to fur-
Cor'rody, } nish; a right of sustenance. The queen is entitled to a corody out of every bishopric; that is, to send one of her chaplains to be maintained by the bishop, or to have a pension allowed till the bishop promotes him to a benefice. This is fallen into disuse.

Corol'la, from *corolla*, a little crown. That part of a flower which is within the calyx, and immediately surrounds the organs of fructification; each division is called a petal.

Cor'ollary, from *corolla*, a little crown. A consequence drawn from a proposition already proved.

Coro'na, Latin, a crown. Applied to designate objects supposed to resemble a crown, either in shape or position; as 1. In *architecture*, the brow of a cornice which projects over the bed mouldings.——2. In *meteorology*, a luminous circle surrounding the sun, moon, or planets.

Coro'na Den'tis, the exposed part of a tooth, projection beyond the gum.

Corona'riæ, a natural order of plants, consisting of such as have beautiful flowers, thus forming a floral crown (*corona*).

Cor'onary, from *corona* (q.v.). A term applied in anatomy to parts, because they surround others, or for some less obvious reason.

Corona'tæ Plan'tæ, a natural class of plants, consisting of such as have the seed-bud crowned by the flower-cup.

Cor'oner, law Lat. for *coronator*. An ancient officer at common law, and so called because principally concerned with pleas of the crown. The principal part of a coroner's duty is now to inquire into the circumstances of the untimely death of any of the queen's subjects.

Cor'onet, from *corona*, a crown. 1. An inferior crown worn by noblemen.——2. The coronet or cornet of a horse, is the upper part of the hoof.——3. In *botany*, certain appendages of the corolla, which are arranged within it in a circle.

Coron'ula, dim. of *corona*, a crown. The hem or border which surrounds the seeds of some flowers in the form of a crown.

Cor'poral, the lowest officer of a company of infantry, next below a serjeant. The term is French, from the Celtic root *caput*, cape.

Corpora'tion, from *corpus*, body. A body politic or corporate, formed and authorised by law to act as a single person.

Cor'posant, from Sp. *cuerpo santo*, holy body. A name given by seamen to a luminous appearance often beheld in dark tempestuous nights, about the decks and rigging of a ship, but especially at the mast-head, yard-arms, &c.

Corps, a French term pronounced *kore*, and applied to designate, 1. A body of troops forming a division (indefinite) of any army.——2. A projecting part of a wall, intended to form a ground for decoration. The root of the term is Lat., *corpus*, body.

Cor'puscle, } Lat. *corpusculum*, dim. of
Cor'puscule, } *corpus*, a body; a minute particle. Corpuscles are not necessarily the elementary principles of matter, but simply such minute particles, whether simple or compound, as compose aggregate bodies.

Corpus'cula Verifor'mia, in *vegetable anatomy* are the strangulated ducts

found chiefly in the knots and contracted parts of stems.

Corpus'cular Ac'tion, the action of corpuscles on each other, by which all chemical action takes place.

Cor'pus Ju'ris, the collection of the authentic works containing the Roman law, as compiled under Justinian.

Correspon'dence. In *fine arts*, the fitting of the parts of a design to one another.

Cor'ridor, from Ital. *corridore*. A long passage or gallery in a building, connected with various departments, and sometimes running round a quadrangle. In *fortification*, a covertway. *See* Covertway.

Corro'sive Sub'limate, perchloride of mercury, *highly poisonous*.

Cor'rugate, Lat. *ruga*, wrinkle. In *zoology*, applied to the surface of an animal which rises and falls in parallel angles.

Corruga'tor, Lat. from *corrugo*, to wrinkle. A muscle, the office of which is to wrinkle or corrugate the part it acts on.

Corrup'tion, from *con*, and *rupto*, to break. In *law*, the term is used in the sense of *taint*, the consequence of an act of attainder.

Corse'let (Fr.) 1. An ancient piece of armour to cover the body, worn by pikemen.——2. The trunk of insects.

Cor'tes, the Spanish name of the states of the kingdom, composed of nobility, clergy, and representatives of cities: from *corte*, a court. The Assembly of Cortes answers in some measure to the Parliament of Great Britain.

Cor'tical, Lat. *corticalis*, resembling bark. Applied in *anatomy* to the external portions of the brain and kidney.

Corti'cifers, Lat. *cortex*, bark, and *fero*, I carry. Those polyps whose substance is spread over a central axis.

Cor'ticose, Lat. *corticosus*, like bark or rind. Applied, in *botany*, to hard woody pods.

Cor'tile (Ital.), an open quadrangular or curved area in a dwelling-house, inclosed by the building itself.

Cor'tina (Lat.), *a kind of table*; a term used in describing fungi, to denote that portion of the velum which adheres to the margin of the pileus in fragments.

Corun'dum, a very hard genus of aluminous minerals, of which the species are dodecahedral corundum, e. g. spinel, octahedral corundum, e. g. automilite, rhombohedral corundum, e. g. sapphire, and prismatic corundum, e. g. chrysoberyl.

Co'rus, a Jewish measure, answering to the omer = 75 galls. 5 pts. for liquids, and = 32 pks. 1 pt. for corn, &c.

Cor'vee (Fr.) In *feudal law*, the obligation of the inhabitants of a district to do certain services to the king, as the repair of roads, either gratuitously, or at a rate less than the value of the work done

Corvet', Fr. *corvette*, Sp. *corveta*; a sloop of war.

Cor'vus (Lat.), a raven. 1. In *ornithology*, a genus of passerine birds, comprising the raven, crow, rook, and jackdaw.——2. In *astronomy*, the *crow*, one of the old constellations lying south of Virgo, north of Hydra, east of Crater, and west of Hydra Continua.

Coryban'tes, in *Grecian mythology*, were the priests of Cybele.

Coryce'um. In *ancient architecture*, an apartment in a gymnasium.

Coryd'uline, an alkaline substance obtained from the *corydalis bulbosa*.

Cor'ylus, the *hazel-nut tree*: a genus of seven species. *Monœcia — Polyandria*. There is only one British species, the *C. avellana*. Name κορυλος, of unknown origin.

Cor'ymb, from *corymbus*, a cluster of berries, &c.; a species of inflorescence formed by many flowers, the partial flower-stalks of which are gradually longer, as they stand lower on the common stalk, so that all these flowers are nearly on a level.

Cor'ypha, a genus of palms. *Hexandria — Monogynia*. Fan-palm, Talipot-palm—Indies and New South Wales. Name from κορυφη, height, in allusion to the majestic height of some of the species.

Corytha'ix, a genus of birds. The *Touracos*—order *Scansoriæ*. Named from the head being furnished with an erectile tuft. Plumage green, and quill of the feather crimson. Natives of the Cape of Good Hope.

Cor'ythus, a genus of passerine birds: the Pine Grosbeak is a species. Name from κορυξ, a helmet.

Co-secant, the secant of the complement of any arc or angle.

Cos'inage, from Fr. *cousinage*, kindred; a term used in law to designate a writ to recover possession of an estate in lands when a stranger has entered and abated, after the death of the tresail, or the grandfather's grandfather, or other collateral relation.

Co'sine, the sine of the complement of any given arc or angle.

Cos'mical, from κοσμικος, relating to the world; an astronomical term for one of the poetical risings of a star: thus a star is said to rise *cosmically* when it rises with the sun.

Cos'molabe, from κοσμος, the world, and λαμβανω, to take; an ancient instrument for measuring distances, either celestial or terrestrial, much the same as the astrolabe.

Cosmol'ogy, from κοσμος, the world, and λογος, discourse; the science which treats of the general laws by which the physical world or universe is governed.

Cosmora'ma, from κοσμος, the world, and ὁραμα, view; an exhibition of views representing various parts of the world, the magnitude and apparent distances being increased by convex lenses.

Coss, a Hindoo measure variable in length, but usually about six-tenths of an English mile.

Cossacks, inhabitants of those parts of the Russian Empire bordering on Siberia, Turkey, and Poland.

Cos'tate, Lat. *costatus*, ribbed: applied to leaves of plants which have elevated lines extending from the base to the point. Also to animals when their surfaces have several broad elevated lines.

Cos'tume. In *painting*, the dress suitable to the time in which the action is supposed to take place.

Co-tan'gent, the tangent of the complement of any arc or angle.

Co'tillon, a French term meaning *petticoat*, used as the name of a brisk dance performed by eight persons together; also a tune which regulates the dance.

Coti'se, Fr. *côté*, side. In *heraldry*, a diminutive of the bend, being one-half of the width of the bendlet.

Cott, from Sax. *cote*, a bed; a small bed. On board of ships, the cott is a particular sort of bed-frame, suspended from the beams of the ship for the officers to sleep in. It is made of canvas, sewed in the form of a chest, and extended by a square wooden frame with a canvas bottom.

Cot'ton, a species of vegetable wool, the produce of the *Gossypium herbaceum* or cotton shrub, of which there are many varieties. It is found growing naturally in all the tropical regions of Asia, Africa, and America. The cloth which is manufactured from this wool is also called cotton. The term *cotton* is taken from the Arabic name *khutón*, written by the Italians *cotone*, whence Fr. *coton*, Dut. *katon*, and Eng. *cotton*.

Cot'ton-gin, a machine for separating the seeds from the cotton.

Cotton-mill, a building with machinery for carding, roving, and spinning cotton by water or steam-power.

Cotton-plant, all the species of the genus *Gossypium* produce cotton, and are therefore cotton-plants. The principal species are (1.) The *G. herbaceum* or herbaceous cotton-plant, with smooth leaves and yellow flowers, succeeded by roundish capsules full of seeds and cotton; (2). The *G. religiosum* (and varieties) or shrub-cotton, the flower and fruit of which closely resemble the herbaceous cotton, but the pod is egg-shaped. (3). The *G. arboreum* or cotton-tree which grows on all the Indian mountains, and yields cotton of a coarse quality.

Cot'ule, } the socket of the hip-joint.
Cot'yle, } The term κοτυλη, is the name of an ancient measure.

Cotyl'edon (κοτυληδων, from κοτυλη, a cavity). 1. A seed lobe. The *cotyledons* are the parts of a seed which when germinating become *seminal leaves*, between which is seated the *embryo* or germ of the plant, called when expanded, the *plumula*. Some plants are *dicotyledonous*, others *acotyledonous*, and some *polycotyledonous*.——2. In *anatomy*, the same as *acetabulum* (q. v.).——3. The name of a genus of plants. *Decandria—Pentagynia*. Navel-wort. The exotic species are mostly permanent.

Coty'liform, applies to the general form of organs of a rotate figure with an erect limb.

Cot'yloid Cavity. In *anatomy*, the socket which receives the head of the thigh-bone, thus named from κοτυλη, the name of an ancient measure, and εἶδος, resemblance.

Couag'ga, an animal of South Africa, the *Equus quaccha*, Lin., which more resembles the horse than the zebra. The name is expressive of its voice, which resembles the barking of a dog.

Couch'ant (French), lying down; applied in heraldry to a lion or other beast lying down with the head raised, which distinguishes the posture of *couchant* from that of *dormant* or sleeping.

Couch'ing. 1. In *surgery*, a surgical operation, which consists in removing the opaque lens out of the axis of vision, by means of a needle adapted to the purpose.——2. In *agriculture*, clearing land from couch grass.

Coul'ter, from *culter*, a knife; an iron instrument like a knife, fixed in the beam of a plough, and serving to cut the edge of each furrow.

Cou'marin, a crystalline odoriferous principle extracted from the tonka bean, which is the seed of the *Coumarouna odorata*.

Coun'cil, an assembly; applied to any body of men convened for consultation and advice in important affairs. Thus what is called *the Privy Council*, is a select council formed of the confidential advisers of the sovereign, and convened for the purpose of deliberating on affairs of state. A *Council of War* is an assembly of the principal officers, called in particular emergencies, to concert measures for their conduct.

Count. 1. In *law*, a particular charge in an indictment. Fr. *conte* and *compte*. ——2. A foreign title of nobility equiva-

lent to that of earl in England. Fr. *Comte*, It. *Conte*, Sp. *Conde*. It is now merely a title of honour.

Coun'ter Approa'ches. In *fortification*, lines and trenches made by the besieged to attack the works of the besiegers or hinder their progress.

Coun'ter Drain, a channel dug parallel to a canal, &c., for the conveyance of the soccage water, by means of drains, into the lower grounds.

Coun'terchanged. In *heraldry*, intermixed as the colours of the field and charge.

Coun'terdrawing, a method of copying a design or painting by drawing the outlines on some transparent medium placed over the picture or drawing. This outlined sketch is then transferred to the canvas or other material on which the copy is to be made.

Coun'terfoil, } that part of a tally
Coun'terstock, } struck in the Exchequer which is kept by an officer in that court, the other being delivered to the person who has lent the money on the account, and is called the *stock*.

Coun'terfort, a buttress, spur or pillar, serving to support a wall, &c., liable to bulge.

Coun'tergauge. In *carpentry*, a method used to measure the joists by transferring the breadth of a mortise to the place where the tenon is to be, in order to make them fit each other.

Coun'terguard. In *fortification*, a work raised before the point of a bastion.

Coun'termark, a mark frequently seen in ancient coins.

Coun'termine. In *military affairs*, a well and gallery sunk and driven till it meets the enemy's mine, to prevent its effects.

Coun'termure (*murus*, a wall), a wall raised behind another to supply its place when a breach is made.

Coun'terpaled. In *heraldry*, is when the escutcheon is divided into 12 pales parted per fesse, the two colours being counterchanged, so that the upper and lower are of different colours.

Coun'terpart, the corresponding part, or that which answers to another, as the two papers of a contract. In *music*, the bass is said to be the counterpart of the treble.

Coun'ter-passant. In *heraldry*, is when two lions or other beasts are represented as going contrary ways.

Coun'terpoint. In *music*, is when the musical characters by which the notes in each part is signified, are placed in such a manner, each with respect to each, as to show how the parts answer one another; hence in composition counterpoint is the art of combining and modulating consonant sounds.

Coun'terproof. In *rolling-press printing*, a print taken off from another fresh printed, which, by being passed fresh through the press, gives an inverted impression.

Coun'ter-roll. In *law*, a counterpart or copy of the rolls relating to appeals, inquests, &c.

Coun'tersa'lient. In *heraldry*, is when two beasts are borne in the act of leaping from each other. The term is Fr. *contre* and *saiter*, to leap.

Coun'terscarpe. In *fortification*, the exterior talus or slope (*escarpe*) of the ditch, or the talus that supports the earth of the covert-way, with its parapet and glacis.

Coun'tersign, the signature of a public officer to the charter of a king, prelate, &c., by way of certificate. In *military language*, *see* Watchword.

Coun'tersink, to make a cavity in timber-work for the reception of a plate of iron or the head of a screw or bolt.

Coun'ter Swal'low's-Tail. In *fortification*, an outwork in the form of a single tenaille, wider at the gorge toward the place than at the head toward the country.

Coun'tertenor. In *music*, high tenor; a term applied to the highest male voice.

Coun'tertime. In the *manége*, the resistance of a horse that interrupts his cadence and the measure of his *manége*, occasioned by a bad horseman or the bad temper of the horse.

Count-wheel, in the striking part of a clock, is that which moves round in 12 or 24 hours; called also *locking-wheel*.

County Corporate, a county invested with particular privileges by charter or royal grant.

County-court, a court whose jurisdiction is limited to a county, incident to the jurisdiction of a sheriff.

County-palatine, a county distinguished by particular privileges. So called *a palatio*, because the owner had originally royal powers. The Counties Palatine of England are Lancaster, Chester, and Durham, but the palatine powers are now abridged.

Coup-d'œil, Fr. The first glance of the eye, with which it surveys anything at large.

Coup-de-soleil, Fr. stroke of the sun. A name given to any disorder suddenly produced by the violent scorching of the sun, especially on the head, as phrenitis, apoplexy, &c.

Coup'le, Fr. 1. A band, as that with which dogs are tied together in pairs. ——2. A rafter. *See* Couples.

Couple-close. In *heraldry*, an ordinary so called from its inclosing the chevrons by couples.

Coupled Columns, columns arranged in pairs.

Couples. In *architecture*, rafters framed together in pairs, with a tie fixed above their feet.

Coup'ling-box. An iron cylinder for connecting shafts of machinery.

Coupu're. In *fortification*, a passage cut through the glacis, in the re-entering angle of the covert-way, to facilitate the sallies of the besieged.

Courant, Fr. running. Applied in *heraldry* to any animal borne in an escutcheon in a running attitude.

Course, Fr. from Lat. *curro*, to run. 1. In *navigation*, that point of the horizon or compass which a vessel steers on, or the angle which the rhomb-line makes with the meridian.——2. In *building*, a continued layer of bricks or stones.——3. Among *slaters*, a row of slates or tiles, arranged with their lower ends level.——4. In *architecture*, the course of the face of an arch is the arch-stones which have their joints radiating to the centre; the course of a plinth is its continuity in the face of the wall. A *bond course* is further inserted into the wall than those adjacent.

Course of Exchange. In *commerce*, the price or rate at which the currency of one country is exchanged for that of another, supposing the currencies of both to be of the precise weight and purity fixed by their respective mints.

Courses. In a *ship*, the principal sails, as the main-sail, fore-sail, and mizen. Sometimes the name is given to the stay-sails of the lower masts; also to the main stay-sails of all brigs and schooners.

Coursing-joint, one between two courses of masonry.

Court-baron, a court held by every lord of a manor within the same; punishment is by amercement.

Court-leet, a court of record, held once a year in a particular hundred, lordship, or manor, before the steward of the leet.

Court-martial, a court consisting of military or naval officers, for the trial of military or naval offenders.

Court of Conscience, a court for the determination of cases where the debt or damage is under 40*s*.

Court-plaister, a plaister made by covering black silk with a mixture of balsam of benzoin and isinglass.

Cousinet', } the stone which is placed
Cushion, } on the impost of a pier, to receive the first stone of the arch; also, the part of the front of an Ionic capital between the abacus and echinus.

Cove-bracketing. In *architecture*, is generally applied to that of the quadrantal cove.

Coved and Flat Ceiling, a ceiling in which the section is the quadrant of a circle, rising from the walls, and intersecting in a flat surface.

Cov'enant. In *history*, the famous bond of association adopted by the Scottish Presbyterians, in 1638. In a *theological* sense, it is a promise made by God to man upon certain conditions. In *law*, it is an engagement under seal, to do or to omit a direct act; it is also a form of action, which lies where a party claims damages for breach of a covenant under seal.

Covenan'ters, the great body of the Scottish people, who at the era of the Reformation, in 1638, and several times afterwards, subscribed the National Covenant.

Coverts. In *ornithology*, the feathers attached to the wings.

Cov'erture. In *law*, the state of a married woman, who is considered as under *cover*, or the power of her husband, and therefore called a *femme-covert*, or *feme-covert*.

Covert-way. In *fortification*, a level space of about 20 ft. broad from the side of the ditch, surrounding half-moons, &c. It has usually a parapet, with palisades down the middle, and a foot-bank, and is sometimes called the *corridor*.

Cover-way, the recess left in brick-work for the reception of the roofing.

Covin. In *law*, a collusive agreement between two or more to prejudice a third person. The term is from Norman *coyne*, a secret place of meeting.

Cov'ing, from *cove*, a term used in *architecture*, to denote the projection of the upper stories of houses over the lower. The covings of a fireplace are the inclined vertical parts of the sides.

Cow-pox. This name may be given to any pustulous disease affecting the cow, but it is especially applied to that which appears on the teats, in the form of vesicles of a blue livid colour: they contain the virus called *vaccine*. The same virus may be obtained from the heel of a horse, when affected by the disease called the *grease*.

Cowquakes, the quaking grass; names common to all the species of the genus *Briza*.

Cow'ry, a small shell brought from the Maldives, which passes current as coin in small payments in Hindostan, and throughout extensive districts in Africa.

Cow'slip or Cow's-lip, a species of *Primula* or primrose of several varieties. The American cowslip belongs to the genus *Dodecatheon*; the Jerusalem and mountain cowslip to the genus *Pulmonaria*.

C. P. S. stand for *Custos privati sigilli*, i. e. keeper of the privy seal.

Cr. In *book-keeping*, an abbreviation of the word *creditor*.

Crab, Sax. *crabba*. 1. In *natural history* (*see* Cancer).——2. In *astronomy* (*see* Cancer).——3. In *botany*, the wild apple-

tree, and also the fruit of that tree.——4. In *mechanics*, a machine with three claws, used to launch ships and heave them into the dock; also a wooden pillar somewhat resembling a small capstan, and used for the same purposes.

Crab's Claws. In the *materia medica*, the tips of the claws of the common crab (*Cancer pagurus*) ground. The powder is used as an absorbent.

Crab's Eyes, concretions formed in the stomach of the cray-fish (*Cancer astracus*, Lin.). They are round on one side and depressed on the other, and not unlike eyes.

Crab Yams, a name in the West Indies for a kind of ulcer on the soles of the feet, with callous lips so hard that they are cut with difficulty.

Cra'dle, Sax. *cradel*, from κραδαω, to swing. 1. A moveable bed for rocking children and infirm persons to sleep.——2. A frame of timber placed under the bottom of a ship, to conduct her steadily and smoothly into the water in launching her.——3. The name is sometimes used by architects and engineers in the same sense as *coffer* (q. v.); and also to designate a centring of ribs and lattice for turning culverts.

Cra'dling. In *architecture*, timberwork to support the lath and plaster of ceilings, or for supporting the entablature for a shop front, &c.

Crag. In *geology*, a tertiary deposit of the older pliocene period, which has obtained this name from a provincial term signifying gravel. It is divided into two groups, the coralline or lower, and the red or upper crag.

Crake, the corn-crake (*Rallus crex*, Lin.). Named from its cry, *crek, crek*. It has been called the *Quail-king*, because it arrives and departs with these birds, and leads a solitary life on the same grounds, from which arose the conjecture that it was their leader. It feeds on grain, worms, and insects.

Cram. In *weaving*, a warp having more than two threads in each dent or split of the reed.

Crambe, the *colewort:* a genus of plants. *Tetradynamia—Siliculosa*. The sea-kale (*C. maritima*) grows wild on our shores, and is cultivated for our tables. Name κραμβη, cabbage.

Crame'ria, a genus of plants. *Tetrandria—Monogynia*. Named in honour of two German botanists called Kramer. The tree which affords the root called *rhatany* is a Peruvian species of this genus.

Cramp, Ger. Dut. Sw. *krampe*. 1. In *medicine* (*see* Spasm).——2. In *building*, a piece of iron or other metal bent at each end, and inserted into contiguous parts of a building, arch, &c., to hold them together, and thus give additional strength to the structure.

Cramp'fish, the torpedo or electric eel.

Crampoo'ns, three hooked pieces of iron attached to the end of a rope or chain, for drawing up stones, timber, &c.

Cran'berry, the *red whortleberry*, the fruit of *Vaccinum oxycoccus*, a moss plant indigenous in Britain, but not plentiful. Cranberries are chiefly imported from Russia and North America.

Crane. 1. In *ornithology*, a name common to all the species of the genus *Grus*, Lin.——2. In *hydraulics*, a popular name for the syphon employed to draw off liquids.——3. In *mechanics*, a machine for raising and lowering great weights, which has been variously constructed according to purposes intended to be accomplished, and is consequently distinguished by various names, as the *cellar crane, portable stone crane*, &c. *Watt's jib beam* is perhaps the most advantageous in present use.

Crane's-bill, a name common to all the plants of the genus *Geranium*.

Cran'gon, a species of crab (*Cancer crangon*).

Cran'gon, Gr. καραγγη, a cray-fish; the name of the Macrourous crustaceans, including the common shrimp.

Craniol'ogy, from κρανιον, the skull, and λογος, discourse; the study of skulls, as exhibited in the diversity of their size, shape, and proportion of parts, of different races of mankind.

Cranio'meter, from κρανιον, a skull, and μετρον, measure; an instrument for measuring the cranial development of man and other animals.

Crank, literally, a bend. Applied in mechanics as the name of a square piece projecting from a spindle, serving by its motion to raise and fall the pistons of a steam-engine, turn a wheel, &c.—*Crank* is also the name given to iron supports of a lantern and the iron made fast to the stock of a bell.—Among seamen, *crank* means liable to be upset, and is applied to a ship of a narrow build, or which has not sufficient ballast.

Craf'audine Doors, doors which turn on pivots at the top and bottom.

Crape, Fr. *crêpe*, Ger. *krepp*. A transparent textile fabric, somewhat like gauze, made of raw silk, gummed and twisted at the mill. It is woven with any tweel, and is either crisped (*crepé*) or smooth. When dyed black it is worn by ladies as a mourning dress.

Crass'ament, Lat. *crassamentum*, from *crassus*, thick; the glutinous coagulum of the blood.

Crassatel'la, a genus of Molluscs. Family *Mylitacea*, order *Acephala testacea*, Cuv. Name dim. of *crassus*, thick, the

valves of the shells becoming very thick by age.

Cratæ'gus, a genus of permanent plants, of which the hawthorn and wild service-tree are species. *Icosandria—Digynia.* Name from κρατεω, to be strong.

Cratæ'va, a genus of plants. *Polyandria—Monogynia.* Name from κρατειος, strong, in allusion to the strong alliaceous odour of the fruit of most of the species, which has acquired for it the name of *garlic pears.* The bark of the *C. tapia* is a bitter tonic much esteemed in India as a febrifuge.

Cray'on, from Fr. *craie*, chalk; a general name for all slender, soft, and friable cylinders variously coloured, for delineating figures upon paper, usually called chalk drawings. Red, green, brown, and other coloured crayons are made with fine pipe or china clay paste, intimately mixed with earthy or metallic pigments, then moulded and dried.—*Lithographic crayons* are made of lamp-black, shell-lac, hard tallow-soap, and white wax, fused together and cast in a mould of the required size.

Cream of Tartar, bitartrate of potash, or the white tartar of commerce freed from its impurities.

Cre'ance. In *falconry*, a fine small line fastened to a hawk's beak when she is first lured.

Cre'asote, from κρεας, flesh, and σωζω, to preserve; an oily, colourless, transparent liquid, of a penetrating odour, resembling that of smoked meat, and of a burning and exceedingly caustic taste: obtained most easily from tar. It takes its name from its antiseptic property.

Creden'da. In *theology*, things to be believed: articles of faith; in distinction from *agenda* or practical duties.

Creden'tials, Letters of, the letter from one monarch to another, constituting the evidence of the validity of the title of a minister at a foreign court.

Cred'it. In *commerce*, the term used to express the trust or confidence placed by one individual in another, when he assigns him money or other property in loan, or without stipulating for its immediate payment. The party who lends is said to give credit, and the party who borrows to obtain credit.

Creek, Sax. *crecca*. In *geography*, a shore or bank on which the water beats, running in a small channel from the sea. In the United States, *creek* is synonymous with *rivulet*.

Creel. A fish-basket.

Cree'per. 1. In *botany*, creeping plants are called *creepers.*—2. In *ornithology*, a name common to all the species of the genus *Certhia*, Lin., from their habit of climbing trees like woodpeckers.

Cree'pers, an instrument of iron, with hooks or claws, for drawing up things from the bottom of a well, pit, &c., or for dredging the bottom of a river, &c., in search of something, as the body of a drowned person.

Cremo'na, a general title for the violins made at Cremona in Italy, during the 17th and 18th century, chiefly by the Amati family.

Cre'nate, Lat. *crenatus*, notched or scolloped. Applied to objects in natural history when the indentations on the borders, as of leaves, are rounded and not sufficiently deep to be called teeth.

Crenel'le, in *Gothic architecture*, the opening of an embattled parapet.

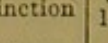
Cren'ulate (dim. of *crenate*); indented round the margin with small notches.

Cre'oles, the descendants of whites born in Mexico, South America, and the West Indies, in whom the European blood has been immixed with that of other races.

Cre'pance, } A chop in one of a horse's
Cre'pane. } hind legs, caused by the shoe of the other hind foot crossing and striking it. This sometimes degenerates into an ulcer.

Cre'pon, a fine stuff made either of fine wool, or of wool and silk, of which the warp is twisted much harder than the weft. The *crepons* of Naples consist altogether of silk.

Crepuscula'ria, a family of Lepidopterous insects in the system of Cuvier, composing the genus *Sphinx* of Linnæus; name from *crepusculum*, twilight, as "these lepidoptera appear only in the morning or evening."

Crescen'do (Ital.) In *music*, when the volume of sound is increased from soft to loud, marked thus  .

Cres'cent, from *crescens*, growing. In *heraldry*, an honourable ordinary in the form of a new moon or crescent.

Crescen'tia, the *Calabash tree:* a genus. *Didynamia—Angiospermia.* Name from *cresco*, in allusion to the rapid growth and large size of the nut or fruit. Natives of the West Indies and South America.

Cress. A number of plants which have a more or less pungent flavour are called cresses. The garden and sciatic cresses are species of the genus *Lepidium;* the water and wild cresses belong to the genus *Sysimbrium.*

Crest, from Norm. *crest*, it rises. A term used in *armoury* to signify the top part of the helmet generally ornamented; and in *heraldry*, that part of the casque or helmet next the mantle.

Creta'ceous Group. In *geology*, a group of strata comprising those from the chalk of Maestricht to the lower green sandstone inclusive. These strata are all marine.

Cre'tinism, a peculiar endemic disease, common in Switzerland, and in some other mountainous districts. It makes a close approach to rickets in its general symptoms; but differs in the tendency to that peculiar enlargement of the thyroid gland called by the French *goître*, and by us *Derbyshire-neck*, and in the mental imbecility which accompanies it from the first. The individuals so affected with this disease are called *cretins*.

Crib-biting, biting the manger or crib; a bad habit in horses, caused by disease in the teeth, or rough usage by the person who currycombs them.

Crib'iform, Lat. *cribiformis*, sieve-like (*cribrum*, a sieve); applied to one of the bones of the cranium (the *ethmoid bone*), which is perforated like a sieve.

Cric'tus, a genus of Mammalia—the Hamsters. Order *Rodentia*. These animals have considerable resemblance to the rat in conformation, but are agreeably marked with grey, black, and white spots. The *C. vulgaris* is common in all the sandy regions which extend from the north of Germany to Siberia.

Cri'coid, Lat. *cricoides*, ring-like (κρίκος, a ring, and εἶδος, like). Applied in *anatomy* to a ring-like cartilage of the larynx.

Crimp. 1. An agent for coal-merchants and persons concerned in shipping.——2. An obsolete game at cards.——3. A person formerly employed to decoy others into the naval or military service.

Crin'gle, from D. *krinkel*, a bend. A hole in the bolt-rope of a sail, formed by intertwisting the division or strand of a rope alternately round itself and through the strand of the bolt-rope, till it becomes threefold, and assumes the shape of a ring. Its use is to receive the ends of the ropes by which the sail is drawn up to its yard, or to extend the leech by the bow-line bridles. *Iron cringles* or *hanks* are open rings running on the stays, to which the heads of the stay-sails are made fast.

Cri'no, from *crinis*, hair. 1. A genus of Entozoa, observed chiefly in horses and dogs.——2. A disease which, according to Ettmuller and others, has prevailed epidemically among children. It consists in the eruption of rigid black hairs from the skin of the back, arms, and legs, accompanied with febrile irritation and emaciation. Three or four crops arise during the first month of the child's life.

Creinoi'dea, from κρίνον, a lily, and εἶδος, like, lily-shaped zoophytes. A name given to the whole class of Encrinites and Pentacrinites, from their resemblance to the head of a lily. The fossil remains of this order have been long known by the name of stone-lilies or encrinites, and have lately been classed in a separate order, containing many genera, and placed by Cuvier after the asteriæ. The skeleton of the crinoïdea is composed of numerous ossicula, the number of bones in one skeleton being computed at upwards of 30,000.

Cris'ta, Lat. a crest. This name is given, 1. In *anatomy*, to several parts and processes of bone, supposed to resemble the comb of a cock, as the *crista ilii* and *crista galli* of the ethmoid bone.——2. In *surgery*, to certain excrescences supposed to resemble the comb of a cock.

Cris'tate, Lat. *cristatus*, crested. Applied to parts of plants, &c., having an appendage resembling a crest.

Crith'mum, the samphire or sea-fennel. A genus of plants. *Pentandria—Digynia*. There are two species; the *C. maritimum*, a low perennial, grows on our coasts, and is used as a pickle. Name from κρίνω, to secrete, in allusion to some ascribed medicinal virtues of the plant.

Crocket, from Fr. *croc*, a hook. The small buds or bunches of foliage used in Gothic architecture, to ornament spires, canopies, pinnacles, &c.; the larger bunches at the top are termed *finials*.

Croc'odile, Lat. *crocodilus*. An amphibious voracious animal of the order *Sauria*, Cuv. *See* Crocodilus.

Crocodi'lus, a genus of reptiles of the order *Sauria*, Cuv., comprising 12 species; viz. one Gavial, three Alligators, and eight true Crocodiles. Name κροκόδειλος, of uncertain origin. Crocodiles are large animals, having four feet, and a tail flattened on its sides, and covered, like the back of the animal, with very hard scales or plates. They are furnished with two rows of teeth, and there are three eyelids to their eyes. The vertebræ are so disposed as not to admit of sudden deviation from a straight course, in consequence of which it is not difficult to escape from them by pursuing a zigzag course, or by running from them. Their eggs are as large and hard as those of a goose. They inhabit fresh water.

Crocon'ic Acid. During the distillation of potassium from a mixture of carbonate of potash and charcoal, a gray compound comes over, which forms a yellow solution with water. From this solution yellow crystals of croconate of potash are obtained, which afford by proper treatment yellow prismatic crystals of *croconic acid*; a compound, according to Gmelin, of carbon, oxygen, and hydrogen. The acid is decomposed by strong heat, and deposits pure charcoal. It takes its name from *croceus*, yellow (*crocus*, saffron).

Cro'cus. 1. Saffron, a genus of plants. *Triandria—Monogynia*. The *C. sativus* is a native of Greece and Asia Minor, but

is extensively cultivated in England for medicinal purposes, and for the colouring matter of its flowers (*See* SAFFRON). The story of young Crocus, turned into this flower, may be seen in the fourth book of Ovid's Metamorphoses.——2. A name given by the older chemists to several preparations of metallic substances, from their yellow colour, as *C. martis*, calcined sulphate of iron; *C. metallorum* (metallic crocus), sulphuretted oxide of antimony; *C. veneris*, oxide of copper, formed by calcining the metal.

CROIS'SANTE CROIX (French), a crescent at each end.

CROM'LECHS, rude erections of great antiquity, found in many parts of Britain. They consist of huge flat stones, raised upon other stones set upon end. By some they are regarded as tombs, by others it is imagined that they are Druidical altars, erected for sacrificial purposes.

CROP-OUT, a term used by miners to express the rising up at the surface of one or more strata; thus a stratum rising to the surface is said to *crop-out*.

CRORE. In *commerce*, 100 lacs of rupees.

CROSET'TES, in *architecture*, the same as *ancones*.

CRO'SIER. 1. A bishop's crook or pastoral staff; a symbol of pastoral authority and care. It was originally a staff with a cross on the top in the form of a T.——2. In *astronomy*, four stars in the southern hemisphere in the form of a cross.

CROS'LET. In *heraldry*, a little cross crossed at a small distance from the ends.

CROSS, from Lat. *crux*, through Fr. *croix;* an instrument used in surveying for the purpose of raising perpendiculars. It consists merely of two pairs of sights set at right angles to each other, mounted on a staff of a convenient height for use. In *heraldry*, the most ancient and noble of all the honourable ordinaries, which contains one-fifth of the field, and is formed by the meeting of two perpendicular with two horizontal lines near the fess point, where they make four right angles.

CROSS-BANDED, a term applied to a veneer on a hand-rail, the grain of which crosses that of the rail.

CROSS-BAR-SHOT, a cannon-ball with an iron bar passing through it, and projecting a few inches on each side; used in naval actions for cutting the enemy's rigging.

CROSS-BEAM. In *architecture*, a large beam passing from wall to wall, and serving to hold the sides of a house together.

CROSSBILL. 1. In *ornithology*, a name common to all the species of the genus *Loxia*, Bris.; but especially applied to the *L. curvirostra*, Lin. The beak is compressed, and the two mandibles are so strongly curved that their points cross each other, sometimes on the one side and sometimes on the other.——2. In *chancery*, an original bill by which the defendant prays relief against the plaintiff.

CROSS-BOW, a missive weapon formed by placing a bow athwart a stock of the form of a musket.

CROSS-CUT SAW, a saw managed by two men, one at each end.

CROSS-JACK (*Cro-jeck*), a sail extended on the lower yard of the mizen-mast; seldom used.

CROSSES, STONE. In *antiquities*, *preaching crosses* are in general quadrangular or hexagonal, open on one or both sides, and raised on steps. *Market crosses* are well known. *Crosses of memorial* were raised on various occasions. Crosses served also as landmarks.

CROSSET'TES, Fr., called also *ears*, *elbows*, *ancones*, *prothyrides*. In *architecture*, the returns on the corners of door-cases or window frames.

CROSS-HEAD. In *mechanics*, any cross-beam or bar is so called.

CROSS-PIECE, a rail of timber extending over the windlass of a ship, furnished with pins to which to fasten the rigging as occasion requires.

CROSS-STAFF, an instrument formerly used at sea to take the meridian altitude of the sun.

CROSS-TREES. In *ships*, pieces of timber supported by the cheeks and trestle-trees at the upper ends of the lower masts, to sustain the frame of the top, and on the top-masts to extend the top-gallant shrouds.

CROSS-VAULTING, a common name given to groins and cylindric vaults.

CRO'TALUS, the *rattlesnake*, a genus of serpents remarkable for the intensity of their venom, and the rattle which terminates the tail (whence the generic name from κρόταλον, a rattle). This rattle is formed by several scaly cornets, loosely fitted into each other, which move and produce the peculiar noise whenever they crawl or shake that part of the body. Four species are found in America.

CROTCH, Fr. *croc*, a hook. 1. A crooked timber placed on the keel in the fore and aft parts of a ship.——2. A piece of wood or iron opening on the top, and extending two horns or arms like a half-moon, for supporting a boom, a square topmast, yards, &c.

CROTCHET, Fr. *crochet*, *croche*, from *croc*, a hook. 1. In *printing*, *see* BRACKETS.——2. In *carpentry*, *see* BRACKET.——3. In *obstetrics*, a curved instrument with a hook, used to extract the fœtus in the operation of embryotomy.——4. In *music*, a note equal in time to half a minim and the double of a quaver, marked thus:—

Crota'lum, an ancient kind of castanet used by the Corybantes, or priests of Cybele.

Cro'ton. 1. The Greek name of the dog-tick.——2. The name of a genus of plants, mostly shrubs, inhabiting hot climates. Class *Monœcia*; order *Monodelphia*. The *C. cascarilla* affords the cascarilla bark; the *C. tiglium* affords the parana wood and tiglia seeds, from which croton oil is obtained; the *C. tinctorium* produces the litmus or turnsol.

Croto'ne, a fungus on trees produced by an insect like a tick (κρότων, the tick), and applied to small fungous excrescences on the periosteum.

Croton'ic Acid, an acid obtained from croton oil.

Cro'ton Oil, a powerful purgative oil, obtained by expression from the tiglia seeds (seeds of the *Croton tiglium*), which is a native of Ceylon, Malabar, China, and the Moluccas.

Croup. 1. Fr. *croupe*, the hindermost parts of a horse.——2. Scot. *croup* or *croop*; an affection of the throat accompanied by a hoarse and permanently laborious and suffocative breathing, a stridulous noise, a short and dry cough, and frequently, towards the close, an expectoration of concrete membranous sputum. Of this disease there are three varieties, the *acute*, the *chronic*, and the *spasmodic*. The first species is both common and fatal among children under 12 years of age, the second is rare, and the third is rather a nervous than an inflammatory disease.

Croup'ade. In the *manége*, a leap in which the horse throws up his croup and pulls up his hind legs, as if he drew them up to his belly.

Croup'er, a leathern strap attached to a saddle, and fitted to go under the tail of the horse to keep the saddle in its place.

Crow. 1. In *ornithology*, a name common to all the species of the genus *Corvus*, Lin., from the cry of these birds.——2. In *mechanics*, a bar of iron with a hook at one end and having the other pointed, used chiefly by masons and bricklayers for moving heavy weights.——3. The butcher's name for the mesentery or ruffle of a beast.

Crow-foot. 1. In *ships*, a complication of small cords spreading out from a long block; used to suspend the awnings, to keep the topsails from chafing against the tops.——2. In *botany*, a name common to all the species of the genus *Ranunculus*.——3. In *military affairs*, a caltrop.

Crown. 1. A cap of state.——2. A silver coin worth 5*s*.——3. In *anatomy*, the vertex of the head.——4. In *architecture*, the upper part of a cornice, including the corona.——5. In *geometry*, a plane ring included between two concentric perimeters.——6. In *astronomy* (*See* Corona).——7. Among *jewellers*, the upper work of the rose-diamond.

Crown-glass, the best sort of window glass.

Crown'ing. 1. In *architecture*, the finishing of a member or any ornamental work.——2. Among *seamen*, the finishing of a knot or the interweaving of the strands.

Crown'-office, an office belonging to the Court of Queen's Bench, of which the Queen's coroner or attorney is commonly master, and in which the attorney-general and clerk exhibit informations for crimes and misdemeanours.

Crown-post, in *building*, a post which stands upright between two principal rafters.

Crown-scale. In *farriery*, a cancerous sore formed round the corners of a horse's hoof.

Crown-wheel. In a *watch*, the upper wheel, which by its motion drives the balance.

Crown-work. In *fortification*, an outwork having a large gorge and two long sides terminating towards the field in two demi-bastions, intended to inclose a rising ground or cover an entrenchment.

Cru'cible, a chemical vessel indispensable in the various operations of fusion by heat. Crucibles are commonly made of fire-clay, so tempered and baked as to endure extreme heat without melting. To render them more refractory, the clay may be mixed with some finely ground *cement* of old crucibles, a portion of black-lead, and some coak. The black-lead crucibles are made of two parts of graphite, and one of fine clay, made into a paste with water: they bear a higher heat than the Hessian crucibles, which consist simply of clay and sand: these have a triangular shape. Crucibles are made of various other materials, as iron, platinum, &c.

Cru'ciferæ, the name given to a large order of plants, from *crux* and *fero*, because the petals, four in number, are so arranged as to resemble a cross. The radish, cabbage, stock, &c., are *cruciferous* or *cruciform plants*. They all belong to the Linnæan class *Tetradynamia*.

Cru'ciform, Lat. *cruciformis*, cross-like. Applied to flowers, leaves, &c., which have the shape of a cross.

Cru'or (Lat.), the red part of the blood, from κρύος, cold, it being that which appears as coagulum as the blood cools.

Crup'per, a roll of leather attached to the saddle, passed under a horse's tail, to prevent the saddle from moving forward on the neck of the horse.

Cruset', Fr. *creuset*; a goldsmith's crucible or melting pot.

Crust. In *geology*, that portion of our

globe which is accessible to our examination. The greatest depth to which man has hitherto been able to extend his observations is from eight to ten miles, which has about the same relation to the magnitude of the earth that the thickness of the paper of a globe a foot in diameter has to the magnitude of that globe.

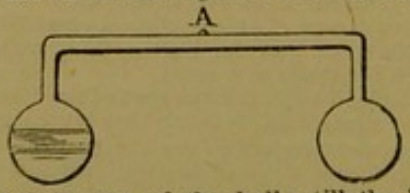
CRUS'TA. In *gem sculpture*, a gem engraved for inlaying on a vase or other object.

CRUSTA'CEA, CRUSTA'CEANS. } A class of articulated animals, with articulated feet, respiring by means of branchiæ, protected in some by the borders of a shell (*crusta*), and external in others, but which are not inclosed in special cavities of the body, and which receive air from openings in the surface of the skin. Their circulation is double, and analogous to that of the Mollusca. They are apterous, furnished with compound eyes, and usually with four antennæ. They have mostly three pairs of jaws: the two superior ones are called *mandibles;* as many *foot-jaws*, the last four of which, in a great many instances, become true feet; and ten feet properly so called. Their envelope is usually solid, and more or less calcareous. The class is divided into two sections, the *Malacostraca* and the *Entomostraca*. The crabs, crawfish, pernys, &c., belong to the first of these divisions; the Molucca crab, fish-louse, trilobites, &c., belong to the second.

CRUSTA'CEAN, CRUSTA'CEOUS. } Covered with a shell; shelly: C. animals are jointed, while the testaceous are covered by an uninterrupted shell.

CRUX. In *astronomy*, the *cross:* an asterism containing five stars, four of which are in the form of a cross, the most northerly and southerly are in a line with the south pole, and are therefore called the *pointers*.

CRYOPH'ORUS, from κρύος, cold, and φέρω, to bear; the frost-bearer: an instrument invented by Dr. Wollaston, to demonstrate the relation between evaporation at low temperatures and the production of cold. It consists essentially of two bulbs of glass, connected by a tube, as shown in the figure. The water is



boiled in one of the bulbs till the included air is expelled by the steam, through a small aperture in the tube at A, which is then hermetically sealed: when cool, the pressure of the included steam is reduced to that due to the temperature of the surrounding atmosphere: if the empty ball be now surrounded with a freezing mixture, rapid evaporation takes place from the water in the distant ball, which is soon converted into ice, by the rapid abstraction of its heat of temperature.

CRYPT, from κρυπτω, to hide: a subterranean place, especially under a church, for the interment of the dead. Crypts were originally places where the primitive Christians performed their devotion, hence the term has been applied to underground chapels, as the crypt of St. Paul's.

CRYPTOGA'MIA, the 24th and last class of the Linnæan system of plants, comprehending those in which the parts essential to fructification have not been sufficiently ascertained to admit of their being referred to other classes: hence the name from κρύπτος, concealed, and γάμος, marriage It contains four orders, *Filices* (ferns), *Musci* (mosses), *Algæ* (sea-weeds), and *Fungi*.

CRYPTO PORTICUS. In *ancient architecture*, a concealed portico.

CRYS'TAL, Lat. *crystallus*, Gr. κρυσταλλος, from κρυος, frost, and στελλω, to set. 1. In *chemistry* and *mineralogy*, an inorganic body which, by the operation of affinity, has assumed the form of a regular solid, terminated by a certain number of plane and smooth surfaces. Every body susceptible of crystallisation, crystallises in some *primitive form*, as the tetrahedron, cube, dodecahedron, octahedron, six-sided prism, and parallelopipeds. All *secondary forms* arise from the decrement of particles from the edges and angles of these primitive forms. The transparent crystals of quartz are termed *rock-crystal*, and those of carbonate of lime, found chiefly and of the finest quality in Iceland, are called *Iceland crystal*, but more commonly *I. spar*.——2. A species of glass more perfect in its composition and manufacture than the common glass.

CRYS'TALLINE HUMOUR, ——— LENS. } A solid body, of a lenticular form, being part of the eye, situated behind the aqueous humour, opposite the pupil, and its posterior portion is received into a depression on the fore part of the vitreous humour. It is formed of two segments of spheres of unequal sizes; the anterior surface is the less convex.

CRYSTALLIZA'TION, a process in which crystallisable bodies tend to assume a regular form, when placed in circumstances favourable to that particular disposition of their molecules.

CUBE, Lat. *cubus*, Gr. κύβος, A regular solid body, consisting of six square and equal faces, with right, and therefore equal, angles. A die is a small cube. The third power of a quantity is also

called the *cube* of that quantity; a quantity multiplied twice by itself is said to be *cubed*. *See* CUBE ROOT.

CU'BEBS, the fruit of the *Piper cubeba*, a climbing plant found only in Java. Cubebs resemble pepper-corns, but are somewhat longer. They have a hot, pungent, aromatic, slightly bitter taste; and a fragrant, agreeable odour.

CUBE NUMBERS are those whose roots are finite, or which are produced by the multiplication of three equal factors.

CUBE ROOT, one of the three factors of a cube number.

CU'BIC EQUA'TIONS are those whose highest power consists of three dimensions, as $x^3 + ax^2 = b$.

CUBIC'ULUM. Anciently, the tent provided to cover the emperors at the public shows.

CU'BIT. 1. Lat. *cubitus*, that part of the arm which extends from the elbow to the wrist.——2. A measure of length. Dr. Arbuthnot states the English cubit at 1 ft. 6 in.; the Roman, at 1 ft. 5·406 in.; and the Hebrew, at 1 ft. 9·888 in.

CU'BO-DODECAHE'DRAL, presenting the two forms, a cube and a dodecahedron.

CU'BO-OCTAHEDRAL, presenting a combination of the two forms, a cube and an octahedron.

CUCKOO', } A well-known bird of pas-
CUCKOW, } sage, which visits this country about the middle of April, and is thus popularly named from its note. Its generic name is *cuculus* (q. v.). It lives on insects, and is celebrated for the singular habit of laying its eggs in the nests of other insectivorous birds; and what is not less extraordinary, these latter, which are often a considerably smaller species, take as much care of the young cuckoo as of their own offspring, and that, too, when its introduction has been preceded, which often happens, by the destruction of their eggs.

CUCKOO'-SPIT, } A white froth or
CUCKOO'-SPITTLE, } spume, very common on plants in the spring, and which is vulgarly supposed to be the spittle of the cuckoo. It is ejected by a small insect in the first stage of its life. It subsequently becomes a hopping insect, and no longer emits froth.

CU'CULLATE, Lat. *cucullatus*, hooded, cone-shaped. Applied to leaves when their edges meet in the lower, and expand toward the upper part.

CU'CULUS, the cuckoo. A genus of *Scansoriæ*, Cuv. *See* CUCKOO.

CUCUR'BIT. 1. A chemical distilling vessel, so named from its resemblance to a gourd (*cucurbita*).——2. A cupping-glass.——3. In *botany*. *See* CUCURBITA.

CUCUR'BITA, a genus of plants. *Monœcia—Syngenesia*. Name *à curvitate*, according to Scaliger, the first syllable being doubled. The water-melon plant, or Sicilian citrul, and the common pompion, gourd or bottle-gourd, are species. W. climates.

CUCURBIT'ULA, Lat. dim. of *cucurbita*, a gourd. A cupping-glass, thus named from its shape.

CUDBEAR', a purple or violet-coloured powder, used in dyeing violet, purple, and crimson. It is prepared from a species of lichen (*Lichen tartareus*), named popularly crustaceous moss, from its growing commonly on limestone rocks, in Scotland, North of England, Sweden, &c. It was first made an article of trade in this country by Dr. Cuthbert Gordon, from whom it derived its name. It is chiefly imported from Sweden, and sells in London for about 20*l*. per ton.

CUD'DY. 1. In *ships*, a cabin under the poop.——2. In *ichthyology*, the cole-fish.

CUE, from Fr. *queue*, the tail. 1. A long tapering stick, tipped with leather, used in playing billiards.——2. The notice given to an actor on the stage what and when to speak.

CUL-DE-FOUR. In *architecture*, a French term applied to a kind of low spherical vault.

CULDE'ES, monkish priests remarkable for religious duties. They formerly occupied Scotland, Ireland, and Wales

CULLET, the broken glass brought to the glass-house to be remelted.

CULM. 1. A Welch name of a species of coal of indifferent quality, used for burning lime.——2. From Lat. *culmus* (of *καλαμος*, a reed), the stem or straw of grasses, and plants nearly allied to them.

CUL'MINATE, from *culmen*, the highest point. To be vertical to or on the meridian; hence the *culminating point* is that point of a circle of the sphere that is on the meridian; and *culmination* is the term applied to the passage of a heavenly body over the meridian, or its greatest altitude during its diurnal revolution.

CUL'TER (Lat.), a knife or shear. In *anatomy*, the third lobe of the liver, from its shape.

CULTIVAT'OR, an instrument of the horse-hoe kind, principally used in working fallows.

CULTRIROS'TRES, a family of birds: order *Grallatoriæ*, Cuv. Name from *culter*, a knife, and *rostrum*, a beak, in allusion to their thick, long, and strong beak, which is generally trenchant and pointed. The cranes, herons, storks, and wood-pelicans, are examples.

CUL'VERIN, from *colubrinus*, serpent-like; a long slender piece of ordnance or artillery for carrying a ball to a great distance.

CUL'VERT, an arched drain for the conveyance of water under canals, roads, &c.

Cum'brian System. In *geology*, another name for the slate or grauwacke system, from its being most remarkably developed in Cumberland. It includes the Plynlymmon and Snowdon rocks, and Bala limestone. The strata are of great but unknown thickness.

Cunette', Cuvette' (Fr.), a deep trench in the middle of a dry moat, to obstruct the enemy's approach to a fortified place.

Cu'pel, from *cupella*, a little cup. A shallow vessel like a cup, used in refining metals. It is made of phosphate of lime, which suffers the baser metals to pass through it, when exposed to a melting heat, and retains the pure metal. The process is called cupellation.

Cupella'tion, the purifying of gold, silver, palladium, and platinum, by an addition of lead, which at a due heat becomes vitrified, and promotes the vitrification and calcination of inferior metals in the mixture, so that they are carried off in the fusible glass which is formed.

Cu'pola (It.), a dome (*see* Dome). The word signifies also the founder's furnace for melting cast iron.

Cup'ping. In *surgery*, the application of *curcubitulæ* or cupping-glasses to the fleshy parts of the body, for the purpose of effusing the blood into the cellular tissue (as in *dry cupping*), or of actually extracting it after scarification. To apply the cupping-glass, all that is necessary is to heat the bottom of it slightly over a spirit-lamp: this rarefies the air within it, so that when applied and reduced to the ordinary temperature, a partial vacuum is formed into which the blood is determined.

Cup'ping-glass, a glass vessel like a cup, but more ample and round at the bottom part.

Cupres'sus, the *cypress-tree:* a genus. *Monœcia—Monadelphia.* So called (*απο του κυειν παχιστους τους αχειμωνας*), because it produces equal branches. There are seven species. *See* Cypress.

Curaco'a, a liquor prepared in great perfection by the Dutch.

Cu'rate, Lat. *curator* (from *cura*, cure); a clergyman of the Church of England who is employed to perform divine service in the place of the incumbent parson or vicar.

Cura'tor, Lat. from *cura*, cure; a trustee or person appointed, according to the forms of civil law, to manage the affairs of minors and persons incapable of managing their own concerns.

Curb, Fr. *courber*, to bend. 1. In the *manége*, a chain of iron made fast to the upper part of the branches of the bridle, and running over the beard of the horse. Also (Fr. *courbe*, It. *corba*) a hard and callous swelling on the hind part of the hock of a horse's leg.——2. In *bricklaying*, a noose of oak for brick steps, to prevent the bricks from being dislocated.

Curb-plate. In *architecture*, the wall plate of a circular or elliptically-ribbed dome; also the horizontal rib at top, and the circular frame of a well, the horizontal piles of timber at the junction of the upper and lower rafters of a curb-roof, and the plate of a skylight are thus denominated.

Curb-rafters, the upper rafters on both sides of a curb-roof.

Curb-roof, a roof formed of four contiguous planes, each two having an external inclination: called also a *Mansard-roof*. It gives more space to the upper rooms of the house.

Curb-stones, the stones placed at the edge of a pavement to hold the work together: written also *kirb*.

Curcu'ma, the *Turmeric:* an extensive genus of perennial plants. *Monandria—Monogynia.* Name from Arabic, *Kurkum*, a general name for all roots of a saffron colour.

Curette' (Fr.), a surgical instrument, shaped like a little scoop, for taking away any opaque matter that may be left behind the pupil, after extracting the cataract from an eye

Cur'few, Fr. *couvre-feu*, cover-fire; a signal given in cities taken in war, &c., to the inhabitants to put out their fires and retire to rest. The most celebrated curfew in England was that established by William the Conqueror, who appointed that, under severe penalties, at the ringing of a bell at eight o'clock, every one should put out his light and go to bed: hence still, a bell rung about that time of the evening is called a *curfew-bell*.

Cu'ria, anciently a court or senate-house.

Cu'ries, a subdivision of the Roman patrician tribes, each of which were divided into ten curies.

Cur'lew, Fr. *corlieu* or *courlis*, a bird belonging to the genus *Scolopax*, Lin., but formed by Cuvier into a separate genus, *Numenius*. It frequents the sea-shore.

Cur'rent, a flowing; applied to fluids, as a stream or flux of water moving sometimes rapidly in any direction, and common in various parts of the ocean; e. g., the gulf stream is a remarkable current. The *setting of the current* is that point of the compass to which the water runs, and the *drift of the current* is the rate it runs per hour.

Curricu'lum, Lat. from *curro*, to run; the complete course of studies of a university, school, &c.

Curru'ca, a sub-genus of passerine birds, the most celebrated of which is the nightingale (*Motacilla luscinia*, Lin.). *See* Motacilla.

Cur'rying, from *corium*, a hide, and *rado*, to scrape; the art of dressing skins after they are tanned, for the purposes of the shoemaker, coach and harness maker, &c., or of giving them the necessary lustre, colour, and pliancy.

Cur'sitor, from *curso*, to run; a clerk of the Court of Chancery, whose business is to make out original writs. In the statute 18 Edw. III., the cursitors (24 in number) are called *clerks of course*.

Cur'sor (Latin), a runner; a small sliding piece of brass in some mathematical instruments, as the piece of an equinoxial ring-dial, which slides to the day of the month; the point that slides along the beam-compass, &c.

Curso'ria, a family of insects, order *Orthoptera*, Cuv. The posterior legs as well as the others are solely adapted for running, whence the name, from *cursor*, a runner. The earwigs and cockroaches are examples.

Curso'rius, a genus of birds, order *Grallatoriæ*; family *Pressirostres*. The legs are long, and adapted for running, whence the name, from *cursor*, a runner.

Cur'tain. In *military affairs*, that part of a rampart which lies between two bastions.

Curta'na, the sword of Edward the Confessor, having its edge blunted, as an emblem of mercy.

Curtesy or Courtesy of England, is the right of a husband to hold his wife's lands after her death for his life.

Cur'tate Distance. In *astronomy*, the distance of a planet's place from the sun or earth, reduced to the ecliptic, or the interval between the sun and earth, and that point where a perpendicular let fall from the planet, meets with the ecliptic.

Cu'rule Magistrates, were those of the greatest dignity in the Roman empire, and were distinguished by the privilege of sitting upon ivory chairs (*sellæ curules*) in the exercise of their functions.

Cur'vature. In *geometry*, the bending by which a line becomes a curve of any particular form and properties.

Curve, from *curvo*, to bend. A *curve* or *curved line* is that of which no portion, however small, is straight. A *crooked line* may be either a curved line or the junction of two or more straight lines drawn in different directions. The variety of curves are innumerable, i.e., they have different degrees of *curvature*, but those most frequently referred to, besides the circle, are the *ellipsis*, the *parabola*, the *hyperbola*, and the *cycloid*. A *curve of double curvature* is one in which all the parts are not situated in the same plane, and which can only be traced upon a curve surface.

Curvet', Fr. *courbette*; It. *corvetta*; Sp. *corveta*; a particular leap of a horse, when he raises both his fore legs at once, equally advanced, and as his fore legs are descending he raises his hind legs, so that all his four legs are up at once.

Cusp, from *cuspis*, a point; a point or horn of the moon or other luminary. This term is also applied to the pendents in the gothic style of architecture; assembled they form trefoils, quatrefoils, &c.

Cus'pidate, Lat. *cuspidatus*, sharp-pointed; applied to leaves, &c. which terminate in a spine.

Cus'tomary Freehold. In *law*, is a superior kind of copyhold, the tenant holding, as it is expressed, by copy of court roll, but not at the will of the lord.

Cus'tom-House, the house or office where commodities are entered for importation or exportation; where the duties, bounties, or drawbacks payable or receivable upon such importation or exportation are paid, and where ships are cleared out, &c.

Custom. In *law*, long established usage, which constitutes the unwritten law, and long consent, which gives it authority.

Cus'toms. In *commerce*, duties charged upon commodities on their being imported into or exported out of a country.

Cus'tos (Latin), a keeper, as, (1). *C. brevium*, the principal clerk of the Court of Common Pleas, who keeps all the writs made returnable in that court; (2). *C. rotulorum*, an officer who has the care of the rolls and records of the sessions of peace; also of the commission of the peace.

Cus'tos Mes'sium. In *astronomy*, an asterism named in honour of the astronomer Messier, and in allusion to his name it is called the *Guardian of the Harvests*, Rt. asc. 35° and Decl. 68° N.

Cu'ticle, Lat. *cutis*, skin. In *anatomy*, the scarf-skin. In *botany*, the thin vesicular membrane that covers the external surface of vegetables.

Cut'ter. In *marine language*, a small vessel with one mast, and sloop-rigged, constructed for swift sailing; also a small boat attached to a ship of war: it has six oars.

Cut'tlefish, the *sepia* of Linnæus; more strictly the *sepia* of Lamarck. *See* Sepia.

Cut'ty-stool. In *Scottish kirks*, a small gallery near the roof (more commonly a bench or chair), painted black, in which the offenders against chastity are obliged to sit during the performance of the service for three sabbaths, subjected to the rebukes of the minister.

Cut-water. Of *a ship*, the sharp part of the head under the beak or figure.

Cy'anate, a salt formed by the union of the cyanic acid with a salifiable base.

Cy'anic Acid, an acid obtained by Serullas, in 1829, from perchloride of cya...

gen, by the action of hot water, which converts that substance into hydrochloric acid and cyanic acid. By evaporation the hydrochloric acid is driven off, and the cyanic acid is deposited in white rhomboidal crystals. It is a compound of one atom of cyanogen and two of oxygen.

CY'ANIDE, } a combination formed by
CY'ANODIDE, } cyanogen and a great variety of bases, and exceedingly analogous to the *chlorides*. The term *cyanuret* is less objectionable.

CY'ANITE, from κυανος, blue. 1. A mineral of a blue or bluish-green colour, which occurs regularly crystallised, and also massive and disseminated. Constituents, 64 alumina, 34 silica, with some lime and oxide of iron.—2. A salt formed by the union of the cyanous acid with a base, as the *cyanite of baryta*.

CY'ANOGEN, called also *prussine;* a colourless gaseous compound discovered in 1815 by Gay-Lussac, and termed *cyanogen* from κυανος, blue, and γενναω, to generate, in consequence of its being essential to the formation of *Prussian blue*. It is obtained from dry *cyanuret of mercury*.

CYANOM'ETER, Gr., from κυανος, blue, and μετρον, measure. An instrument contrived by Saussure for determining the deepness of the tint of the atmosphere.

CYA'NOUS ACID, an acid composed of one atom of cyanogen and one atom of oxygen. It is obtained only in solution, and is little known.

CYAN'URET, the same with *cyanide* (q. v.).

CYAN'URIC ACID, an acid that may be obtained from *urea*. It is composed of carbon, 6; nitrogen, 3; hydrogen, 3; and oxygen, 6; condensed into one volume.

CY'CAS, the *sago-plant;* a genus of two species, found in India and Japan. *Diœcia—Polyandria* (*see* SAGO). Named from the κυκας of Theophrastus, a palm which was said to grow in Ethiopia.

CYCLA'MEN, the *Sow-bread;* a genus of perennial plants. *Pentandria—Monogynia*. Name from κυκλος, circular, either on account of the round form of the leaves or of the roots.

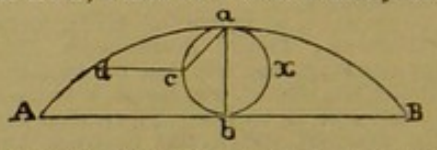
CY'CLE, from κυκλος, a circle; a period of numbers which regularly proceed from first to last, and then return to the first in a perpetual circle, as, (1.) The *C. of the moon*, called also the Metonic cycle, from its inventor Meton, and the golden number; this is a period of 19 years, which being completed, the new and full moons return to the same days of the month; (2.) The *C. of the sun* is a period of 28 years, which being elapsed, the dominical or Sunday letters return to their former place and proceed in the same order as before, according to the Julian calendar; (3.) The *C. of Indiction* is a period of 15 years, at the end of which the Roman emperors imposed an extraordinary tax to pay the soldiers who were obliged to serve in the army for that time and no longer.

CY'CLIC CHORUS, those who performed the songs and dances of the dithyrambic odes at Athens.

CY'CLIC POETS, a succession of epic poets who followed Homer.

CY'CLOGRAPH, from κυκλος, a circle, and γραφω, to describe, an instrument for describing the arcs of circles.

CY'CLOID, from κυκλος, a circle, and ειδος, form; a transcendental curve generated by the revolution of a circle along a straight line, called also a *trochoid*. If we conceive the circle *a c b x* to roll along the line A B, the point *a* being first at A, and ending at the point B, this point *a* will describe or pass through the curved line A *a* B, which curve line is the *cycloid*.



Properties, the line A B = the cir. of the circle *a c b x*, the arc *a c* = the right line *c d;* the portion of the cycloid *a d* = double the chord *a c*, and the area of the whole cycloidal space A B *a* = thrice that of the generating circle.

CYCLOPE'AN, pertaining to the *Cyclops;* vast; as *C. buildings*, which are formed of huge blocks of stone piled upon each, and constituting walls without cement.

CYCLOPE'DIA, more correctly *encyclopedia;* a work containing accounts of the principal subjects in one or all departments of learning, art, or science.

CYCLOP'TERUS, a genus of fishes; order *Malacopterygii subrachiati*; family *Discoboli*. Name from κυκλος, a circle, and πτερα, a fin; the genus being marked by the ventrals being suspended round the pelvis, forming an oval and concave disc, used by the fish as a sucker to attach itself to rocks. Species, the Lumpsucker (*C. lumpus*, Lin.)

CYCLOS'TOMA, a genus of air-breathing gastropods or snails.

CYG'NUS (Latin), a swan; a constellation bounded on the north by Draco, east by Lacerta and Pegasus, south by Vulpecula et Anser, and west by Lyra. It contains 81 stars, the most brilliant of which is *Deneb*. There are several fables about the origin of this name.

CYL'INDER, from *cylindrus* (κυλινδρος, from κυλινδω, to roll), a solid having a circular base, and which base may be considered as carried upwards in a straight line, and continuing the circle

in a parallel direction. It is a circular prism, as a cone is a circular pyramid. When the base is elliptical it is called a *cylindroid*. When the sides are perpendicular to the base it is a *right cylinder*, otherwise it is an *oblique* one.

Cylin'dric, Cylin'drical, having the form of a cylinder, as, (1.) A *C ceiling* (vulgarly called a *waggon-headed ceiling*) is a ceiling vaulted in the shape of a segment of a cylinder; (2.) A *C. dome*, is an oblong dome, of which there are two kinds, the surmounted and surbased.

Cylin'droid, from *cylinder* and εἶδος, form; a solid which approaches to the form of a cylinder, differing from it in having the bases elliptical, but parallel and equal. *See* Cylinder.

Cy'ma. In *botany*, a form of inflorescence consisting of a solitary flower, seated in the axilla of dichotomous ramifications, as in *Sambucus*.

Cy'ma, Lat. from κυμα, a sprout. 1. In *botany*, a cyme; a sort of inflorescence consisting of several flower-stalks, all springing from one centre, but each stalk is variously subdivided, in which respect the cyma differs essentially from an umbel.——2. In *architecture*, an undulating moulding which is generally the upper one of a cornice, when it is called *cymatium*. The *cyma recta* is composed of a concave and convex moulding, the former being uppermost; in the *cyma reversa*, the convex is uppermost.

Cyma'tium, Lat. from κυματιον, the upper moulding of a cornice composed usually of a *cyma*. *See* Cyma.

Cym'bal, Lat. *cymbalum;* musical instrument used by the ancients, hollow, and made of brass, somewhat like our kettle-drum. The name is now given to a mean instrument used by vagrants, made of steel wire in a triangular form, on which are passed five rings, which are shifted along the triangle by an iron rod; it is supported by a ring in the right hand.

Cynan'chum, a genus of plants. *Pentandria—Digynia*. Name from κυναγχη, the quinsy. The leaves of an Egyptian species is used to adulterate senna, and another species yields the Montpellier scammony, and the third yields the ipecacuhan of the Isle of France.

Cy'nara'ceæ. In *botany*, a division of the group *Compositæ*.

Cy'nic, from κυνικος, canine, having the qualities of a surly dog. The *cynics* of old prided themselves upon their contempt of everything which others valued, except virtue.

Cynic Spasm, a sort of convulsion in which the patient imitates the howling of a dog (κυων, a dog).

Cyn'ips, a genus of hymenopterous insects. Name from κνιψ, a gnat, from κνιπτειν, to hurt. The punctures which these insects make in plants to deposit their eggs give rise to those excrescences called *galls*. Those most commonly known are the gall-nut (*Aleppo-gall*) found on oak-trees, and the *bedeguar*, found on rose-trees. The perfect insect is often found in the gall-nut.

Cy'nocephʹalus, the generic name of the dog-headed monkeys (κυων, a dog, and κεφαλη, a head). They are generally large, ferocious, and dangerous animals, found mostly in Africa. The Guinea Baboon (*C. papia*, Desm.) is an example.

Cynomo'rium, a genus of plants. *Monœcia—Monandria*. The only known species is the *Fungus melitensis*, a small plant which grows in Sicily and Malta, and which is used in medicine.

Cyn'osure, κυνοσουρα, the dog's tail; the tail of *Ursa minor:* the constellation near the north pole, consisting of seven stars, four of which are disposed like the four wheels of a chariot, and the three lengthwise like the beam: hence called the *chariot* and *Charles' wain*.

Cypera'ceæ, a tribe of plants answering to the English *sedges*. The genus *Cyperus* is the type.

Cyp'erus, a genus of plants. *Triandria—Monogynia*. Name from κυπαρος, a little round vessel, which the roots are said to resemble. The rush-nut and galangale are examples.

Cy'pher. *See* Cipher.

Cy'phonism, κυων, an instrument of punishment. A species of punishment anciently practised, which consisted in besmearing the criminal with honey, and then exposing him to insects.

Cypræ'a, the *cowry;* a genus of mollusks. Class *Gastropoda*, order *Pectinibranchiata*, family *Buccinoida*, Cuv. Animal, a slug; shell, a beautiful univalve; found in tropical seas. Name from *cyprius*, the shell being used in some places as money. *See* Cowry.

Cy'press, a name common to all the species of the genus *Cypressus*, but especially applied to the *C. sempervirens* and *C. thyoides*, forest-trees found in the South of Europe, and in some parts of Asia and America. It grows to a great size, and is much valued for its timber.

Cypri'nus, a genus of fishes. Order *Malcopterygii Abdominales*, family *Cyprinidæ*. Name from κυπρινος, from κυπρις, Venus, in allusion to the beauty of several of the species, of which the carp (of which there are several varieties), the bream, the gudgeon, the tench, the sucker, and the dace, are examples.

Cy'pris, κυπρις, a genus of microscopic

crustaceans, inhabiting the waters of lakes and marshes. Their shelly coverings are found exceedingly abundant in certain clay beds of the Wealden, in the Sussex marble, &c.

Cy'psela, κυψελη, a bee-hive. In *botany*, one-seeded, one-celled, indehiscent fruit, with the integuments of the seed not cohering with the endocarp.

Cyre'nians. The philosophers of a school founded at Cyrene, in the north of Africa, by Aristippus, a disciple of Socrates.

Cyst, Lat. *cystis* (κυστις), a bag. 1. The urinary bladder.——2. The membraneous bag containing any morbid substance.

Cys'tic, Lat. *cysticus*, relating to the urinary or gall bladder, as the *cystic oxide*, a peculiar animal product supposed to be generated in the kidneys.

Cysticer'cus, from κυστις, a bladder, and κερκος, a tail; the tailed bladder-worm: a genus of worms of the hydatid tribe. Five of the species are found in the human body.

Cystit'ome, from κυστις, a cyst, and τεμνω, to cut; a surgical instrument for opening the capsule of the crystalline lens.

Cystot'omy, from κυστις, the bladder, and τεμνω, to cut; the operation of cutting into the bladder, and of opening incysted tumours.

Cy'tisine, a bitter, nauseous, emetic, and poisonous principle, detected in the seeds of the *Cytisus laburnum*.

Cyt'isus, the *Laburnum* or *Bean trefoil tree:* a genus of shrubs. *Diadelphia—Decandria*. Name from κυτισος, genus *Fruticis*. The pigeon pea-tree is the *C. cajan*.

Cyzic'enus. Anciently, a large hall decorated with sculpture.

Czar, the title assumed by the Emperor of Russia. The word is Sclavonic, and is nearly equivalent to *king*.

Czari'na, the title of the Empress of Russia.

D.

D, the fourth letter of the alphabet, as a numeral stands for 500; with a dash over it thus $\overline{D}$, it stands for 5,000. As a sign, it is one of the Dominical or Sunday letters; and in *music*, it is the nominal of the second note of the natural diatonic scale of C.

Daal'der, a Dutch silver coin, value 2*s.* 7*d.*

Dab, a name common to all the species of the genus *Pleuronectes*, but especially applied to the *P. limanda*, Linn., a fish, called also the *salt-water flounder* or *fluke*. It is a flat fish, found frequently on the sandy banks of the British coasts.

Da Capo. In *music*, an Italian phrase signifying that the first part of the tune is to be repeated from the beginning (*from the head*).

Dace, a river fish, the *Cyprinus leuciscus*, Lin. It is longer and more slender than the roach.

Da'coits, an East Indian word signifying *gang-robbers*.

Dactil'ioglyph, Gr. from δακτυλιος, a ring, and γλυφω, I engrave; the inscription of the name of the artist on a gem.

Dactiliog'raphy (Gr.), the science of gem engraving.

Dac'tyl, Lat. *dactylus*, a poetical foot consisting of one long syllable and two short ones.

Dac'tylic, an epithet for verses which end with a dactyl instead of a spondee.

Dactylioth'eca, Lat. from δακτυλιοθηκη, a cabinet or case containing finger-rings, (δακτυλιος, a ring), engraved gems, and other jewellery.

Dactylop'terus, a genus of acanthopterygious fishes, celebrated under the name of *flying-fishes*. Name from δακτυλος, a finger, and πτερον, a fin or wing: the peculiar construction of the subpectoral rays enables the fish to rise above the water and fly for a short distance.

Dactylol'ogy, from δακτυλος, a finger, and λογος, discourse; finger-language (q. v.)

Dac'tylos, δακτυλος; the shortest measure among the Greeks, being the fourth part of a palm.

Da'do (It.), a die; the square or cubiform part of the pedestal of a column.

Dæ'dalus. In *fabled history*, the most ancient statuary, architect, and mechanist of Greece.

Dæmonoma'nia, that species of melancholy in which the patient supposes himself to be under demoniacal influence.

Daf'fy's Elixir, compound tincture of senna, made with treacle instead of sugar-candy, and with the addition of aniseed and elecampane root.

Da'gon, one of the principal divinities of the ancient Phœnicians and Syrians, and especially of the Philistines. His image was represented upwards in the human shape, and downwards as a fish.

Daguer'reotype, a species of photogenic drawing, in which the impressions are taken by means of the camera obscura, on plates of silvered copper, invented by M. Daguerre.

The metallic plate is exposed, in a well-closed box, to the action of the vapour of iodine, by which means it becomes covered with an extremely thin layer of ioduret of silver. The plate thus prepared, is placed in the dark chamber of the camera obscura, in such

a position that the image of the object to be represented is perfectly clear and distinct upon it. In a short time the plate is withdrawn, and is now exposed at an angle of 45° to the action of the vapour of mercury, at 60° Reaumur, and finally plunged into a solution of hyposulphate of soda. The picture is now complete.

DAHL'IA (so named from Dahl, a Swedish botanist), a genus of flowering perennials. *Syngenesia—Poly. superflua.* Natural order *Compositæ.* Mexico.

DAHLI'NE, the same as *Inuline.* The fecula obtained from elecampane, analogous in many respects to starch.

DAI'SY, day's-eye, a plant, the *Bellis perennis* of several varieties, thus named from its eye-like appearance, and expansion during the day. The blue daisy belongs to the genus Globularia, as does the globe daisy; and the ox-eye daisy to the genus Chrysanthemum.

DAKIR. In *English statutes*, ten hides, or the twentieth part of a last of hides.

DAL'BY'S CARMINATIVE, a nostrum too much used as a carminative for children. It consists of magnesia, oils of peppermint, nutmeg, and aniseed; tinctures of castor, assafœtida, and opium; and spirit of penny-royal, with peppermint-water *ad libitum.*

DALMA'TICA, a long white gown with sleeves, worn by deacons in the Roman Catholic church.

DAM, Dutch *dam*, Germ. *damm*, a pond. A water-tight mole, bank, or weir, erected across a river or stream, for the purpose of raising the level of the water by confining it, and which is employed for various purposes, as for irrigation, impelling water-wheels, &c.

DAM'AGE-FEASANT, in *law*, is when one person's beasts get into another man's grounds, without license of the owner or occupier of the ground, and do damage by feeding or otherwise to the grass, corn, woods, &c., in which case the party injured may distrain or impound them.

DA'MAN, an animal resembling the rhinoceros in miniature. *See* HYRAX.

DA'MAR, a kind of indurate pitch or turpentine, exuding spontaneously from various trees, indigenous to most of the Indian islands. Different trees produce different species of the resin. One is called *damar-batu* in Malay, and *damar-selo* in Javanese, which means hard or stony resin; another in common use is *damar-putch*, or white resin.

DAMASCUS BLADES, swords or scimitars, presenting upon their surface a variegated appearance of watering, as white, silvery, or black veins, in fine lines or fillets, fibrous, crossed, interlaced, or parallel. They are brought from the East, being fabricated chiefly at Damascus, whence their name.

DAM'ASK, a silk stuff with a raised pattern, consisting of figures and flowers: originally from Damascus, whence the name.

DAMASKEE'NING, the art of ornamenting iron, steel, &c., by making incisions upon the surface of the article, and filling them up with gold or silver wire; chiefly used in enriching sword-blades, locks of pistols, &c. Originally practised at Damascus.

DAM'ASK-STEEL, a fine sort of steel from the Levant, used for swords and cutlass-blades, called more correctly *Damascus steel.* *See* DAMASCUS BLADES.

DAM'ASSIN, a sort of damask, with gold and silver flowers woven in the warp and woof.

DAME-WORT, or DAME'S-VIOLET, a plant of the genus *Hesperis*, called also queen's gillyflower or rocket. It is remarkable for its fragrance, and ladies are fond of having it in their apartments.

DA'MIANISTS. In *church history*, a sect who denied any distinction in the Godhead.

DAM'PER. 1. A valve or sliding-plate in a furnace, to regulate the draught, and thus consequently the heat.——2. A part in a piano-forte, by which the vibration of a string is modified.

DAMPS. In *mining*, noxious exhalations, or rather gases, are so called from Germ. *dampf*, vapour.

There are two principal kinds of mine gases: the *choke-damp*, or carbonic acid; and the *fire-damp*, or carburetted hydrogen.

DANCETTE'. In *heraldry*, is when the outline of any bordure or ordinary is very largely indented.

DANDELI'ON (*see* LEONTODON), a name corrupted of *dent de lion*, or *dens leonis*, from the shape of the jagged leaves of the plant.

DANE'GELT, from *Dane*, and *gelt* or *geld*, money. An annual tax formerly levied on the English nation, for maintaining forces to oppose the Danes. It was made a national tax by Ethelred, and abolished by Stephen.

DA'NICH, an Arabian weight of eight grains.

DAN'NEBROG, an ancient Danish order of knighthood.

DA'OURITE, a mineral called also *rubellite*, and *siberite*, by Lermina. It is a variety of the red schorl of Siberia. Silica, alumina, with oxides of iron, and manganese.

DAPH'NE, the laurel or bay-tree. A genus. *Octandria—Monogynia.* The mezereon or widow-wail, and spurge-laurel, are British species. Name, δαφνη, from δαω, to burn, and φαννη, a noise, because

the leaves crepitate when burning. Δαφνη is also the name of a nymph said to have been changed into the laurel.

DAPHNEPH'ORA. In *archæology*, a Bœotian festival in honour of Apollo, from δαφνη, the laurel-tree, and φορεω, to offer, boughs of laurel being offered to the god.

DAR'APTI. In *logic*, an arbitrary term expressing the first mood of the third figure of syllogisms, where the first two propositions are universal and affirmative and the last a particular affirmative.

DA'RIC, an old Persian gold coin, said to have been struck by Darius.

DA'RII. In *logic*, an arbitrary term for one of the affirmative moods in the first figure of syllogisms.

DAR'NEL. In *botany*, a name common to all the species of the genus *Lolium*. The rye-grass is a well-known species.

DAR'SIS, excoriation; from δερω, to excoriate; the removal of the skin from the subjacent texture, also the morbid abrasion of the cuticle.

DAR'TOS, Δαρτος, from δερω, to excoriate; a texture approaching to muscle, under the skin of the scrotum, by which the skin of the scrotum is corrugated and relaxed.

DASH. In *music*, a mark thus ', denoting that the notes over which it is placed are to be played in a short, distinct manner.

DASYU'RUS, an animal of the marsupial order nearly the size of a badger. The *Didelphis ursina*, Harr., or Ursine opossum, of Van Diemen's Land, is an example. Name from δασυς and ουρα, the tail, which is every where covered with long hairs, not being prehensile.

DA'TA, plural of *datum*, given; a mathematical term for such things or quantities as are *given* or known, in order thereby to find other things that are unknown.

DA'TARY, an officer in the chancery of Rome, who affixes the *Datum Romæ* to the Pope's bulls.

DATE-TREE, the *Phœnix dactylifera*, a species of palm common in North Africa and West Asia, growing sometimes to the height of 100 feet, and yielding a fruit which forms a principal article of food in those countries. The best dates are brought from Tunis and Persia.

DA'THOLITE, DAL'OLITE, a mineral, a borosilicate of lime, thus named from δαθωλος turbid, because the crystals are not transparent. It is the *Dystom-spath* of Mohs.

DA'TISI. In *logic*, an arbitrary term for an affirmative mode of syllogisms in the third figure.

DA'TUM-LINE. In *surveying*, the base or horizontal line of a section (*datum*, given), from which all heights and depths are calculated, and which is determined by the level, and bears reference to some fixed point in the line.

DATU'RIA, DATURI'NE, an alkaline substance obtained from the *Datura stramonium* or common thorn-apple.

DAU'CUS, the *carrot*; a genus of umbelliferous plants. *Pentandria — Digynia*. Name απο του δαυειν, from its relieving the colic, and discussing flatulencies.

DAU'PHIN, the title of the heir apparent to the crown of France before the revolution.

DA'VIT. In a *ship*, a short boom fitted to the fore-channel, to hoist the flukes of the anchor to the bow, which is called fishing the anchor.

DAY. In *astronomy*, an *apparent day* is the interval between two successive transits of the sun's centre over the same meridian, which interval is subject to continual variations, owing to the eccentricity of the earth's orbit and the obliquity of the ecliptic to the equator. A *mean day* is the interval that would be observed between two successive transits of the sun's centre over the same meridian, if the earth's orbit were circular, and the sun always in the equinoctial. The *civil day* begins at midnight, the *astronomical day* at noon.

DAY or BAY. In *architecture*, one of the lights or compartments between mullion and mullion in the great windows of the pointed or gothic style of architecture.

DAY-COAL, a name given by miners to the upper stratum of coal.

DAY-FLY, the *ephemera*, Lin., an insect so called from the shortness of its life, which rarely exceeds a day.

DAY-RULE. In *law*, an order of court permitting a prisoner in the King's Bench prison, &c., to go for one day beyond the bounds of the prison.

DAY'S WORK. In *navigation*, the reckoning of a ship's course for 24 hours from noon till noon.

DAYS IN BANK, days of appearance in the Court of Common Bench.

DAYS OF GRACE. 1. In *law*, three days granted by the court beyond the time named in the writ, in which the person summoned may appear and answer.—— 2. In *commercial affairs*, a customary number of days, in Britain *three*, for the payment of a bill of exchange after the same becomes due.

DAY-WRIT. *See* DAY-RULE.

D.D. (*divinitatis doctor*), doctor of divinity.

DEACON. 1. In the *Church of England*, the lowest of the three orders of clergy (deacons, priests, and bishops) in the Church of England. A deacon is not capable of an ecclesiastical promotion, yet he may be chaplain to a family, curate to a beneficed clergyman, or lecturer to a

parish church.——2. In *Scotland*, an overseer of the poor; also the master of an incorporate trade.

DEAD-BEAT. In *clock-work*, a scapement invented with a view to lessen the effect of the wheel-work on the motion of the pendulum.

DEAD-EYES (*Dead man's eyes*). In *nautical language*, a kind of blocks with many holes in them, whereby the shrouds are fastened to the chains.

DEAD-FLAT. In *naval architecture*, the midship section. *See* BODY-PLAN.

DEAD-LIGHTS. In *ships*, strong wooden ports made to suit the cabin-windows, in which they are fixed, to prevent the water from entering the ship in a storm.

DEAD-RECKONING. In *navigation*, the difference between the place of a ship by the log and astronomical observations, owing to currents, &c.

DEAD-RISING, the parts of a ship's floor throughout her length, where the floor timber is terminated in the lower futtock, called also the *Rising line*.

DEAD-WATER, the eddy-water immediately at the stern of a ship while under way.

DEAD-WOOD, a layer formed of blocks of timber laid on the keel of a ship, on which are placed the floor timbers.

DEAD-WORKS, the parts of a ship above the surface of the water when balanced for a voyage.

DEAF'ENING, sound-boarding; a method of preventing the passage of sound through wooden partitions. *See* PUGGING.

DEALS, or DEAL-BOARDS, a thin sort of fir planks, formed by sawing the trunk of a tree into longitudinal divisions of greater or less thickness. They are imported from Dantzic, and many other ports of the Baltic, and from North America. Those from Norway are the best. The Russian standard deal is 12 feet long, 11 inches wide, and 1½ inches thick; the Christiana standard deal is 11 feet long, 9 inches wide, and 1¼ inches thick; at Dram the length is 10 feet, and the thickness 1½ inches.

DEAN, a dignitary of the Church of England next to a bishop. The *Dean and chapter* form the bishop's council. The term is Arm. *dean*, from Lat. *decanus*, the leader of a file ten deep: the *dean* was originally set over ten canons or prebendaries. An officer in the universities also bears the title of *dean*.

DEATH-WATCH, a small insect of the beetle tribe, which inhabits old furniture, &c., penetrating it with many small holes, and which has the power of producing a noise like the ticking of a watch: this noise is the call which the male insect makes to his mate, and is interpreted by superstitious people into a presage of death to some individual of the family.

DEBA'CLE, a French term used by geologists to designate a violent rush of waters which, overcoming all opposing barriers, carries with it stones, rocks, &c., spreading them in all directions.

DEBEN'TURE, from *debeo*, to owe. In *law*, a writ or note drawn upon government. The debentures signed by the custom officers, and given to the exporter of goods on which a bounty or drawback is allowed, bearing that the exporter has complied with the required regulations, entitle the exporter to such bounty.—*Debentured goods* are those upon which the drawback has been paid.

DEC'ACHORD, DECACHOR'DON, from δεκα, ten, and χορδη, a string; a musical instrument of ten strings.

DEC'AGON, from δεκα, ten, and γωνια, an angle; a plain geometrical figure of ten sides and ten angles.

DEC'AGRAM, from *deca*, ten, and *gram*; a French weight of ten grammes, or 154·44 grains.

DECAGYN'IA, from δεκα, ten, and γυνη, a woman; an order of plants in the sexual system of the class *Decandria*, having ten pistils.

DECAHE'DRON, from δεκα, ten, and ἑδρα, a base; a geometrical figure or body having ten sides.

DECALI'TER, from *deca* and *litre*; a French measure of capacity equal to ten litres.

DECAM'ERON, from δεκα, ten, and ἡμερα, a day; a work containing the actions or conversations of ten days, as the Decameron of Boccaccio, which consists of 100 tales related in ten days.

DECAM'ETER, from δεκα, ten, and μετρον, measure; a French measure of length equal to ten metres.

DECAN'DRIA, from δεκα, ten, and ανηρ, a man; the name of a class, and also of an order of plants in the sexual system. Decandrian plants have ten stamens in the flower.

DECAPHYL'LOUS, from δεκα, ten, and φυλλον, a leaf; having ten leaves.

DECAP'ODA, from δεκα, ten, and πους, a foot; an order of crustaceans, including the lobster, crab, crawfish, shrimp, &c.

DE'CARBONISA'TION OF CAST IRON. This process is resorted to, in order to convert cast iron into steel and malleable iron.

DECAS'TICK, from δεκα, ten, and στιχος a verse; a poem consisting of ten lines.

DEC'ASTYLE, from δεκα, ten, and στυλος, a column; a building having ten columns in front.

DE'CASYLL'ABIC. Having ten syllables.

DECEMLOC'ULAR, Lat. *decemlocularis*, ten-celled: applied to capsules.

DECEM'BER, from *decem*, ten; the last of

twelfth month of the modern year, but the tenth of the Roman year.

Decem'virate, Lat. *decemviratus*; the office or term of office of the decemvirs (*decemviri*) or ten magistrates of Rome: they had absolute authority for two years.

Decen'nary, Lat. *decennium*, from *decem*; a tithing consisting of ten freeholders and their families: ten decennaries constituted a *hundred*.

Decep'tive Ca'dence. In *music*, a cadence in which the final close is avoided by varying the final chord.

Decid'uous, Lat. *deciduus*, falling as leaves do in autumn. A calyx is said to be *deciduous* when it falls or decays along with the flower-petals, and *permanent* when it remains after these are fallen. Applied also to the temporary parts of animals, as hair, horn, teeth, &c.

De'cigram, a French weight of one tenth of a grain.

De'cil, a position of two planets when they are distant from each other a tenth of the zodiac.

Deci'liter, a French measure of capacity equal to one tenth of a liter.

Deci'mal, from *decimus*, tenth, *decem*, ten, increasing or diminishing by ten; as *decimal arithmetic*, which proceeds on the scale of ten, or in which we count by periods of tens; *decimal fractions*, or more concisely *decimals*, are such fractions as have 10, 100, 1000, &c., for their denominators, but which, for the sake of brevity, are omitted in writing, and the numerator only is expressed with a point on the left of it, thus:

$$\cdot 2 = \frac{2}{10}, \cdot 02 = \frac{2}{100}, \text{ \&c.}$$

and which has always as many figures as there are ciphers in the denominator.—A *decimal scale* is one divided into tenths, used by draftsmen to regulate the dimensions of their drawings. We also speak of the *decimal scale* of numbers, and the *decimal notation*, in contradistinction to the *duodecimal*, *binary*, and other scales of notation.

Decim'eter, a French measure of length equal to the tenth of a meter.

Decimo-sexto (Lat.) A book is in *decimo-sexto* when a sheet is folded into 16 leaves.

Deck, Ger. *decken*, Sax. *thec-an*, to cover, from Lat. *tectum*, a roof; the floor of a ship. Small vessels have only one deck, large vessels have two, or three decks, as a *three-decker*; i. e. carrying two entire tiers of guns, or three such tiers.

Decked. In *heraldry*, a term applied to birds when their feathers are trimmed at the edges with a small line of another colour.

Declara'tion, from *de* and *claro*, to make clear. 1. In *law*, that part of the process or pleadings in which a statement is made of the plaintiff's complaint.——2. In *politics*, a proclamation intimating something of national importance.

Declen'sion, from *de* and *clino*, to lean; declination. This is the word commonly used in grammar to denote the change or inflexion of nouns and adjectives through their terminations.

Declina'tion, Lat. *declinatio*. In *astronomy*, the *declination of a star*, or any point in the heavens, is its shortest distance from the equator corresponding with *latitude* on a terrestrial globe.—In *navigation*, the *declination of the needle* or *compass* is its variation from the true meridian of any place to the east or west.—In *dialling*, the *declination of a wall* or *plane* is an arc of the horizon contained between the plane and the prime vertical circle, if reckoned from east or west, or between the meridian and the plane if reckoned from the north or south.—In *grammar*, *see* Declension.

Declina'tor, an instrument for determining the declination or inclination of reclining planes.

Declin'atory Plea. In *law*, a plea before trial or conviction, intended to show that the party is not liable to the penalty of the law, or is specially exempted from the jurisdiction of the court.

Decli'ners, or Declining Dials, those which cut either the plane of the prime vertical circle or plane of the horizon obliquely.

Decli'ning, Decli'nate (*obliquus descendens*), descending obliquely. Applied to stems, pericaps, &c. of plants, when bent like a bow with the arch downwards.

Decolora'tion, a term adopted from the French, signifying the deprivation of any substance of its colour. Thus indigo in solution is *decolorated* by charcoal.

Decompos'itæ, a natural class of plants, consisting of such as have decomposite leaves.

Decom'posite, } Lat. *decompositus*, doubly
Decom'pound, } compound. Applied to leaves of plants, when the primary leaf is so divided that each part forms a compound leaf; and to flowers which contain within a common calyx several smaller calyces.

Decomposi'tion, from *de* and *compono*, to disunite. 1. The separation of the component parts or principles of any compound body. *See* Affinity.——2. In *mechanics*, the *decomposition of forces* is the resolving of one force into several others of which the resultant is equal to that force.——3 *Decomposition of light*, the separation of a beam of light into the different rays which exhibit the prismatic colours.

Decre'e, Lat. *decretum*, a judicial decision, sentence, or determination: as a *decree* of the court of Chancery: an edict

or law made by a council for regulating any business within their jurisdiction, as the *decrees* of the ecclesiastical courts.

Decre'et. In *Scotch law*, the decree of a court.

Dec'rement, Lat. *decrementum*, gradual decrease, the quantity lost by decreasing. In *mathematics*, the small parts by which a quantity decreases. In *crystallography*, when the additions do not cover the whole surface of a primary crystalline form, rows of molecules being omitted on the angles or edges of the superimposed laminæ, such omission is called *decrement*, and gives rise to the secondary forms of crystals. *Decrement, equal of life*, is a phrase employed in the doctrine of annuities, signifying that of a given number of lives the periodical decrease conforms to certain data, and may therefore be made the subject of arithmetical calculation.

Decrescen'do. In *music*, an Italian term, the opposite of *crescendo* (q. v.).

Decre'tal, a letter from the pope, determining some point or question in ecclesiastical polity. The *decretals* form the second part of the canon law.

Decum'bent, Lat. *decumbens*, lying down, drooping. A term applied to flowers which incline to one side and downwards.

Decur'rent, Lat. *decurrens*, running down. Applied to leaves which run down the stem in a leafy border or wing, as in many thistles; and to leaf-stalks, as in *Pisum ochrus*.

Decur'sive, Lat. *decursivus*, extending downwards. Applied to leaves of which the middle nerve only runs down the stem; also to a style, the base of which descends on one side of the ovary.

Decur'sively pinnate, a term applied to leaves having their leaflets decurrent, or running along the petiole.

Decus'sate, Lat. *decussatus*, crossed after the manner of an X. Applied to leaves and spines which are in pairs, alternately crossing each other; and to striæ intersecting each other at acute angles.

Ded'alus, from *Dædalus*, the Athenian, who invented sails or wings. Having a margin with various windings and turnings, of a beautiful texture. Applied to leaves of plants.

Ded'imus Potesta'tem. In *law*, a commission for the speeding of an act, appertaining to a judge or court.

Deed. In *law*, a written contract, signed, attested, sealed, and delivered.

Deem'ster, a judge in the Isle of Man and in Jersey. The *deemsters* decide on life and property, and, with the advice of the keys, declare what is law on common emergencies.

Deep Sea-line, a small line, with a plummet at the end of it, to sound with. The plummet is hollow at the head, and has a quantity of tallow put into it to bring up gravel, shells, &c. from the bottom, to ascertain the nature of the ground.

Deep-waisted, the distinguishing fabric of a ship's decks, when the quarter-deck and forecastle are elevated from four to six feet above the level of the upper maindeck, so as to leave a vacant space called the *waist*, on the middle of the upper deck.

Deer, from Sax. *deor*, an untamed beast. A name common to all the species of the genus *Cervus*, Lin., but especially applied to the fallow-deer, common stag, reindeer, axis, and roebuck. The flesh is called *venison*, and is highly valued.

De Facto (Lat.), in deed or fact, in contradistinction to *de jure*, where a thing is only so in law or justice. A king *de facto* has possession of the crown, a king *de jure* has a right to it, but may never possess it.

Defau'lt. In *law*, non-appearance in court on the day assigned; also extended to omission of that which ought to have been done. The term is Fr. *defaut*, from *defaillir*, to fail.

Defea'sance (Norm.), from *defaire*, to undo, a rendering null. In *law*, a condition relating to a deed, which being performed, the deed is defeated and rendered void.

Defective Fifth. In *music*, an interval containing a semitone less than the perfect fifth.

Defender of the Faith, a title assumed by the sovereigns of England, bestowed originally on Henry VIII.

Def'erent, Lat. *deferens*, carrying; a term employed in *ancient astronomy*, to denote a circle invented to account for the eccentricity, perigee, and apogee of the planets.

Defi'cient Numbers, are such that the sum of their aliquot parts is less than the numbers themselves. Thus 8 is a deficient number, as the sum of its aliquot parts, 1, 2, 4, is only 7.

Deflagra'tion, from *deflagro*, to burn; a rapid combustion, as that which takes place when sulphur or powdered charcoal is thrown into melted nitre.

Deflagra'tor, a galvanic instrument for producing intense light and heat.

De'florate, Lat. *defloratus*, from *defloresco*, to shed the blossoms; a term applied to the anthers of flowers when they have shed their pollen, and to plants when their flowers are fallen.

Deflux'ion, Lat. *defluxio*, a flowing down; a term used by the humoral pathologists to express a descent of the humours from a superior to an inferior part.

Defolia'tion, from *de* and *folium*, a leaf; the shedding of leaves, applied technically to the autumnal season.

Deforce'ment. 1. In *England*, the holding of lands or tenements to which another person has a right.——2. In *Scotland*, a resisting of an officer in the execution of law.

Def'ter-dar (English), book-keeper. The Turkish title of the Chancellor of the Exchequer.

Degrada'tion, Fr., from *dégrader*. 1. The depriving a person of his dignity and degree: thus an officer is *degraded* when he is cashiered or deprived of his commission.——2. In *painting*, a lessening and obscuring of distant objects in a landscape, that they may appear as they would do to an eye placed at a distance.——3. In *geology*, the wearing away of rocks, strata, &c., by the action of water, &c.

Degra'ded. In *heraldry*, an epithet for a cross which has steps at each end.

Degre'e, from *gradus*, a step; Fr. *degré*. 1. In *geometry*, the 360th part of the circumference of a circle, denoted by a small ° near the top of the figure, thus, 25°. Each degree is divided into 60 minutes, and each minute into 60 seconds. (*See* Angle).——2. In *algebra*, a term applied to equations, to distinguish their order. Thus, if the highest exponent of the unknown quantity be 3, the equation is said to be of the *third degree*.——3. In *universities*, a title of honour conferred on students as a testimony of their proficiency in literature and science, giving them a kind of rank and entitling them to certain privileges, usually evinced by a diploma.——4. In *grammar* (*see* Comparison.——5. In *geography*, a *degree of latitude* is measured upon the meridian to the north or south. A *degree of longitude* is a degree of the equator, or of any of its parallel circles.——6. In *music*, the small intervals of which the concords are composed.

Dehis'cent, Lat. *dehiscens*, gaping; applied in *botany* to capsules which split and gape wide when ripe.

Deipno'sophists, a sect of ancient philosophers celebrated for their learned conversations at meals, whence the name from δειπνον, a feast, and σοφιστης, a sophist.

De'ist, a person who believes in the existence of an eternal, infinite, independent, intelligent Being (*Deus*), and who, acknowledging all the obligations and duties of natural religion and the necessity of a general moral providence, denies revealed religion.

De'i Judi'cium, judgment of God; the old Saxon trial by ordeal, thus named as being considered an appeal to God for the justice of a cause.

De Jure (Lat.), of right. *See* De Facto.

Del Cre'dere, an Italian term used in commerce to express the guarantee given by factors, who for an additional premium warrant the solvency of the parties to whom they sell goods upon credit.

De'le, Lat., imperative of *deleo*, blot out or erase.

Del'egate (*see* Legate), a commissioner appointed by the sovereign to hear and determine appeals from the ecclesiastical courts. The *Court of Delegates* determine appeals in all ecclesiastical causes by the archbishops, and in places exempt; also when sentence is given in the Admiral's Court in suits civil and marine by order of the civil law.

Delega'tion. In *law*, from *de* and *lego*, to send; the assignment of a debt to another.

Delf, Delft, a coarse species of porcelain originally manufactured at Delft in Holland, hence called *Delft-ware*. It is now rarely used in this country.

Delicacy. In the *fine arts*, minute accuracy as opposed to strength or force.

Deliques'cence, from *deliquesco*, to melt down; deliquation or a spontaneous assumption of the fluid state by certain saline substances when left exposed to the air, in consequence of the water which they attract from it.

Delir'ium, Lat. from *de* and *liro*, to wander; the confusion of ideas which occurs in the progress of diseases from disturbed functions of the brain. It is either violent and frantic (*delirium ferox*), as in acute inflammation of the brain, or low and muttering (*typhomania*), as in low fever. *Delirium tremens* is an affection of the brain nearly peculiar to drunkards.

Delph'ine, Delphin'ia, the vegeto-alkaline principle of the plant Staves-acre (*Delphinium staphysagria*).

Del'phine Edition. } In *bibliography*,
Delphin'ian Edition. } the name given to those editions of the classics, printed during the reign of Louis XIV. for the use of the dauphin (*in usum delphini*). The Latin is arranged in the margin according to the modern idiom.

Delphin'ium, the *Larkspur*, a genus of hardy plants. *Polyandria — Trigynia*. Named from δελφιν, the dolphin, the flower being thought to resemble a dolphin's head; above 30 species.

Delphi'nus, Δελφιν, the dolphin. 1. In *zoology*, a genus of cetaceous mammalia, which in the arrangement of Linnæus comprises the sub-genera *Delphinus* (dolphins properly so called), and *Phocæna* (porpoises), of Cuvier.——2. In *astronomy*, a constellation in the northern hemisphere, thus named from the poetical fable that the dolphin was translated to the celestial regions by Neptune.

Delta, the Greek letter Δ. 1. In *anatomy*, the delphys has been so named from its shape.——2. In *geology*, an alluvial for-

mation at the mouth of a river usually approaching the form of a Δ. The delta of the Nile is an example.

DEL'TOID, from δέλτα, the letter Δ, and εἶδος, form, delta-like, triangular. Applied, in *anatomy*, to a thick triangular muscle of the shoulder; and in *botany*, to trowel-shaped leaves, &c.

DELTOI'DES. 1. In *botany*, plants having deltoid leaves.——2. In *entomology*, a tribe of lepidoptera, belonging to the genus *Phalæna*, Lin., and forming the sub-genus *Herminia*, Lat. The wings and body form a sort of delta, marked by a re-entering angle on the posterior side.

DELU'BRUM, the most sacred part of ancient temples, where the images of the sundry gods were.

DEMAN'DANT. In *law*, the pursuer in real actions, in distinction from *plaintiff*.

DEMEN'TIA (Lat.), from *de*, and *mens*, the mind. A form of insanity, in which the powers of continued attention and reflection are lost: sometimes an accompaniment of old age.

DEMESNE. DEMAIN. In *law*, lands which are next or adjacent to the lord of the manor's mansion-house, and which he keeps in his own hands. The term appears to be from *maison*, house.

DEM'I-CA'DENCE. In *music*, an imperfect cadence, or one which falls on any other than the key-note.

DEM'I-CULVERI'N, a piece of ordnance. The least is 4½ inches bore, 10 feet long, and carries a ball 9 lbs. in weight. The largest is 4¾ inches bore, 10 feet 4 inches in length, and carries a ball of 12 lbs. 11 oz.

DEM'I-DIS'TANCE. In *fortification*, the distance between the outward polygons and the flanks.

DEM'I-DI'TONE. In *music*, a minor third.

DEM'I-GORGE. In *fortification*, that part of the polygon which remains after the flank is raised, and goes from the curtain to the angle of the polygon. *See* GORGE.

DEM'I-JOHN, a glass vessel or bottle inclosed in wicker-work.

DEM'I-LUNE. In *fortification*, a half-moon, a defence usually attached exteriorly to the posterns of a ravelin. It is now generally called *lunette* (q. v.).

DEM'I-METO'PE. In *architecture*, a half-metope found at the retiring or projecting angles of a Doric frieze.

DEM'I-QUA'VER, a note in music of half the length of a quaver.

DEM'I-RELIE'VO. In *sculpture*, a kind of relievo, wherein the figure rises from the plane, as if it had been cut in two, and only one half fixed to the plane.

DEM'I-SEM'I-QUA'VER, a note in *music*, equal in length to half a semi-quaver.

DEM'I-TINT. In *painting*, a tint representing the medium between light and shade.

DEM'I-UR'GUS, Gr., from δῆμος, people, and ἔργον, work. An artificer employed in ordinary handicraft.

DEM'I-VILL, a half-vill, consisting of five freemen or frank pledges.

DEM'I-VOLT, one of the artificial motions of a horse, in which he raises his forelegs in a particular manner.

DEMI'SE, Fr. *démis*, *démise*, from *démettre*, literally a laying down or removing. The death of a king or queen regnant, and the transfer of the royal authority to a successor, is termed the *demise of the crown*. In *law*, a transfer of an estate by lease or will is termed a *demise*; and where there are mutual leases made from one to another, of the same lands or something out of it, the conveyance is termed a *demise* and *re-demise*.

DEMOC'RACY, from δῆμος, people, and κράτεω, to govern, government by the people; one of the three forms of government; that in which the supreme power remains in the hands of the people.

DEM'O-GOR'GON, δαίμων, a demon, γοργος, terrible. A mysterious divinity of antiquity, who was an object rather of terror than of worship.

DE'MON, DÆ'MON, δαίμων. In *mythology*, demons were spirits or genii, who appeared to men either to do them service or hurt, and which were therefore objects of worship. The demons of the Platonists are those immaterial beings since called angels; those of the New Testament were the tormentors of men: hence, the word, in modern usage, has come to signify an evil spirit or genius, which has the power of influencing the conduct and fortunes of mankind.

DEMO'NIACS. In *church history*, a branch of the Anabaptists, who maintain that at the end of the world the devil (δαίμων) will be saved.

DEMONSTRA'TION, from *de*, and *monstro*, to show. In *logic*, a proof of a proposition, founded on axioms or definitions, or both, and called *à priori*, when the effect is proved from the cause, and *à posteriori*, when the cause is proved from the effect. In *war*, demonstrations are manœuvres practised for the purpose of misleading the enemy.

DEMONSTRA'TOR. In *anatomical schools*, one who assists the students in their practical lessons on anatomy.

DE'MOS. In *ancient history*, a borough or ward.

DEMUR'RAGE, from *demur*, to stop. In *commercial navigation*, an allowance made to the master or owners of a vessel by the freighter, for detaining her longer in the port than the period agreed upon for her sailing.

DEMUR'RER, from *demur*, to stop. In

law, a pause upon a point of difficulty in an action, and a resting of the decision of the cause upon that point. This abiding upon a point of law is called *demurring*.

Demy' (*see* Demi). 1. A half-fellow at Magdalen College, Oxford.——2. A particular size of paper, much used for printing books upon.——3. In *heraldry*, a charge borne in half.

Dena'rii (*see* Denarius). A general name in *law* for any sort of *pecunia numerata*, or ready money.

Dena'rius, the Roman penny. A silver coin estimated by Dr. Arbuthnot to have been worth about seven pence three farthings. As a weight, the *denarius* was the seventh part of a Roman ounce.

Den'dracate, from δένδρον, a tree, and ἀχάτης, agate; arborescent agate; agate containing delineations of parts of plants, as ferns, mosses, &c. Such pebbles are found abundantly on the shore from Bognor to Brighton, and are very beautiful when cut and polished.

Den'drite, from δένδρον, a tree. Any mineral having impressions or delineations of trees, shrubs, &c., or which assumes a ramified appearance. The native silver of Potosi is also thus named from its resembling, when first extracted, small branches of trees.

Dendroi'd, from δένδρον, a tree, and εἶδος, likeness. A term applied in *natural history* to objects which have a ramified or tree-like appearance.

Dendrom'eter, from δένδρον, a tree, and μέτρον, measure, an instrument adapted to the purposes of measuring trees. It consists of a semi-circle, divided into two quadrants, and graduated from the middle, and upon the diameter there hangs a plummet for fixing the instrument in a vertical position. Fitted to a theodolite, it may be applied to measuring the heights and distances of objects, accessible or inaccessible, whether situated in planes parallel or oblique to the plane in which the instrument is placed.

Deneb. In *astronomy*, an Arabic term signifying tail. Used to denote several stars in the tails of some of the constellations, as *Deneb Adïjem*, the tail of the Swan.

De'nier, an old French copper coin, of which 12 made a sol. There were two kinds, the *tournois* and the *parisis*.

Den'izen, an alien born, who has obtained letters patent whereby he is constituted an English subject. The radix of the term is Welsh, *din*, *dinas*, a town, city, or fortress.

Denominator (of a fraction). In *arithmetic* and *algebra*, the number and letter below the line, showing the number of parts into which the integer is divided, and consequently indicating the denomination of the fraction, or giving it name.

Denou'ement (Fr.), from *dénouer*, to untie. The development of the plot or story in a novel or play, or any other department of literature.

De No'vo (Latin), anew, from the beginning.

Dens (Latin), a tooth, *quasi edens*, from *edo*, to eat. Many plants have this specific name from their fancied resemblance to the teeth of some animal, as *Dens leonis*, the Lion's tooth or Dandelion.

Dense, Den'sity, Lat. *densus*, close; *densitas*, closeness. These terms are relative, and denote the comparative quantity of matter which is contained in the same space; they are directly opposed to *rare* and *rarity*. The specific gravities of bodies are presumed to be the measure of their densities. *See* Volume.

Denta'gra, from *dens*, a tooth, and ἄγρα, a seizure.——1. The tooth-ache.——2. An instrument for drawing teeth.

Dental. By *naturalists*, the expression *dental formula* is used as the name of a notation, used to signify the number and kind of teeth of a mammiferous animal. Thus the genus *Felis* is characterised by—Incis. $\frac{6}{6}$; canin. $\frac{1}{1}, \frac{1}{1}$; præmol. $\frac{2}{2}, \frac{2}{2}$; mol. $\frac{2}{1}, \frac{2}{1} = 30$. This signifies that they have six incisors in both the upper and the lower jaw; one canine tooth on each side of both jaws, two præmolares on each side of each jaw; two molares on each side of the upper, and one on each side of the lower jaw.

Denta'lium, the *tooth-shell*; a genus of marine tubicol shells; it is a tubulous arcuated cone open at both ends, and resembling the tusk of an elephant in miniature, whence the English and generic names *dentalis*, tooth-like.

Den'tate, Lat. *dentatus*, toothed. In *botany*, leaves, petals, roots, &c., are dentate when beset with horizontal projecting points, or rather distant teeth of their own substance.

Denta'to-sin'uate, having points like teeth with hollows about the edges.

Den'tels, Den'tils. In *architecture*, ornaments in a cornice in the form of indentations or teeth (*dentes*); this member is called a *denticule* or *denticulated band*.

Den'tes, plural of *dens*, a tooth. *D. acute*, or *incisores*, the incisor teeth or four front teeth; *D. adulti*, the teeth of the second dentition; *D. bicuspides*, the two first grinders on each side; *D. canini* or *cuspidati*, the canine teeth, two in each jaw on the sides of the incisores; *D. molares*, the grinders or double teeth; *D. sapientiæ*, the wisdom teeth; the two double teeth farthest back in the jaw.

Dentic'ulate, Lat. *denticulatus*, set

with little teeth, applied to various objects, from their appearance.

Den'ticule. In *architecture*. *See* Dentals.

Dentiros'tres, a family of passerine birds characterised by having the beak emarginated on the sides of the point, whence the name from *dens* and *rostrum*, a beak. The shrikes, thrushes, tanagers, crown-birds and fly-catchers are examples.

Denuda'tion, Lat. *denudatio*, a laying bare; applied, in *geology*, to those disappearances of upper strata in particular districts, by which lower strata are partially exposed to view.

Denuda'tus, naked. In *botany*, applied to the polish of bodies, being the reverse of hairy, downy, &c.

De'odand. In *law*, Lat. *deodandum*, a thing given or forfeited to God to appease his anger (that is forfeited to the king to be applied to pious purposes), when a person comes to a violent death without the fault of any reasonable creature. Thus if a cart run over a man and kill him it is forfeited as a *deodand*.

Deontol'ogy, δεον, due, and λογος, discourse. The science of duty.

De-oxida'tion, } depriving a substance
De-oxyda'tion, } of the oxygen which it contains; reduction from the state of an oxide.

Departi'tion, from *de* and *partior*, to divide; an old chemical name for the process of separating metals.

Depar'ture. In *navigation*, from Fr. *départir*, to move from; the easting or westing of a ship in respect to the meridian it departed from; or it is the difference of longitude in miles, either east or west between the meridian which the ship is under, and that where the last reckoning or observation was made.

Dephlegma'tion, from *de* and *phlegm* (q. v.); the process by which liquids are deprived of their watery particles: applied chiefly to spirituous liquids, and involving the alchemistical notion of a particular principle called phlegm.

Dephlogis'ticated, from *de* and *phlogiston* (q. v.); a term formerly applied by chemists to bodies which were supposed to be deprived of *phlogiston* or the inflammable principle. Thus oxygen was called *dephlogisticated air*, and chlorine *dephlogisticated muriatic acid*.

Depil'atory, from *de* and *pilus*, the hair; a name for any substance capable of removing hair from the human skin. Thus a pitch plaster which on being removed pulls the hairs along with it by the roots, is a mechanical depilatory, the chemical ones are composed either of caustic alkalies, sulphuret of baryta, or some arsenical preparation, and act by destroying the roots of the hairs. They are very unsafe.

Deplo'y, from Fr. *de* and *ployer*, to fold i.e. to unfold. In *military tactics*, the expansion of a body of troops previously compacted in column, &c., so as to offer a large front.

Depo'nent, from *de* and *pono*, to place. 1. In *law*, one who answers interrogations under oath in Chancery.——2. In *grammar*, such verbs as have no active voice are called *deponents* or *deponent verbs*.

Deporta'tion, from *de* and *porto*, to carry; a sort of banishment among the Romans by which the individual exiled was sentenced to remain in some allotted place under pain of death.

Depost'tion. 1. In *geology*, the subsidence from a fluid of the different strata which now form the crust of the earth. ——2. In *surgery*, the depression of the lens in the operation of couching.

Depres'sion, from *deprimo*, to press down. The *depression of the sun* or *of a star* is its distance at any time below the horizon, measured by an arc of the vertical circle.—The *depression of the pole* is the phenomenon which appears to an observer as he travels or sails towards the equator, the pole appearing to sink as he recedes from it.—The *depression of an equation* is the reducing of such equation to a lower degree: thus a biquadratic may be depressed (in particular cases) to a cubic equation, and the cubic equation to a quadratic.

Depriva'tion, from *de* and *privo*, to take away; an ecclesiastical censure by which a bishop or other dignitary is deprived of his spiritual dignity.

Dep'uty, from Fr. *député*; a person appointed to act for another. In *law*, a person who exercises an office in another's right. One or more deputies sent to transact business, either with a special commission and authority, or with general powers, constitute a *deputation*. The *Chamber of Deputies* is the lower of the two legislative chambers in France.

Der'byshire Spar, a fluate of lime, named also *fluor spar*, and found in great beauty and abundance in Derbyshire.

Der'elicts, from *de* and *relinquo*, to leave; things forsaken, as, 1. Tracts of land left dry by the sea and fit for cultivation.——2. Goods relinquished by the owner. Vessels forsaken at sea are likewise called *derelict ships*.

Dermat'ography, } from δερμα, the
Dermog'raphy, } skin, and γραφω, to describe; the anatomical description of the skin.

Der'matoid, } from δερμα, the skin,
Der'moid, } and ειδος, like; resembling skin.

DERMATOL'OGY, } from δερμα, the skin,
DERMOL'OGY, } and λογος, discourse; a discourse or treatise on the skin.

DERMES'TES, a genus of coleopterous insects named popularly the *leather-eaters*, because they destroy furs, leather, &c., &c.; *dissectors* by De Geer, because they devour and reduce to skeletons the dead bodies of animals. Cuvier places the dermestes among the *clavicornes*.

DEROG'ATORY CLAUSE. In *wills*, a sentence or secret character, inserted by the testator, of which he reserves the knowledge to himself, with a condition that no will which he may hereafter make shall be valid, unless this clause be inserted word for word. This is done as a precaution to guard against later wills being extorted by violence or other improper means.

DER'RICK. In *navigation*, a tackle used at the outer quarter of the mizen-yard; also a prop or support to shears, &c.

DER'VISE, a Persian name given to all Mohammedan monks, though of various orders.

DES'CANT. In *old music*, from Ital. *descanto*, Lat. *canto*, to sing; the art of composing music in several parts. *Plain descant* consists in the orderly disposition of concords, and is the foundation of musical composition. *Figurative* or *florid descant* is that part of an air in which some discords are concerned. *Double descant* is when the parts are so contrived that the base may become the treble and the treble the base.

DESCEN'SION, from *de* and *scando*, to climb; a going downwards. Applied in *astronomy:* 1. *Right descension* is an arc of the equator which descends with the star or sign below the horizon in a right sphere.——2. *Oblique descension* is an arc of the equator which descends with a star or sign below the horizon in the oblique sphere. The difference between the right and oblique descension of any heavenly body is called the *descensional difference*.

DESCENT', Lat. *descensus*, the tendency of a body from a higher to a lower place. 1. In *mechanics*, the *descent of bodies* is their motion or tendency towards the centre of the earth either in a direct or in an oblique direction. The *line of swiftest descent* is that which a body falling by the action of gravity, describes, in the shortest time possible, from one given point to another; and this line is the arc of a cycloid when the one point is not perpendicularly over the other (*see* BRACHYSTOCHRONE).—In *law*, *descent* is the title by which an individual on the death of his ancestor acquires his estate by right of representation as his heir at law.—In *heraldry*, *descent* expresses the position of an animal in the act of descending, as a lion *in descent* with his heels upwards, as in the act of leaping down from an eminence.

DESCRI'BENT. In *geometry*, from *de* and *scribo*, to write; the line or surface, from the motion of which a figure or body is supposed to be generated or described.

DESI'GN, Fr. *dessein*, a plan or representation of anything by an outline or sketch. In *painting*, the *design* is the first idea of a large work drawn roughly and on a small scale, with the intention of being executed and finished in large.—In *textile manufactures*, design expresses the drawings which the workman copies by various contrivances into the fabric upon which he is employed.—In *architecture*, &c., the plan of an intended building projected according to the rules of art, with taste and judgment, is called a *design:* it includes plans, sections, and elevations.—In *music*, design means both the invention and execution of the subject in all its parts.

DESIG'NATOR. Anciently, a master of the ceremonies, whose duty it was to assign to each person his proper place in the theatres and at the other public spectacles.

DESMOL'OGY, from δεσμος, a ligament, and λογος, discourse; the anatomical description of the ligaments of the body.

DESPUMA'TION, from *de* and *spuma*, froth; the clarification of a liquid, or the separation of the spume, froth, or scum from it.

DESQUAMA'TION, from *de* and *squama*, a scale; the separation of scales from the skin or bones: in the case of the bones the word *exfoliation* is commonly used.

DESTEM'PER, Fr. *détrempe*. In *painting*, a preparation of opaque colour, ground up with size and water, used in scene-painting.

DESTRUC'TIVE DISTILLATION, the distillation of organic products at a high temperature, whereby the elements enter into new combinations, as in distilling coal for the production of gas, and wood for the formation of vinegar.

DES'UETUDE, from *desuetudo*, to cease from any practice; discontinuance of any custom, law, &c. Words are lost, and laws are virtually abrogated, by *desuetude*.

DE'SUNT CÆ'TERA (Lat.), "the rest wanting;" put at the end of any chasm or deficiency in an imperfect or mutilated work.

DETACHED. In *painting*, is said of figures when they stand free and disengaged from each other.

DETACH'ED PIECES. In *fortification*, outworks at a distance from the body of a place, as demilunes, ravelins, &c.

DETA'IL (of a plan), drawings or delineations for the use of workmen, otherwise called working drawings.—In the

fine arts, the parts of a work as distinguished from the whole mass.

DETEN'TS. In *clockwork*, from *detentus*, those stops which, by being lifted up or let down, lock or unlock the clock in striking.

DETE'NUE. In *law*, a writ or action that lies against a person who has had goods, &c., delivered to him to keep, and afterwards *detains* or refuses to give them up.

DETER'MINATE, Lat. *determinatus*, limited, fixed in value, as a *determinate* quantity, in algebra. In *botany*, *determinati ramosus*, abruptly branched, as when each branch, after terminating in flowers, produces a number of fresh shoots in a circular order from just below the origin of these flowers.—In *mathematics*, a *determinate problem* is one which has a limited number of answers.

DETER'MINING LINE. In *conic sections*, a line parallel to the plane of the base of the cone. In the hyperbola it falls within the base of the cone; it forms a tangent to the base in parabolic sections; it falls without in the ellipsis.

DETONATING POWDER, fulminating mercury, and silver, and other compounds, which suddenly explode when struck or heated.

DETONATING TUBE, a stout glass tube for the detonation of gaseous bodies.

DETRAC'TOR, Lat. from *detraho*, to draw a muscle, the office of which is to draw the part to which it is attached from some other part.

DETRI'TUS (Lat.), the worn off or broken fragments and matters formed by the disintegration of mountains, &c.

Beneath the whole series of stratified rocks that appear on the surface of the globe, says Buckland, there probably exists a foundation of unstratified crystalline rocks, bearing an irregular surface, from the *detritus* of which the materials of stratified rocks have in a great measure been derived.

DEUTERO'NOMY, from δευτερος, second, and νομος, law; the second book of the law, the name given in the Scriptures to the fifth book of Moses; equivalent to the Mischna of the Hebrews.

DEU'TERO-CANON'ICAL. In *theology*, a term applied to certain books of Scripture which were added to the canon after the rest were compiled: *deutero*, abbr. of δευτερος, second.

DEUTEROP'ATHY, Lat. *deuteropathia* (δευτερος, second, and παθος, suffering); a sympathetic affection where a second part suffers from consent with the part originally affected.

DEUTOX'IDE, from δευτερος, second, and oxide (q. v.); literally, the second oxide, but usually employed to denote a compound containing two atoms or two prime equivalents of oxygen to one or more of a metal. *See* OXIDE.

DEVELOP'MENT, Fr. *développement*, an unfolding; a term frequently employed by algebraists to denote the transformation of any fraction or other quantity into the form of a series. The *development of a spheric surface on a plane* is a method of drawing a portion of a sphere nearly spherical, by supposing it circumscribed by a polyhedron, the side of which is extended upon a plane.

DEVIA'TION. In *commercial navigation*, from *de* and *via*, the way; the voluntary departure of a ship, without necessity, from the voyage insured for. This discharges underwriters from their responsibility.

DEVI'CE, Fr. *devise*; a term used in *heraldry* and *painting* for any emblem contrived to represent a certain family, person, action, or quality, with a suitable motto applied figuratively.

DEVIL'S-DUNG, a vulgar name for assa-fœtida.

DEVIS'E. In *law*, the act whereby a person bequeaths his estate to another: the act of dividing real estate. The person who thus bequeaths is called the *devisor*, and the person in whose favour the bequeathment is made is called the *devisee*.

DEW, Sax. *deaw*. The vapour condensed upon the surface of the earth during the night in consequence of the radiation of caloric into a clear expanse of sky, which makes no return, so that the temperature of these bodies sinks below that of the air, from which they abstract a portion of that caloric which holds the atmospherical humidity in solution, and cause a part of it to be deposited.

DEWAN'. In *India*, the head officer of finance and revenue: always a Hindoo.

DEWAN'NY ADAW'LET. In *India*, a court (*adawlet*) for trying revenue and other civil causes, in distinction from the *Nizamut adawlet* (q. v.) *See* DEWAN.

DEW-POINT. The temperature at which dew begins to be deposited, varying with the humidity of the atmosphere.

DEX'TRAL. In *conchology*, all spiral shells are divided into *dextral* and *sinistral*: when the turn of the shell is on the right hand side (*dexter*), the mouth being downwards, it is termed *dextral*, when on the left (*sinister*), it is *sinistral* or reversed. The great majority of spiral shells are dextral, but individuals of the very same species are found reversed or sinistral.

DEX'TRINE, from *dexter*, the right hand; a matter of a gummy appearance, into which the interior substance of the molecules of starch is converted by diastase or acids. Thus named, from the circumstance that it turns the plane of polarization to the right hand more than any other body. It is white, insipid, transparent in their plates, and without

Dey, the title of the supreme governor of Algiers, Tunis, and the other States of Barbary.

D. F., for *defensor fidei*, defender of the faith.

D. G., for *Dei gratia*, by the grace of God.

Diab'etes, διαβητης. A morbid copiousness of urine, a disease of which there are two species, the *D. insipidus*, in which the urine has its usual taste, and the *D. mellitus* in which it contains a great quantity of sugar. Both species are attended with great thirst, voracious appetite, and emaciation.

Diacau'stic, from διακαυω, to burn; applied to a double convex lens or burning glass. The *diacaustic curve* is a species of the caustic curves formed by refraction.

Diach'ylon, διαχυλων. The name given by the Greeks to a plaister composed of the juices of herbs, from δια and χυλος, juice. In modern pharmacy two diachylon plaisters are known, the *simple* or *white diachylon* or lead-plaister, and the *yellow diachylon* or *diachylon with gum*, made by adding galbanum, turpentine, and frankincense, to simple diachylon.

Diacou'stics, from δια and ακουω, to hear: the doctrine of refracted sounds, called also *diaphonics* (q. v.).

Diacrit'ic Marks, διακρινω, to distinguish. Marks used to distinguish letters, between the forms of which much similarity exists.

Diadel'phia, δις, twice, and αδελφος, a brotherhood; the name of a class in the sexual system of plants, embracing those the flowers of which are papilionaceous or hermaphrodite, and have the male organs united below (generally) into two sets of cylindrical filaments. The fruits are leguminous. The pea and bean are examples.

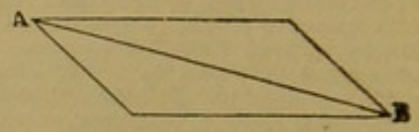
Di'adem, διαδημα, *diadema*. 1. The head-band anciently worn by kings as a badge of royalty.——2. The regal crown, hence figuratively supreme power.——3. In *heraldry*, a circlet enclosing the crown of a prince.——4. In *surgery*, a sort of bandage for the head in cases of relaxation of the sutures.

Diæ'resis, from διαιρεω, to divide. 1. In *grammar*, the division of one syllable into two, usually denoted by two points over a letter, as in *aulaï* for *aulæ*.——2. In *surgery*, a solution of continuity, as an ulcer.

Diagno'sis, from διαγινωσκω, to know thoroughly; the art of distinguishing one disease from another by the symptoms presented, called also *diacrisis*.

Diagnos'tic, διαγνωστικος, characteristic; the *diagnostics* of a disease are the signs or symptoms by which it is recognised and distinguished from others. These are of two kinds, the *adjunct* when the symptoms are common to several diseases, and the *pathognomic* when they attend only one disease, and serve to distinguish it from all others.

Diag'onal, from δια, through, and γωνια, a corner · in an angular direction.



A right line, as A B drawn across an equilateral figure from one angle to another, is by some called the *diameter*, by others the *diametral*, but generally the *diagonal* of the figure.

Dia'gram, from διαγραφω, to delineate; a geometrical delineation for the purpose of demonstrating the properties of any figure, as a square, triangle, &c. The διαγραμμα of the Greeks was a sort of musical scale, a proportion of measures distinguished by certain notes.

Dia'graph, δια and γραφω, to describe; an instrument recently invented in France, used in perspective.

Di'al, an instrument serving to measure time by the shadow of the sun, called therefore tautologically, a *sun-dial*. The word is formed from *dies*, day, because indicating the hour of the day. The ancients called it *sciathericum*, from its doing it by the shadow. There are many kinds of dials, the diversity arising from the different situations of the plane, and from the different figures of the surfaces upon which they are described, as the *horizontal*, the *equinoctial*, *vertical*, *polar*, *direct*, *erect*, *declining*, *inclining*, *reclining*, &c., and there are several kinds called *universal*, because they serve for all latitudes. Descriptions of several of these will be found in Jones's Instrumental Dialling. The miner's compass is sometimes erroneously called a *dial* by the workmen.

Dia'lect, from δια and λεγω, to speak; the form or idiom of a language peculiar to a province, a kingdom, or a state, as the Attic dialect spoken by the Athenians in contradistinction to the Ionic, Doric and Æolic dialects. Many languages which are regarded as distinct, are dialects of one common language locally accommodated to circumstances.

Dial'ling Globe, an instrument of brass or wood, with a plane fitted to the horizon, and an index so contrived as to give a clear illustration of the scientific principles on which dials are constructed.

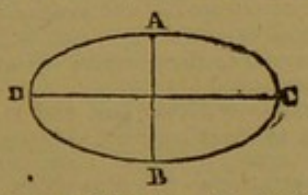
Dial'ling Lines, } Graduated lines
Dial'ling Scales. } placed on rulers, the edges of quadrants and other instruments, for the construction of dials.

DIAL'LING-SPHERE, an instrument usually made of brass, with several semicircles sliding over each other on a moveable horizon, used to demonstrate the nature of spherical triangles, and to give the true idea of the methods of constructing dials on all sorts of planes.

DIAL'LAGE. In *mineralogy*, a dark-green variety of crystallised serpentine, thus named from διαλλαγη, difference, in allusion to the difference of lustre between its natural joints. Diallage is the *Verde di Corsica duro* of artists, by whom it is fashioned into ring-stones, snuff-boxes, &c. In the rock it is called *gabbro;* it ranks as a species of the genus *Schiller-spar*, is named *smaragdite* by Saussure, and *euphotide* by others.

DIAL'YSIS, διαλυσις, a loosening (λυω, to dissolve). 1. In *grammar*, a mark or character consisting of two points placed over one of two vowels to dissolve a diphthong, or to show that the two vowels are to be separated in pronunciation, as aërial.——2. In *rhetoric*, a figure of speech in which several words are placed together without the aid of a conjunction, as *veni, vidi, vici*.——3. In *medicine*, relaxation or weakness of the limbs.

DIAM'ETER, from δια, through, and μετρεω, to measure; a line which passing through the centre of a circle or other curvilinear figure divides it or its respective ordinates into two equal parts. In *conic sections*, the line A B is called the *conjugate diameter*, and the line C D is



the *transverse diameter*. In *architecture*, the measure across the lowest part of the shaft of a column, which is usually divided into sixty parts, called minutes, and forms a scale for the measurement of the other parts of the order.

DIA'MOND, a condensed and usually crystallised form of carbon ranked as the most beautiful and valuable, as it is the hardest, of the precious stones, formerly called *adamant*. Colours white and grey, sometimes red, brown, yellow, green, and rarely blue and black. The white is the most valued; when transparent and pure it is said to be of the first *water*. When cut it exhibits a beautiful play of colours in the sun-beam. It has only been found as yet within the tropics (in some parts of India, in Borneo, and in Brazil), in diluvial gravel, and among conglomerate rocks called *cascalho*, in Brazil, on which it may be said Europe depends at present for diamonds. The primitive form is the regular octahedron, but each triangular facet is sometimes replaced by six secondary triangles bounded by curved lines, so that the crystal becomes spheroidal with 48 facets. Its brilliancy depends on its property of reflecting all the light which falls on its posterior surface at an angle of incidence greater than 24° 13′ only. The natural edges of the crystal cut glass, artificial edges only scratch it. The weight and consequently the value of the diamond is estimated in *carats;* and the price of one diamond as compared with another of equal purity is as the square of the respective weights. The largest diamond known is that in the possession of the Queen of Portugal. It is uncut, and weighs 1680 carats, or 11 oz. 96 grs.; supposing therefore the table of rates to be applicable to this diamond, it is worth $1680^2 \times 2l. = 5{,}644{,}800l.$, but the highest price ever paid for a diamond was 150,000*l*. A *rough diamond* is one as it comes from the mines. A *brilliant diamond* is one which is cut into facets both at top and bottom. A *rose diamond* is one which is quite flat beneath, with its upper part cut into numerous facets, usually triangles. A *table diamond* is one cut with a large square face on top, encompassed by four lesser ones. *Diamond powder* is used for cutting, engraving and polishing hard stones. The *glazier's diamond*, used for cutting glass, is a small point of a natural crystal of the diamond, set in a socket of steel, lead, or silver. It is also of late used by engravers to draw lines which are to be deepened by aqua fortis (dilute nitric acid). The term *diamond* is used by heralds to express the black colour in the achievements of peerage, and the same name is given popularly to the figure otherwise called a *rhombus*.

DI'AMOND-SHAPED. Leaves are so called when they approach in form to a square, or resemble the figure of the diamond as painted on cards.

DIA'NA. 1. The moon. A name formerly given to silver from its white shining appearance.——2. The goddess of hunting, twin sister of Apollo.

DIA'NA, TREE OF, a name given to the crystallised silver which is disengaged when mercury is put into a solution of nitrate of silver.

DIAN'DRIA, from δις, twice, and ανηρ, a man. The second class of plants in the Linnæan sexual system, comprising such as have hermaphrodite flowers with two stamens.

DIAN'THUS, the pink. A genus of about 70 species, mostly hardy perennials. *Decandria—Digynia*. Name from Διος, Jove, and ανθος, a flower, in allusion to the elegance and fragrance of the flower. The

sweet-william, clove-pink, carnation, and maiden-pink, are well-known species.

Diapa'son, Diapase, from διὰ πασων, through all. A rule or scale whereby musical-instrument-makers adjust the pipes of organs, cut the holes of flutes, hautboys, &c., in due proportion for performing the tones, semitones, and concords with precision. Most writers on the theory of music use *diapason* to express the octave of the Greeks. Considered simply, it is but one harmonical interval; but considered diatonically, it contains seven degrees, the three greater tones, two lesser tones, and two greater semitones.

Diapa'son-diapente. In *music*, a compound consonance in a triple ratio, consisting of nine tones and one semitone: a twelfth.

Diapa'son-diates'saron. In *music*, a compound concord, founded on the proportion of 8 to 3, consisting of eight tones and one semitone.

Diapa'son-ditone. In *music*, a compound concord, the terms of which are as 5 to 2.

Diapa'son-sem'iditone. In *music*, a compound concord, the terms of which are as 12 to 5.

Diapen'te, from διὰ, and πεντε, five, a fifth. In *music*, an interval making the second of the concords, and with the diatessaron an octave. In *pharmacy*, a composition of five ingredients.

Di'aper, a kind of cloth much used for table-linen, thus named from Ypres (cloth d'Ipre), in the Netherlands, where it was first manufactured. It is named by the French *toile fourrée*, and is ornamented with the most extensive figures of any kind of twisted cloth, except damask.

Diaph'onics, the doctrine of refracted sound.

Dia'phora, from διαφερω, to differ. A rhetorical figure, in which a word, when repeated, is taken in a different sense from what it was at first understood.

Di'aphragm, διαφραγμα, the midriff. A muscle which divides the thorax from the abdomen. It takes its name from this position, διαφρασσω, to separate by a partition; hence *diaphragmatic*, pertaining to the diaphgram, as the *diaphragmatic* arteries, veins, &c. Hence also, *diaphragmitis*, inflammation of the diaphragm.

Diapore'sis, διαπορησις, doubt. The name given to a rhetorical figure, in which the speaker expresses his doubt or hesitation as to the manner in which he ought to proceed.

Diarrhœ'a, from διαρρεω, to flow. A purging, flux, or looseness, of which there are several species. It differs from *dysentery* (q. v.), and is not contagious. *Diarrhetic*, purgative.

Diarthro'sis, from διαρθρεω, to articulate. A moveable collection of bones, of which anatomists enumerate five species: *enarthrosis, arthrodia, ginglymus, trochoides*, and *amphiarthrosis*. The term *diarthrodial* is applied to the cartilages covering the articular extremities of bones.

Di'aschism, διασχισμα, a piece cut off. A term used in *music* to express the difference between the comma and enharmonic diesis, commonly called the *lesser comma*.

Diastal'tic, διασταλτικος, dilated, noble. Applied by the Greeks to certain intervals in *music*, as the major third, sixth, and seventh.

Dias'tase, from διαστασις, separation. A substance extracted by cold water from crushed malt, and precipitated from its solution by alcohol. It liquefies and saccharifies the paste of starch without absorption or disengagement of gas.

Di'astem, διαστημα, an interval. Applied chiefly in *music*, but sometimes by physicians in the same sense as *diastasis* (q. v.). It is also used to express the interval between the rising and falling inflexions in reading and speaking.

Dias'tole, διαστολη, dilatation. 1. In *medicine*, dilatation of the heart and arteries: opposed to *systole*.——2. In *grammar*, a figure of prosody, by which a syllable naturally short is made long.

Di'astyle, from διὰ and στυλος, a pillar. An edifice of which the intercolumniation is equal to three mean diameters of the columns.

Diates'saron, from διὰ, and τεσσαρα, four. A musical concord, composed of a greater tone, a lesser tone, and one greater semitone. Its proportion is 4 to 3, hence called a *perfect fourth*. The name is also given to the four gospels when arranged harmonically; and to a medicine composed of four ingredients, gentian, aristolochia, laurel-berries, and honey.

Diather'mal, διὰ, and θερμη, warmth. Applied to substances, such as transparent rock-salt, which suffer heat to pass through them.

Dia'thesis, διαθησις, disposition. A natural predisposition to certain diseases, such as the scrofulous, rheumatic, cancerous, and calculous diatheses.

Diat'oni, διὰ, and τονος, an extension. In *ancient architecture*, the angle stones of a wall.

Diato'nic, from διὰ, and τονος, sound. An epithet given to a musical scale or gamut, as it proceeds by tones and semitones. Thus we speak of a *diatonic* scale or series, a *diatonic* interval, *diatonic* har-

mony. It is applied to ordinary music, containing only the two greater and lesser tones, and the greater semitone.

Diazeux'is, διαζευξις, division. The name given by the ancient musicians to the tone which separated two disjunct tetrachords. It was placed between the mesis and paramesis. This *diazeutic tone*, in our music, is from A to B.

Di'azom, διαζωμα, a zone. The term is used to designate the diaphragm which surrounds the cavity of the thorax. In *ancient architecture*, the landings which encircled the amphitheatre at different heights.

Di'cast, δικαστης. An ancient officer in Greece, answering nearly to our juryman. The radix is δικη, justice.

Dicaste'rium, a hall of justice in Athens.

Di'ceras, from δις, twice, and κερας, a horn; a genus of fossil shells discovered in granular limestone, and thus named from possessing two prominent spiral umbones which resemble two twisted horns.

Dichot'omous, Lat. *bichotomus*, bifurcate, forked; applied to stems and plants divided into two parts.

Dichot'omy, from διχοτομια, a division. 1. A distribution by pairs.——2. That phasis of the moon in which she appears bisected or shows only half her disc.

Dic'hroism, δις, double, χρωμα, colour. A property of certain crystallised bodies of appearing under two distinct colours, according to the direction in which the light is transmitted through them.

Dich'roite, a mineral of the gem order, thus named from δις, and χροα, colour, from its showing different shades of colour (usually blue) when viewed in different directions. It is called also *iolite*. It occurs in granite and gneiss. Its principal constituents are silica, alumina, magnesia, and oxides of manganese and iron.

Dicoc'eous, Lat. *dicoceus*, two-seeded, δις and κοκκος, a berry; applied to a capsule which consists of two cohering grains or cells with one seed in each.

Dicotyl'edon, from δις and κοτυληδων, a cotyledon; a plant which has two cotyledons, seminal leaves, or seed lobes, exemplified in the bean. The *dicotyledones* form the third great division of plants in Jussieu's natural method, and the term *dicotyledonous* is applied to all plants of this division. *See* Cotyledon.

Dictam'nus, the *Dittany* or *Fraxinella*; a genus of perennial plants. *Decandria—Monogynia*. Name from Dicte, a mountain in Crete, where the red-flower fraxinella, the first known species, grows plentifully. The *fraxinella* of the shops is the root of the *D. albus* or bastard dittany, found in Germany.

Dicta tor, the title given in ancient Rome to a magistrate created in times of exigency, and invested with unlimited power. The ordinary duration of his office was six months, during which time all other magistracies ceased, the tribuneship alone excepted. Sylla and Cæsar rendered the dictatorship perpetual and the name odious.

Didac'tyle, διδακτυλος, an animal having only two toes; hence *didactylous*, two-toed.

Didecahe'dral, from *di* and *decahedral*; having the form of a decahedral (ten-sided) prism with pentahedral (five-sided) summits. A crystal of this form may be called a *didecahedron*.

Didodecahe'dral, from *di* and *dodecahedral*; having the form of a dodecahedral (twelve-sided) prism with hexahedral (six-sided) summits: such a crystal is a *didodecahedron*.

Didel'phis, } A genus of mammalia:
Didel'phys, } order *Feræ*, Lin., and *Marsupiata*, Cuv. Name from δις and δελφυς, having two wombs, all the species possessing an external abdominal pouch (*marsupium*), in which the fœtus is placed after a very short uterine gestation, and where it remains suspended to the nipple by the mouth till sufficiently matured to come forth to the external air. This genus, formed by Linnæus, is now divided into the following genera: *Didelphis*, properly so called, including the *Chironectes*, Illiger, and the *Thylacinus* and *Phascogale*, Temminck (Ex. opossums of America and the dog-headed opossum of Van Diemen's Land); the *Dasyurus*, Geoffroy, the *Phalangista*, Cuvier, the *Hypsiprymnus*, Illiger, the *Macropus*, Shaw, or *Palmaturus*, Illiger, the *Koala*, Cuvier, and the *Phascalomys*, Geoffroy. These genera form the order *Marsupiata* of Cuvier.

Di'deron (Gr.) In *ancient architecture*, a brick one foot long and six inches broad.

Didrach'ma, an old Grecian silver coin of the fourth of an ounce.

Didyna'mia, from δις, and δυναμις, power; the name of the 14th class of plants in the sexual system of Linnæus, having four stamens, two long and two short. The orders are *Gymnospermia* and *Angiospermia*, and the bugle, germander, mint, betony, balm, thyme, snapdragon and broom-rape, are generic examples. Epithet, *didynamic*.

Die. 1. A stamp used in coining, striking medals: plural *dies*.——2. One of a pair of *dice*.——3. The cubical part of the pedestal of a column between its base and cornice.

Dies. 1. Plural of *die*, for coining.——2. Latin, plural of *dies*, a day, as *D. caniculares*, the dog-days. *D. non* (juridici), days on which no court is held; *D. datus*,

a day or time of respite given by the court to the defendant in a cause.

DIE'SIS, δίεσις, division. In *music*, the division of a tone, less than a semitone: an interval consisting of an imperfect semitone.—In *books*, the mark ‡, called also a *double-dagger*, and used as a mark for reference.

DI'ET. 1. Lat. *diæta;* food regulated by medical rules.——2. Germ. *dyet;* the general assembly of the states of the German empire, and formerly of Poland.

DIEU ET MON DROIT (French), God and my right. The motto of the royal arms of England, first assumed by Richard I. William III. used the motto *je maintiendray;* Elizabeth and Anne used *semper eadem.*

DIEU ET SON ACTE (French), a maxim in law, that the act of God shall not be a prejudice to any man.

DIF'FERENCE, from *dis*, away, and *fero*, to bear; variation in whole or in part. In *logic*, an essential attribute belonging to a species, that is not found in the genus. In *arithmetic*, the remainder, when one number has been subtracted from another. In *heraldry*, any addition to a coat of arms, serving to distinguish one family from another.

DIFFEREN'TIAL. In *mathematics*, an infinitely small quantity, so small as to be less than any assignable quantity: thus denominated, because frequently considered as the difference of two quantities, and as such is the foundation of the *differential calculus.*

DIFFEREN'TIAL CALCULUS, } the arith-
——————— METHOD, } metic of infinitely small differences of variable quantities, consisting in descending from whole quantities to their differentials, and comparing them together. It differs in its metaphysics from the *fluxional calculus.*

DIFFEREN'TIAL COEFFI'CIENT, in *analysis*, is the ratio of the differential of any function of a variable quantity to the differential of the variable.

DIFFEREN'TIAL THERMOM'ETER, an instrument for measuring very small differences of temperature.

DIFFRAC'TION. In *optics*, a species of inflexion, which the rays of light undergo in passing very near the extremities of an opaque body.

DIGAM'MA, the double gamma or F of the Greeks, with the sound of V.

DIGE'ST, Lat. *digesta*, a collection of the Roman laws, ranged and digested under their proper titles, by order of the Emperor Justinian; thus named the *Justinian Code.*

DIGES'TER, a strong iron or copper vessel, with a cover adapted to screw on, with pieces of felt or paper interposed, and furnished with a safety-valve, which may be more or less loaded. The purpose of this vessel is to prevent the loss of heat by evaporation, and thereby to render the action of water, &c. on solids digested in it more intense, by raising the fluids to higher temperatures than their common boiling points. Animal bones are dissolved with great facility along with water, in Papin's digester. The *autoclave* of the French cook is a modification of the digester.

DIGES'TION, from *digero*, to dissolve. In *chemistry*, the operation by which bodies intended to act slowly on each other are exposed for some time to a moderate heat. In *physiology*, the change which the food undergoes in the stomach in being converted into chyme.

DIG'IT, from *digitus*, a finger. In *arithmetic*, any integer under 10, thus called from arithmetic being first performed upon the fingers. In *astronomy*, the twelfth part of the diameter of the sun or moon: used to express the quantity of an eclipse.

DIG'ITALINE, a powerful poison, derived from the *digitalis purpurea*, or fox-glove. This substance is now known to consist of chlorophylle, resin, and a fatty matter.

DIGITA'LIS, the fox-glove. A genus of plants, mostly herbaceous, and either biennial or perennial. *Didynamia—Angiospermia.* Name from *digitale*, the finger of a glove, which the flower resembles. The leaves of the *D purpurea* are much used in medicine.

DIG'ITATE, } Lat. *digitatus*, fingered.
DIG'ITIFORM, } Applied to leaves composed of two or more leaflets.

DIGITA'TION, from *digitus*, a finger. A term applied by anatomists to parts which are more or less finger-shaped; as when a muscle is said to arise by a number of fleshy *digitations.*

DIG'ITATO-PI'NNATE, Lat. *digitato-pinnatus.* Applied to digitate leaves, the leaflets of which are pinnate.

DIGITI'GRADA, the name given by Cuvier to the second tribe of Carnivora, from the circumstance of the animals comprised in it walking upon the ends of their toes (*digitus*, a finger or toe, and *grado*, to walk). The weasel and dog are examples.

DI'GLYPH, δίγλυφος. A double channelled tablet. *See* GLYPH, and TRIGLYPH.

DIG'NITARY, an ecclesiastic who holds a *dignity* or benefice, which gives him some preeminence over mere priests and canons. Bishops, deans, arch-deacons, &c. are dignitaries.

DIGNITY, from Lat. *dignus.* Among *ecclesiastics*, office or preferment joined with jurisdiction. In *astrology*, some peculiar advantage which a planet has, from its position in the zodiac, or with respect to other planets.

DIGRES'SION, Lat. *digredi*, to diverge.

In *astronomy*, denotes the apparent distance of the inferior planets, Mercury and Venus, from the sun.

Digyn'ia, from δις, and γυνη, a woman. The name of an order in several classes of the sexual system of plants, embracing those plants which, to the character of the class whatever it may be, add the circumstance of having two styles or pistils.

Dihedron, from δις, and ἑδρα, a face. A figure having two sides or surfaces; hence *dihedral*, two-sided.

Dihexahe'dral, from *di* and *hexahedral*. Having the form of a hexahedral prism, with trihedral summits.

Dike, Sw. *dike*, Dutch *dyk*. Radically the same word as *ditch*. Engineers use this term in the same sense as *embankment*, with this difference, that a hydraulic embankment, and one impervious to water, is meant. Thus a considerable portion of Holland is preserved from the sea by *dikes*. Geologists and miners employ the name *dike* to a wall of mineral matter cutting through the strata in nearly a vertical position. Many of these dikes are fissures filled with clay, but the most notable are those of igneous matter, as whin. In Scotland a stone fence is called a *dike*.

Dilapida'tion, from *di*, and *lapis*, a stone. In *law*, this term is used to denote a voluntary wasting, or suffering to go to decay, any building in possession of an ecclesiastical incumbent. Dilapidation is *active* when the incumbent pulls down a building; *permissive* when he suffers the building to waste for want of repair. Dilapidation extends, not only to buildings, but also to woods or anything which happens to be church property.

Dil'atory. 1. Lat. *dilatorium*, a surgical instrument for dilating any part. ——2. Lat. *dilatorius*, intending to make delay, as in law, a *dilatory plea*, intended to delay trial.

Dil'igence. In *Scottish law*, that process by which persons, lands, or effects are seized in execution, or in security for debt.

Dilu'vium, Lat. from *di*, and *luo*, to wash. Water-worn debris, consisting of loam, sand, gravel, &c. deposited by an inundation of water: such deposits are termed *diluvian* and *diluvial*. These terms were originally introduced into geology to distingush the accumulation of debris consequent on the Noachian deluge. *See* Alluvium.

Dime, (contracted from Fr. *dixieme*, tenth). A silver coin of the United States of America; value ten cents, or the tenth of a dollar.

Dimen'sion, from *dimetior*, to measure; length, breadth, or thickness. A line has one dimension, *length*; a surface has two dimensions, *length* and *breadth*; a solid has the three dimensions, *length*, *breadth*, and *thickness*. In *algebra*, the term *dimension* has reference to the highest power which enters into the composition of an equation or expression. Thus an equation is said to be of one, two, three, &c. dimensions, according as it involves the simple quantity, the square, cube, &c.

Dim'inished Intervals. In *music*, one that is short of its quantity by a lesser semitone.

Diminuen'do (It.). In *music*, where the volume of sound is to be lessened from loud to soft, marked thus .

Diminu'tion, from *di*, and *minor*, less, a making less; opposed to *augmentation*. In *architecture*, a contraction of the upper part of a column; called also the *diminishing* of the column. In *law*, a plea by the plaintiff, in an appeal to a superior court, that part of the record is omitted in the inferior court. In *music*, the reply to a subject in notes of half the length of those of the subject itself.

Dimis'sory, Lat. *dimissorius*, sending away, dismissing to another jurisdiction. A *letter dimissory* is one given by a bishop to a candidate for holy orders, having a title in his diocese, directed to some other bishop, giving leave for the bearer to be ordained by him.

Dim'ity, Sp. *dimite*. A species of cross-barred stuff, composed entirely of cotton, and similar in fabric to fustian.

Dinothe'rium, an extinct genus of terrestrial mammalia, thus named from δινος, huge, and θηριον, a wild beast, in allusion to its huge size, the dinotherium being considered to have been the largest of all terrestrial animals. It holds an intermediate place between the tapir and the mastodon, as it is believed to have been a herbivorous aquatic animal, and supplies a link between the cetacea and pachydermata. There are two species at present recognised. The remains are found chiefly at Epplesheim, in Germany. The animal is referred to the miocene period.

Diobo'lon, διοβολον. An ancient weight of two oboli (a scruple).

Di'ocese, } from διοικησις, a jurisdic-
Di'ocess, } tion (radix οικος, a house). An ecclesiastical division of a kingdom or state, subject to the authority of a bishop, hence called a *diocesan*. A diocese was originally a division of the Roman empire, called otherwise a *prefecture*.

Dioctahe'dral, from *di*, and *octahedral*, having the form of two octahedral pyramids joined base to base, without any intermediate column. Crystals of this form constitute the genus *dioctahedria*, and the figure is called a *dioctahedron*.

Di'odon, the sun-fish. Placed by Cuvier in the family Gymnodontes, and thus named from δις, and οδους, a tooth, in consequence of the jaws being undivided, and formed of one piece above, and another below. The skin is everywhere armed with spines, so that when the fish is inflated, and it has the power of swelling itself like a balloon, it bears a close resemblance in form to the burr of a chestnut-tree. A number of species inhabit the seas of hot climates.

Dic'cia, from δις, and οικος, a house. The name of a class of plants in the sexual system of Linnæus, embracing such as have barren or male flowers on one individual, and fertile or female ones on another of the same species. The poplar, aspen, and willow, are examples. The epithet for plants of this class is *diœcious*.

Diome'dea, the albatross. A genus of aquatic birds of gigantic size (*See* Albatross). They inhabit the South Seas. Cuvier places them among the *Longipennes*. The name is that of certain birds of the Island of Diomedes, near Tarentum, which were said to receive the Greeks favourably, and to attack the barbarians.

Diophan'tine Analysis. } In *algebra*,
——————— Problems. } certain problems relating to square and cube numbers, right-angled triangles, &c.; the properties of which were first discussed by Diophantes, in his "Arithmetic."

Diop'trics, from δια, through, and οπτομαι, to see. That branch of optics which treats of the laws of refraction, and of the effects which the refraction of light has on vision: called also *anaclastics*.

Diora'ma, from δια, and οραμα, a view. This name is given to those buildings in which *dioramic paintings* are exhibited, and also to the art of making such paintings. Dioramic painting is a new art, and is a decided improvement upon the old panorama. It consists in uniting transparent painting to the usual opaque method, and causing the light to fall upon the picture both before and behind. To give life to the picture transparent blinds, suspended both above and behind, are put in motion by machinery, and now and again modify and intercept the rays of light, so as to fall at pleasure in graduated tints upon all parts of the scene in succession. By the same means, figures are made to appear where the spectators had just beheld empty seats, &c.; rocks to tumble from mountains; the dark thunder-cloud to overshadow the smiling valley; or the avalanche to hurl destruction among the peaceful inhabitants of the lowland village.

Dioscore'a, a genus of perennial plants. *Diœcia—Hexandria*. Named in honour of Dioscorides. The esculent root called the *yam* is afforded by three species, the *alata*, *bulbifera*, and *sativa*. They are natives of both Indies, and the root is eaten promiscuously as the potato is with us. The taste is more luscious than the potato.

Dios'ma, a genus of permanent plants of about 50 species. *Pentandria—Monogynia*. Name from Διος, Jove, and οσμη, a smell, on account of its divine smell. The smell, however, of some of this species is so far from being divine that a division called *Barosma* has been formed to include them. A bitter principle called *diosmine* has been extracted from the leaves of the *D. crenata*, the *Buchu* of the natives.

Dip, from Sax. *dippan*, to incline downwards. In *geology* and *mining*, the inclination of a stratum, or the angle which it forms with the horizon, is termed the *dip* or angle of inclination. Mining workmen also use the term *dip* for any interruption of a vein by a dike or fault, without regard to the literal meaning of the word. In *magnetism*, the depression of one of the poles of a magnet, and the consequent elevation of the other, is called the *dip* of the magnet or needle. An apparatus constructed to show the amount of this depression is called a *dipping-needle* (q. v.). For *dip of the horizon*, *see* Depression.

Dipeta'lous, from δις, and πεταλον, a petal; having two flower-leaves or petals.

Diph'yges, the name given by Cuvier to a genus of zoophytes. Class *Acalepha*, Order *Hydrostatica*; from δις, and φυη, nature. Two different animals being always found together, the one encased in a cavity of the other, but susceptible of being separated without destroying the life of either. They are gelatinous and diaphanous.

Diphyl'lous, from δις, and φυλλον, a leaf; two-leaved; applied to the perianth of flowers when there are two calyces.

Dip'lōe, from διπλοω, to double; the name given by anatomists to the cancellated substance between the two plates of the skull.

Diplo'ma, διπλωμα. A writing which confers some privilege, and especially the instrument of licence given by colleges to clergymen to exercise the ministerial functions, and to physicians and surgeons to practise physic and surgery: thus named from διπλοω, to double, because usually written on parchment and folded up.

Diplom'acy, from διπλωμα, a folded letter (ancient meaning); the customs, privileges, and rules of ambassadors, envoys, and other representatives of princes and states at foreign courts. Ministers

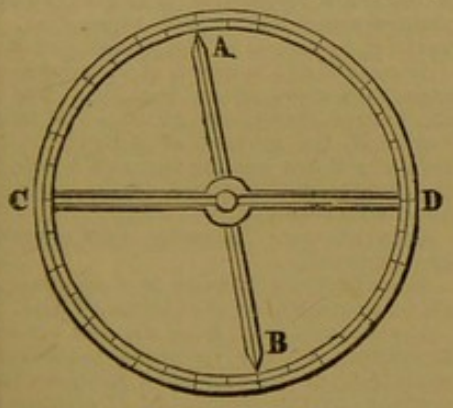
at courts are hence termed a *diplomatic body*, and severally, *diplomatists*. At the Congress assembled at Vienna, 1814, it was arranged that the rank of diplomatic agents should be: 1. Ambassadors; 2. Envoys Extraordinary and Ministers Plenipotentiary; 3. Ministers resident; 4. Chargés d'Affaires; 5. Secretaries of Legation and Attachés.

Diplomat'ics, the science of *diplomas* or ancient writings, literary and public documents, decrees, charters, and having for its object the deciphering of old writings, and the discussing of their authenticity, dates, &c.

Dip'lopy, Lat. *diplopia*, a disease of the eye in which the person sees an object double, from διπλοος, double, and οπτομαι, to see; the *visus duplicatus*. The cause of the affection is not well known.

Diplo'zoon, from διπλοος, double, and ζωον, an animal; i.e. *double animal*, a very singular worm which infests the gills of the bream, having two distinct bodies united in the middle, resembling a St. Andrew's cross.

Dipping (*see* Dip). Among *miners*, the interruption of a vein of ore. In *magnetism*, the depression of the pole of a magnet or magnetic needle is called its *dip*, and the amount is shown by the *dipping-*



needle. This needle, A B, is a flat magnet, through the centre of which a small axis passes at right angles. It moves freely in circular holes made in the horizontal bar, C D, which forms the diameter of a circle, graduated for the purpose of showing the angle which the needle makes with the horizon. At the equator the needle takes the horizontal position, from which position it deviates in proportion as it is approached towards either pole: this may be shown by using a large artificial magnet.

Dip'tera, an order of insects characterised by having two membranous, extended wings, whence the name from δις and πτερον, a wing. The epithet for this order is *dipterous* or *dipteral*.

Diptera'ceæ, a natural order of arborescent exogens.

Dip'teron, from διπτερος, two-winged; the name given by the old architects to an edifice with a double row of columns, which formed porticoes called wings or aisles.

Diptery'gians, διπτερυξ, two-finned; a family of fishes having only two fins.

Dip'tych (Gr.), *twofold*, a tablet used by the Romans for the purpose of writing, and folded like a book of two leaves. When it consisted of several leaves it was called *polyptych*. The tablet was formed of wood or some metallic substance.

Di'pus, the generic name given by Gmelin to the *Jerboas* belonging to the rat-tribe. The jerboa is found from Barbary to the north of the Caspian Sea, is the size of a rat, lives in burrows, and becomes torpid during winter. *Dipus* means *two-footed*, and the common jerboa (*D. sagitta*) is often called the two-footed mouse (a name more or less applicable to all the species); from the great length of its hind-legs and the shortness of its fore-paws, its motions resemble those of a bird.

Dip'yre, a mineral of the zeolite family, thus named from δις and πυρ, fire, because it melts and phosphorises at the same time before the blow-pipe. It is a silicate of alumina and lime.

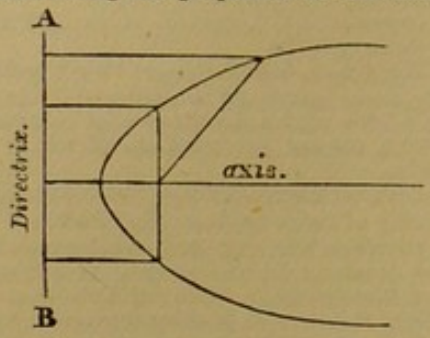
Direct', from *directus*, straight. In *astronomy*, a planet moves *direct* when its motion is forward in the zodiac or in the direction of the signs (*see* Consequentia): opposed of *retrograde*. In *music*, an interval is *direct* when it forms harmony on the fundamental sound which produces it; and a *direct* is a character placed at the end of a stave to direct the performer to the first note of the next stave. In *arithmetic*. *See* Proportion and Ratio. In *geometry*. *See* Right. In *optics*. *See* Ray. A *direct dial* is one which points directly to one of the four cardinal points. A direct tax is one upon real estate and houses and lands.

Direc'tion. In *mechanics*, (1.) The *line of direction* is the line in which a body moves, or in which force is applied; (2.) The *angle of direction* is that included between the lines of direction of two conspiring forces; (3.) The *quantity of direction* has the same meaning as *momentum*.

Direc'tor. 1. A person appointed to manage the affairs of a public company. ——2. A grooved instrument or probe for guiding the knife in some surgical operations.——3. The name of a muscle.

Direc'trix. In *mathematics*, (1.) A line drawn perpendicular to the axis of

the curve, frequently referred to in demonstrating the properties of the conic



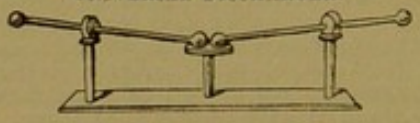
sections in planes. (2.) The line or plane along which another line or plane is supposed to move in the generation of a surface or solid, called also the *dirigent*.

Disabil'ity. In *law*, a state which renders a person ineligible as a holder of certain legal benefits.

Disc, or Disk, Lat. *discus*. 1. The face of the sun or moon as either appears to a spectator on the earth.——2. The width of the aperture of a telescope.——3. In *botany*, the central florets of a compound flower; the whole surface of a leaf.——4. In *conchology*, the middle part of a valve, or that part which lies between the umbo and the margin; the convex centre of a valve or most prominent part, supposing it to lay with its inside undermost.

Discharger. In *electricity*, an instrument for discharging a jar or battery. The handle is glass, and the other parts brass. The common forms are the

UNIVERSAL DISCHARGER.



SIMPLE DISCHARGER.

DOUBLE DISCHARGER.

The single discharger is called also a *discharging rod*.

Dis'ciform, Lat. *disciformis*, resembling a disk or quoit in shape.

Disclaim'er. In *law*, a plea containing an express denial.

Discontin'uance. In *law*, an injury to real property, of which the rightful owner is kept out by a tenant whose entry at first was lawful, but who wrongfully retains the possession.

Dis'cord. In *music*, an interval whose extremes do not coalesce: opposed to *concord*. The second, fourth, and seventh, with their octaves, are instances.

Dis'count, Fr. *discompte*, from *de* or *dis*, and *compte*. An allowance paid for the advance of money not due till a future period. It is of two kinds: discount of bills, and discount of goods. When a bill of exchange is presented to a banker for discount, he calculates the simple interest for the time which the bill has to run, and deducts it; this is called the *discount*. Again, a merchant who allows three months' credit, will deduct a certain rate per cent. for payment in hand; and this sum is called the *discount*, and sometimes the *rebate*.

Disco'very. In *law*, the act of revealing or disclosing any matter by a defendant in his answer to a bill in Chancery.

Discrete', Lat. *discretus*, separate or distinct. *D. proportion* is that in which the ratio between two or more pairs of numbers is the same, and still the proportion not continued: called also *disjunct proportion*. The proportion 3 : 6 : : 5 : 10 is an example. A *discrete quantity* is one which is not continued and joined. Such is a number whose parts being distinct units cannot be united into *one continuance*.

Dis'cretive (*see* Discrete), disjunctive. A *discretive proposition* is one which expresses some distinction, opposition, or variety, by means of *but*, *though*, *yet*, &c.

Dis'cus (Lat.), a quoit. A piece of iron, copper, or stone, of an oval form, five or six fingers broad, and about a foot long, hurled in the manner of a bowl by the help of a thong passing through a hole in the middle, and fastened to the person's hand who threw it.

Disdiapa'son. In *music*, two octaves, or a fifteenth.

Disinfecting Liquor is a solution of chloride of soda, or of chloride of lime.

Disintegra'tion, from *dis* and *integer*, separation of the *integrant* parts of a substance, as distinguished from decomposition, or the separation of *constituent* parts.

Disjunc'tive (*see* Disjunct). In *grammar*, a *disjunctive conjunction* is a word which *joins* sentences, but *disjoins* the sense, as *or*, *nor*, *but*, &c. In *logic*, a *disjunctive proposition* is one in which the parts are opposed to each other by means of disjunctives. A *disjunctive syllogism* is one in which the major proposition is disjunctive, as *the earth moves in a circle* or *an ellipsis;* but it does not move in a circle, therefore it moves in an ellipse.

Dislocation, from *dis*, and *locus*, a place. In *surgery*, the displacement of the articular extremity of a bone; called also a *luxation*. In *geology*, the displacement

of parts of rocks, or portions of strata, from the situations which they originally occupied. M De Beaumont's theory of dislocations goes to show that those of the same geological age range in lines parallel to one and the same great circle of the sphere.

Dismem'bered. In *heraldry*, birds, &c. are dismembered that have neither legs nor feet.

Diso'mum. In *ancient sculpture*, a tomb made for the reception of two bodies.

Dispart'ing. In *gunnery*, setting a mark upon the muzzle-ring of a piece of ordnance, so that a sight taken from the top of the brass ring against the touch-hole may be parallel to the axis of the concave cylinder.

Dispensa'tion. In *ecclesiastical affairs*, (1.) A system of principles or rites enjoined (*dispensed*) as the *Mosaic dispensation*, i.e. the Levitical law; the *gospel dispensation*, i.e. the scheme of human redemption by Jesus Christ. (2.) The granting of a license, or the license itself, to do what is forbidden by laws or canons, or to omit something therein enjoined, i.e. the dispensing with a law or canon. The pope has power to grant dispensations.

Disper'mous, Lat. *dispermus*, two-seeded. Applied to fruits.

Disper'sion, from *dispergo*, to scatter. In *optics*, the *dispersion of light* is the enlargement of a pencil or beam of light, which is produced by its passage from one medium to another. In *dioptrics*, the *point of dispersion* is that from which the refracted rays begin to diverge, when their refraction renders them divergent.

Displuvia'tum (Lat.) A place in which the rain was carried away by two channels, in ancient buildings.

Dissect, or Dissected, Lat. *dissectus:* applied to leaves of plants, which are divided into numerous irregular portions: synonymous with *incised* or *laciniated*.

Dissei'sin, } from *dis* and *seize*. In *law*,
Dissei'zin, } an unlawful disseizing (dispossessing) a person of his lands, tenements, &c.; a deprivation of actual seizin.

Dissen'ter, one who dissents or separates from the service and worship of an established church. The Dissenters of England maintain that Christ alone is head of the church, and bow to no human authority in matters of religion. Dissent began in Queen Elizabeth's time.

Dissep'iment, Lat. *dissepimentum* a partition: applied by botanists to the partitions which divide a capsule into cells.

Dis'sidents. A term applied to those dissenters from the established religion in Poland, who, under the old republic, were allowed the free exercise of their faith.

Dissil'ient, Lat. *dissiliens*, bursting suddenly asunder: applied to capsules, &c., of plants.

Dissipa'tion, dispersion; from *dis* and (obsolete) *sipo*, to throw. In *optics*, the *circle of dissipation* is that circular space upon the retina which is taken up by one of the extreme pencils of rays issuing from any object: the radius of that circle is called the *radius of dissipation*.

Dis'tance. *Accessible distances* are such as may be measured by any lineal measure. *Inaccessible distances* are such as can only be measured by means of trigonometrical rules and formulæ.—In *optics*, *apparent distance* is that at which we judge an object to be placed when seen afar off: it generally differs considerably from the *true distance*.—In *perspective*, the *line of distance* is a right line drawn from the eye to the principal point of the plane.—The *point of distance* is that point in the horizontal line which is at the same distance from the principal point as the eye is from the same.—The *distance of the eye* is a line drawn from the eye to the principal point.—In *horse-racing*, *distance* is a length of 240 yards from the winning-post: at this point is placed the *distance-post*. If any horse has not reached the distance-post before the first horse in that heat has reached the winning-post, such horse is said to be *distanced* and is disqualified for running again during that race.

Dis'tant, Lat. *distans:* applied to petals, stems, &c., of plants, when they are directed away from each other.

Distem'per (*see* Temper). 1. A term used in painting to signify the working up of colours with something else besides mere water or oil. Painting with water colours is called *limning;* with colours prepared with oil, it is simply *painting* or *painting in oil;* but a piece done with colours prepared with any glutinous or unctuous matter as size, white of eggs, &c., is done *in distemper.*——2. A disease of the dog, considered to be a catarrhal disorder.

Dis'thene, a mineral, thus named by Haüy, from δις and σθένος, strength, on account of its double electric power: some of its crystals, under the same circumstances, being positively and others negatively electrified by friction. This is the *disthen-spath* of Mohs. *See* Cyanite.

Dis'tichous, Lat. *distichus*, two-ranked, δις and στιχος, a row: applied to stems, leaves, &c., of plants, when they spread in two horizontal directions, as the branches of the *silver-fir*.

Distilla'tion, from *dis* and *stilla*, a drop; a chemical process which consists in the separation of the volatile principles of bodies, by subjecting them to heat in a vessel (alembic or retort), and condensing the volatile part in another vessel (a receiver). When a body is decom-

posed by a strong heat in one vessel, and the products collected in another, the process is called *destructive distillation*.

Distinc'tion, from *distingus*, to distinguish: a separation or disagreement in kind or qualities by which one thing is known from another; divided by logicians into three kinds, *real*, *modal*, and *rational*. The first is that between the modes of two substances; the second is that between several things, one of which may exist without the others, but not *vice versa*; the third is that between a thing and its essence, between essences and properties, &c.

Distin'guo. In the *schools*, an expedient to evade an argument.

Dis'toma, from δις and στομα, a mouth; the name given by Retz to a genus of Entozoa of the Parenchymic order. The species are numerous. Several inhabit the hepatic vessels of sheep and other ruminant animals. The most celebrated is the liver fluke (*D. hepatica*).

Distrac'tile. In *botany*, a connective which divides into two unequal portions, one of which supports a cell, and the other not.

Distribu'tion, from *dis* and *tribuo*, to divide. In *printing*, the taking down of a form, and the placing of the letters in their proper cells in the cases.—In *logic*, the distinguishing of a whole into its several parts.—In *architecture*, the disposing of the several parts of a building according to some plan.—*Distributive nouns* are words which serve to distribute things into several orders, as *each*, *every*, *either*, &c.

Distrin'gas. In *law*, a writ commanding the sheriff or other officer that he distrain for taxes, &c., or for his appearance at a certain day.

Dis'tyle, Lat. *distylus*; having two styles.

Ditetrahe'dria, a genus of crystals in the form of tetrahedral prisms with dihedral summits. Epithet *ditetrahedral*.

Dithyram'bus, from διθυραμβος, one of the titles of Bacchus; a hymn in honour of Bacchus. Hence *dithyrambic*, a poem in wild enthusiastic strains.

Di'tone, from δις and τονος, tone; a musical interval comprising two tones. The ratio is 4 : 5.

Ditri'glyph. In *architecture*, the span between two triglyphs.

Ditrihe'dria, a genus of crystals with six sided planes (*di* and *trihedria*), being formed of two trigonal pyramids joined base to base without an intermediate column. Epithet *ditrihedral*.

Diure'sis, διουρησις. The excretion of urine. Hence *diuretic* is applied to any medicine which is designed to augment the flow of urine from the kidneys.

Diur'na, a family of *Lepidoptera*, comprising the genus *Papilio* of Linnæus, now divided into 28 sub-genera. These butterflies are thus named because they fly during the day.

Diur'næ, a family of the Accipitrine order of birds, comprising the genera *Vultur* and *Falco*, of Linnæus. They fly during the day, whence the name. Also a family of Lepidopterous insects.

Diur'nal, from *diurnus*, daily; the *diurnal arch* is the arch or number of degrees that the sun or other heavenly body describes between its rising and setting. The *diurnal motion* of a heavenly body is the number of degrees, &c. which it moves through in 24 hours.

Diva'n, an oriental word (Arabic, *divan*) signifying originally a register of names and accounts, and now used synonymously with our *board* and *exchequer*; a council assembled; a court of justice; a council chamber. It also signifies a kind of sofa.

Diverg'ent, diverging, from *divergo*, to incline from a point; tending to various parts from a point; thus *divergent rays* are those which, going from a point of the visible object, continually depart from each other in proportion as they are removed from the object, opposed to *convergent*. A concave lens renders rays divergent, and a convex one renders them convergent. In *mathematics*, series are said to be *divergent*, when the terms become always greater as the series is continued, and *convergent* when they continually become smaller. In *geology*, *divergent* is applied when branches form a right angle with the stem. In *botany*, when describing the venation of leaves.

Diver'sion, from *diverto*, to divert. In *military tactics*, a movement towards an enemy's weak point to draw off his forces from operations in another quarter.

Div'idend (*see* Division). (1.) The proportion of profits which the members of a society or public company receive at stated periods. (2.) The payment made to creditors out of a bankrupt's estate. (3.) The annual interest payable upon the national debt; the order by which stockholders receive their interest is called a *dividend warrant*, and the proportions of interest unreceived are termed *unclaimed dividends*. In *arithmetic*, any number to be divided is called a *dividend*, and the successive dividends in a process of "long division" are called *dividuals*; the dividing number is called the *divisor*.

Divina'tion, from *divino*, to foretel; the pretended art of foretelling future events. The Jews were fond of divination, magic, and the interpretation of dreams. The heathen philosophers believed in divination, and divided it into

two kinds, *natural* and *artificial*. The first was supposed to be effected by a kind of inspiration, the second by certain rites and observations, as sacrifices, flight of birds, lots, position of stars, &c.

Divine Right of Kings, the absolute and unqualified claim of sovereigns on the obedience of the people.

Div'ing-bell, a mechanical contrivance by which persons may descend beneath the surface of the water, and remain for some time with little inconvenience. It somewhat resembles a barrel without a bottom, or a bell, as the name implies, and is usually about 5 feet in height and the same in width, in the clear. It is commonly formed of very thick cast iron, and in one piece, whereby it is perfectly air and water-tight. The weight of the metal causes the bell to sink readily, and its substance is in some measure proof against accidents. In the top an opening is disposed for the reception of a supply of air, and thick lenses are also fixed in the upper part to admit light. The divers in the bell are supplied with fresh air through an eduction tube, by means of a force-pump worked above. There are many forms of this apparatus, and some diving-bells are made to cover the head only. The general use of diving-bells is the recovery of property that has been sunk in wrecks, clearing obstructions from the bottoms of harbours, rivers, &c., and laying the foundations of piers and other water-works.

Div'ing-blad'der, a term used by Borelli for a machine which he contrived to answer the purposes of the diving-bell in great depths of water. It is nothing more than a diving-bell for the head only of the diver. The *bladder*, as it is called, is made of brass or copper, and about two feet in diameter. Within are pipes, by means of which a circulation of air is kept up.

Divisibil'ity, that property of bodies by which they are separable into parts, and those parts into others. No limit is assigned to this subdivision, though it seems probable that at some term, however distant, the particles may lapse into single *atoms* incapable of further resolution.

Divis'ion, from *divido*, to divide: the act of separating any entire bodies into parts. In *arithmetic*, one of the four fundamental rules by which we find how often one quantity is contained in another: it is called *simple division* when the dividend and divisor are abstract numbers, and *compound division*, when the dividend is concrete. The terms of a division are the *divisor*, the *dividend*, and the *quotient*. In *music*, the distinguishing of the octave into a number of less intervals, as quavers. The fourth and fifth divide the octave perfectly though differently; when the fifth is below, and serves as a bass to the fourth, the division is *harmonical*; but when the fourth is below it is *arithmetical*. In *logic*, the explication of a complex idea by enumeration of simple ideas whereof it is composed, is called *division*; and the same name is given by rhetoricians to the arrangement of a discourse into heads. In the *navy*, a select number of ships in a fleet or squadron of men-of-war, is called a *division*, and is distinguished by a particular flag, pendant, or vane. A part of an army, usually two brigades, commanded by a major-general, is also termed a *division*; but the term is not definite.

Divi'sor. In *arithmetic*, the number or quantity by which a dividend is divided. When the same number divides two or more numbers, without leaving any remainder, it is called a *common divisor*, and if it is the greatest of all such divisors it is called the greatest common divisor, or, more commonly, the *greatest common measure*.

Divor'ce, Lat. *divortium*, a legal separation of husband and wife either *a vinculo matrimonii*, which is a complete dissolution of the marriage bonds, or *a mensa et thoro* (from bed and board), whereby the parties are legally separated, but are not unmarried.

D. M., an abbreviation of *Doctor Medicinæ*, i. e. Doctor of Medicine.

Do. In *music*, a syllable used by the Italians instead of *ut*.

Doab, a Persian word meaning *two waters*, and applied in geography (Indian) to any tract of country included between two rivers.

Dob'hash, the name given in India to a bilinguist, or one who speaks two languages, now synonymous with *interpreter*.

Doce'tæ, from δοκειν, to seem, an ancient heretical sect who considered that Christ only acted and suffered in appearance.

Docim'acy, δοκιμασια. Trial by experiment. The art of assaying metals. The art by which the nature and proportions of an ore are determined. It is called sometimes the *docimastic art*.

Docima'sia, Gr. δοκιμασια, from δοκιμαζω, to prove. A probation of the ancient Grecian magistrates and persons employed in public business at Athens, by which they were obliged to give an account of themselves and their past life before certain judges.

Dock. Said to be from δεχομαι, to receive, but obviously Teutonic *dock*, perhaps originally from *dekhen*, to cover or protect. In *navigation*, an artificial basin for the reception of ships. Docks are of two sorts, *wet* and *dry*. The first are for the reception of ships at all states of the

tide; *dry docks* are so called from their being left dry when the tide is out. There are also *graving* or *repairing docks*, for the repairing of vessels; *import docks* appropriated for ships unloading; and *export docks* for vessels going out. In America, the spaces between wharves are called *docks*.

Dock'ET, a piece, from *dock*, to clip. 1. In *law*, a small piece of paper or parchment containing the heads of a writing; a brief in writing; also a subscription at the bottom of letters-patent by the clerk of the dockets; also an alphabetical list of the cases in a court. Attorneys keep *docket-books* in which they enter judgments. To *strike a docket*, is a cant phrase for making a man bankrupt by process of law.——2. In *commerce*, a direction tied to goods; a ticket.

Doctor, literally a teacher. One who has taken the highest degree in the faculties of divinity, law, or physic. D. of Divinity, abbr. D.D.; D. of Laws, abbr. LL.D.; D. of Medicine, M.D. The title is either conferred publicly with certain ceremonies, or by diploma.——2. In *calico printing*, a thin plate of steel used for scraping the colour or mordaunt off the copper-plates.

Doctors' Commons, the popular name for the courts and offices occupied by the "College of Doctors of Law exercent in the Ecclesiastical and Admiralty Courts."

Doc'trinaires, a party of French politicians, supporters of a constitutional monarchy; the philosophical party.

Dodec'agon, from δωδεκα, twelve, and γωνια, an angle. A geometrical figure of twelve sides and angles.

Dodecagy'nia, from δωδεκα, twelve, and γυνη, a woman. An order of plants having twelve styles or pistils: the houseleek.

Dodecahe'dron, from δωδεκα, twelve, and ἑδρα, a base. A regular solid contained under twelve equal and regular pentagons, or having twelve equal bases.

Dodecahe'dral Corun'dum, a mineral. There are two varieties; the Ceylanite, and the Spinel Ruby. General name, *Spinel*.

Dodecahe'dral Gar'net, a species of garnet of which there are ten varieties; the Grossulaire, Pyrenaite, Colophonite, Precious Garnet, Topazolite, Melanite, Allochroite, Pyrope, Essonite, and Common Garnet.

Dodecan'dria, from δωδεκα, twelve, and ανηρ, a man. A class of plants in the sexual system, comprising such as have not less than twelve, nor more than nineteen stamens on each flower. Epithet *dodecandrian*.

Dodecas'tyle. In *architecture*, a building having twelve columns on front or flank.

Do'drans (Lat.). A measure equal to about nine inches, being the space between the end of the thumb and the little finger when fully extended. It is about equal to the *palm*.

Dog. A sort of iron hook or bar, with a sharp fang at one end, so formed as to be easily driven into a piece of timber, to drag it, by means of a rope, out of the water or ship-board.

Dog'-days, Lat. *dies caniculares*. The days between the 24th of July and the 24th of August; so called because the dog-star (*Sirius*), during this period, rises with the sun. To the influence of this star the great heat of these days was ascribed.

Doge, formerly the title of the chief magistrate of the republics of Venice and Genoa.

Dog'ger, a two-masted Dutch vessel, navigated in the German Ocean: principally employed in fishing on the Dogger Bank. It somewhat resembles a ketch.

Dog'matists, from δογμα, a doctrine. A sect of ancient physicians, of which Hippocrates was the first. They laid down definitions and divisions, and supposed principles from which they drew conclusions, which they applied to particular diseases: hence they were also called *logici*, or logicians, to distinguish them from the *empyrici* and *methodici*.

Dog'-star, Sirius (q. v.). A star of the first magnitude in the constellation *Canis major*.

Dog-vane. In *navigation*, a small, light vane, formed of a piece of packthread and some slices of cork, stuck full of feathers, placed on the windward side of the quarter-deck, or weather-gunwale, to assist in steering the ship in a wind.

Dog'watch, among *seamen*, a watch of two hours.

Doit, the old Scottish penny, twelve of which made a penny sterling.

Dolab'riform, from *dolabra*, a hatchet, and *forma*. Hatchet-shaped. Applied to leaves cylindrical at the base, and having the upper part dilated, thick on one edge, and cutting on the other.

Dol'ce (It.). In *music*, a mark which means that the music is to be played softly and sweetly.

Dolich'opus, a genus of dipterous insects, family *Tanystoma*. Found on walls, trunks of trees, &c., and often running on the surface of water. Name from δολιχος, long, and πους, a foot, the legs being very long and slender.

Dol'ichos, the cowhage, or cow-itch plant. A genus of numerous species. *Diadelphia—Decandria*. Name from δολιχος, long, in reference to the length of its pods. Several species are used as food.

Dol'lar, a silver coin of Spain and the United States, value 100 cents. Said to be named from Dole, the town where it was first made. The dollar seems to have been originally a German coin, and in that country the name is still given to coins of different values.

Doll'man, the name given to a long cassock worn by the Turks.

Dolo'mite, a variety of magnesian limestone; thus named after M. Dolomieu, a French geologist. A white variety called *D. marble* was used by ancient sculptors in their finest works. The Germans call it *Zechstein*.

Dom. Lat. *dominus*, a lord. A title of the dignitaries of the Roman Catholic church, and of certain monastic orders.

Dome, from δομος, from δεμω, to build. 1. In *architecture*, an arched roof springing from a polygonal, circular, or elliptic plan; when the base is circular it is called a *cupola*.——2. In *chemistry*, the upper part of a reverberating furnace, resembling a hollow hemisphere.

Domes'day, Doomsday-book, a book or record, made by order of William the Conqueror, of the lands of England. It consists of two volumes, a folio and a quarto, and remains in the Exchequer.

Dom'ina, *dame*, a title anciently given to women, who in their own right of inheritance, held a barony.

Domin'ical Letters, called also *Sunday letters;* the letters, A, B, C, D, E, F, G, used in almanacs, &c., to denote Sundays (*dominicus dies*), throughout the year.

Domin'icans, called also *Predicants* or *Preaching Friars;* an order of Monks founded by St. Dominic of Spain, in 1215. The object of their institution was to preach the gospel, convert heretics, defend the faith, and propagate Christianity. In France they were called *Jacobins* because their first convent was in the *Rue St. Jaques*.

Domiciliary, pertaining to a *domus* or private residence, as a *domicilary visit*, which is a legal visit to a private house for the purpose of searching it.

Dom'ifying, from *domus*, a house, and *facio*, to make; a term used in astrology, for the distribution of the heavens into twelve houses, in order to erect a theme or horoscope by means of the six great circles, called circles of position.

Dom'inant, from *dominus*, a master; predominant. In *music*, of the three notes essential to the tone, the *dominant* is that which is a fifth from the tonic. A *dominant*, or sensible chord, is that which is practised on the dominant of the tone, and which introduces a perfect cadence.

Domin'ion, Lat. *dominium*, supreme authority. *Dominium plenum* is when the property is united with the possession; *dominium nudum*, when there is property without possession. *Directum dominium* is the right of dominion; *dominium utile* is the profit arising from it. The wife retains the *dominium directum* of her jointure, but the *dominium utile* passes to the husband.

Dom'ino. 1. A dress formerly worn by ecclesiastics in winter, serving to protect the face and head from the weather.—— 2. A masquerade-dress worn by gentlemen and ladies: it consists of a long silk mantle with cap and wide sleeves.

Dom'inoes, a game played with 28 pieces of ivory or bone variously dotted after the manner of dice; these are sometimes called *cards*, but commonly *dominoes*.

Dom'inus (Latin), a master. 1. In *civil law*, one who possesses anything by right.——2. In *feudal law*, one who grants part of his estate in fee to be enjoyed by another.

Dom'o-Reparan'do, a writ which lies for a person against his neighbour, whose house he fears will fall to the damage of his own.

Don, the Spanish title for a gentleman, answering to *Dom* or *dominus*, lord.

Don'atists, a sect of Christians in Africa, named from their founder Donatus.

Don'ative, from *dono*, to give. In *canon law*, a benefice given by the patron to a priest without presentation to the ordinary, and without institution or induction. Among the *Romans* a *donativum* was a gift made by the soldiers, as *congiarium* was one made by the people.

Don'jon, Dongeon (Nor. Fr. for *dungeon*), in *fortification*, a strong tower or redoubt of a fortress, into which the garrison may retreat, in case of necessity.

Dooks, in *Scotland*, flat pieces of wood inserted in walls; called in England *wooden bricks*.

Door. Doors intended to present an even surface when closed are called *jib-doors*, or *flush-doors*. The three horizontal pieces mortised into the upright sides of the door, are called the *top*, the *bottom*, and the *lock-rails*, and if a fourth occur under the top-rail, it is called the *frieze-rail;* the side pieces are called *stiles*, and the two intermediate pieces are *meeting-stiles;* the intermediate pieces between the stiles are *munions*. The *door-frame* or *case* is the wooden frame enclosing a door.

Dora'do (Span.), gilt, a southern constellation sometimes called the Sword-fish.

Dor'ema, a genus of plants. *Petandria —Digynia*. Name from δωρημα, a *gift*. A Persian species yields the gum ammoniacum of the shops.

Dor'ic, from *Doris* in Greece; pertaining to Doris or the Dorians, as the *Doric* dialect. The *doric order* of architec-

ture is that peculiar shape of a column and its entablature originally formed in imitation of a wooden fabric, supported with fluted posts or the trunks of trees. In the most ancient specimens the distinguishing character is the absence of base. The order is characterised by strength and simplicity, and is appropriately used in the gates of cities and citadels, outside of churches, &c. The *doric mode* was the first of the musical modes of the ancients. Its character is severe, tempered with gravity and joy.

Dormant, is applied, in *heraldry*, to an animal when in a sleeping posture; and in *commerce*, to a partner in a concern when he takes no share of the business.

Dor'mer, Dor'mant-window. The attic stories of houses were in former times generally occupied by sleeping-rooms, and the windows opened on the inclined plane of the roof; on this account the rooms were called *dormitories*, and the application of *dormant* was applied to the windows of these apartments.

Dor'noch, a species of figured linen of a stout fabric; it takes its name from Dornoch, a town in Scotland, where it was first manufactured for table-cloths.

Dorsal, Lat. *dorsalis*, belonging to the back (*dorsum*); as *dorsal fins*, *dorsal nerves*, &c.

Dorsibran'chiata, from *dorsum* and *branchus*; an order of articulate animals: class *annulata*. The branchiæ resemble trees, tufts, laminæ or tubercles, in which the vessels ramify and are placed on the middle of the body, the *dorsum*. They mostly inhabit mud or swim in the ocean.

Dorsif'erous, from *dorsum* and *fero*,
Dorsip'arous, from *dorsum* and *pario*,
Back-bearing: applied to plants which have no stems and bear their seeds on the back of their leaves. The fern is an example.

Dor'sum (Lat.), the back. In *conchology*, the upper surface of the body of the shell, the aperture being downwards.—In *physical geography*, the ridge of a hill.

Dort, Synod of. An assembly of Protestant divines convoked at Dort in 1618-19, by the states-general.

Do'ry, John, corrupted from Fr. *jaune dorée*; a fish, the *zeus faber*.

Dosi'theans. A religious sect which sprung up in the first century of the Christian era.

Dos'sil, from Fr. *dossier*, a bundle. In *surgery*, a pledget or piece of lint made into a cylindrical form.

Dothinen'terites, from δοθιην, a boil, and ἐντέρον, an intestine; an enlargement of Peyer's and Brunner's glands, regarded by Bretonneau as the cause of those symptoms which constitute *typhus* and several other kinds of fevers

Double-acting Inclined Plane. Upon *railways*, &c., an inclined plane worked by the gravity of the load conveyed: the loaded waggons descending being made to pull up the empty ones by means of a rope passing round a pully or drawn at the top of the plane.

Double-banked, the situation of the oars of a boat when two opposite ones are managed by rowers seated on the same bench or thwart; the oars are also said to be *double-banked* when there are two men labouring upon each oar.

Double-bass. *See* Contrabasso.

Double-cast, a term used by farmers for that method of sowing which does not dispense the requisite quantity of seed at once, but requires to be gone over twice.

Double-octave. In *music*, an interval of two octaves; a fifteenth.

Double-plea. In *law*, a plea in which two matters are alleged to bar an action.

Double-quarrel. In *ecclesiastical affairs*, a complaint of a clerk to the archbishop against an inferior ordinary for delay of justice.

Double-railed Inclined Plane. An inclined plane having a double line of rails upon it.

Doub'let. Among *lapidaries*, a counterfeit *stone* composed of two pieces of crystal with a colour between them, so that it may have the appearance of a naturally coloured gem.

Doub'ling. 1. In the *military art*, putting two files or ranks of soldiers into one. ——2. *Doubling upon* is a phrase used by naval tacticians for enclosing a part of the enemy's fleet so as to cannonade it from two sides.——3. *Doubling a Cape* is to sail round or pass beyond it

Doublo'on (properly *doblon*), a Spanish and Portuguese coin, value two pistoles.

Douche. In *baths*, a current of water directed to some particular part of the body.

Douci'ne (Fr.), a moulding concave above and convex below, serving as a cymatium to a delicate cornice.

Dove-tail. In *carpentry*, a method of fastening boards together by letting one piece into another in the form of a dove's tail spread, or of a wedge reversed.

Dow'ager, properly a widow who enjoys a *dower*, but now generally confined as the title of the widows of princes and nobility, as the *Queen Dowager*.

Dow'al, a round *dowal*, or *coak*, is the piece of timber to which the felloes of a carriage wheel are united.

Down. 1. Germ. *dunen*: the fine feathers from the breasts of several birds, particularly those of the duck kind, and especially the eider-duck. This bird plucks it from its breast to line its nest: this taken from the nest is called *live down*

and is most valued. Also, the fine feathery substance by which seeds of plants are conveyed to a distance by the wind, as in the cases of the dandelion and thistle. ——2. Sax. *dun*, a hill. *Downs* are elevations of sand thrown up by the sea, and formed along its coasts, and serving as a barrier. The *Downs* is a famous roadstead on the coast of Kent.

Down'-haul. In a *ship*, a rope passing up along a stay through the cringles of the stay-sails or jib, and made fast to the upper corner of the sail, to pull it down when shortening sail. The *down-haul tackles* are a complication of tackles employed to pull down the main or fore-yard in a tempest, in order to reef the sail.

Drab'ler. In *sloops* and *schooners*, an additional part of a sail sometimes laced to the bottom of a bonnet or square-sail. It is the same to a bonnet as a bonnet is to a course.

Drabs. In *salt-works*, wooden boxes in which the salt is put when taken out of the pans.

Drachm, Drachma, δραχμη. 1. An ancient Grecian coin value 7¾*d*.——2. The eighth part of an ounce: now contracted to *dram*.

Dra'co, δρακων, a dragon. 1. A genus of Saurians belonging to the East Indies. ——2. A constellation of the northern hemisphere, representing the monster which watched the garden of the Hesperides. —— 3. A luminous exhalation common in marshy and cold countries: called *D. volans*.

The term δρακων generally designated a large serpent. Lucian mentions *flying-dragons*, alluding no doubt to the pretended flying serpents treated of by Herodotus. Subsequently dragons are always represented as having wings.

Dracun'culus, a little dragon. (*See* Draco). 1. In *botany*, a plant, the same as *Dracontium*.——2. A guinea-worm. The *dracunculi* are small worms which breed in the muscular parts of the arms and legs: common among the natives of Guinea.

Drafts, a game played on a chequered board like the chess-board: hence called a *draft-board*.

Drag, from Sax. *dragan*, to draw. 1. A machine for dredging docks, cleaning rivers, &c. *See* Dredger.——2. An apparatus for retarding or stopping the rotation of one or more of the wheels of a wheeled carriage in descending hills, &c.

Drag'acanth, Dragant-gum, a gum produced chiefly from the *astragalus verus*, or goat's horn, a plant common to the north of Persia: more commonly written *Tragacanth*.

Drag'-net, a net to be drawn on the bottom of a pond or river to take fish.

Drag'oman, Drogman, an interpreter a term in general use in the Levant.

Drag'on. In *zoology*, a genus of Saurian reptiles. *See* also Draco.

Dragon-beam. In *architecture*, a horizontal piece of timber on which the rafters of a roof pitch.

Drag'on-fly, a neuropterous insect of a light and graceful figure, beautiful and variegated colours, and large wings, resembling lustrous gauze. The name is common to all the species of the Libellulæ. *See* Libellula.

Dragonn'ades (Fr.), the persecutions instituted by Louis XIV. and his successors against the French Protestants.

Drag'on's Blood (*sanguis draconis*); a vegetable balsam of a dark red colour, imported in small balls of the size of a pigeon's egg, but sometimes in rods and cakes, from India, Africa, and South America, as the produce of several trees: that in tears from the *Dracæna draco*, that in sticks from the *Pterocarpus draco*, that in cakes from the fruit of the *Calamus draco*. The gum is now only used as an ingredient in varnishes and dentifrices.

Drag'on's-head and Dragon's-tail, terms used in astronomy to denote the nodes of the moon and planets, or the two points in which the ecliptic is intersected by their orbits: more particularly applied to the moon's nodes. It is about these points that all eclipses happen. *See* Node.

Dragoons. A species of cavalry trained to act either on foot or on horseback as emergency requires.

Drain'ing Tiles, hollow tiles employed in the formation of drains, and often employed in embankments to carry off the water into the side drains.

Dra'pery. In *sculpture* and *painting*, the representation of the clothing of human figures, also tapestry, curtains, &c.

Draught (*see* Draft). 1. In *mechanics*, the power or force required to put any machine in motion, as a coach, horse mill, &c.——2. The depth of water necessary to float a vessel.——3. In *masonry*, the chisel-dressing at the angles of stones, made to guide in levelling the several surfaces.——4. In *trade*, a small allowance on goods sold by weight, made by the wholesale merchant to the buyer, that the weight may hold when the goods are again weighed in retail: called also *cloff* or *clough*. The same name is given to an allowance made at the custom-house on excisable goods.

Draught'-compasses, compasses with moveable points, used for drawing the finer lines in mechanical drawings, as plans, &c.

Draught'-hooks, large hooks of iron fixed on the cheeks of a gun-carriage for the convenience of drawing it backwards or forwards.

Draw'back. In *commerce*, the remitting or paying back of duties previously paid on a commodity on its being exported.

Draw'-bore Pin, a joiner's tool, of a solid piece of steel tapered from the handle, and used to enlarge the pin-holes which are to secure a mortise.

Draw'-bridge, or Leaf-bridge, a sort of bridge thrown across canals, &c., and so constructed as to be capable of being raised and let down at pleasure. They are now nearly superseded by swing or swivel bridges.

Draw'-link. The draw-link for railway carriages is a contrivance for securing the several carriages of a train together.

Dredge, a sort of drag for catching oysters in deep water.

Dredg'er, called also a *ballast lighter*; a sort of open barge employed in removing sand, silt, or the like, from the beds of rivers, harbours, docks, &c. The materials are lifted by a sort of scooping apparatus, and thrown into the barge moored beside it, or to which it is often attached. Most *dredging machines* are now worked by means of steam-engines, the scoops being attached together, and in the manner of the piston-plates of a chain pump, so that a perpetual action is kept up.

Dres'sing. 1. In *flax-mills*, the whole process of preparing the material for the spinner.——2. In *foundries*, the cleaning of the castings after being taken from the moulds.——3. In the *manége*, the cleaning and trimming of a horse.——4. In *husbandry*, manure laid on the surface.——5. In *architecture*, mouldings round doors, windows, and the like.——6. The term is applied to starch and other articles used in preparing or stiffening silk, linen, or other fabrics.

Drift. 1. In *navigation*, the angle which the line of a ship's motion makes with the nearest meridian, when she drives with her side to the wind and waves, and is not governed by the helm; also the distance which she drives on that line. The *drift* of a current is its angle and velocity.——2. In *mining*, &c., a square horizontal passage between the shifts or turns, or between shaft and shaft: called also *driftway* and *heading*.——3. The term *drift* is likewise applied to arches to express the impetus of the arch against the piers.

Drift-sail, a sail used under water, veered out right a-head, to keep the ship's head right upon the sea in a storm, and to hinder her driving too fast in a current.

Drill. 1. In *mechanics*, a small steel instrument used for boring holes in hard substances when punches cannot be conveniently used: holes are *drilled* in ivory, iron, &c., and the process is called *drilling*.——2. In *husbandry*, when ground is channelled by the plough by backing every two furrows upon each other, these channels are called *drills*, and the ground is said to be *drilled*. Potatoes are planted in drills, but the term drilling is generally applied to all methods of putting seeds into the ground in equi-distant rows. Hence an excellent machine of recent invention, adapted for sowing grain in drills or rows, is named the *drill-plough*, or *drilling-machine*.

Drip. In *architecture*, that member of a cornice which projects beyond the other parts, with a form adapted to throw off the water by small portions, or *drop by drop*; called also the *Larmier*.

Drip'ping Eaves, the terminating projections of inclined roofs of houses, to which there are no gutters for carrying away the water, which therefore falls into the street.

Driv'ing. In *nautical language*, said of a ship when the anchor does not hold her fast, but allows her to be driven away by the tide or wind.—In *music*, driving notes are those which connect the last note of one bar with the first of the following bar, so as to make only one note of both.

Droits of Admiralty, the perquisites resulting chiefly from the seizure of the property of an enemy at the commencement of a war, and attached to the office of lord-high-admiral.

Drom'edary, the Arabian camel (*camelus dromedarius*), distinguished from the Bactrian camel by having a single hunch on the middle of its back. This name is from δρομας, running, in allusion to the swiftness of the animal.

Drone. 1. The male of the honey-bee, smaller than the queen-bee, and larger than the neuters or working-bees.——2. The largest tube of the bagpipe, which emits one continued deep note, as a bass to the air or tune played on the smaller pipes.

Drop. 1. A small spherical portion of any fluid. The spherical form is the result of corpuscular attraction.——2. A machine for lowering coals from the staiths of railways into vessels below.——3. The part of a scaffold on which the criminal stands to be executed, and which is suddenly *dropped* after the cord is adjusted.——4. In *architecture*, a conical ornament, hanging drop-like in the cornice of the Doric order, below the mutules, and on the architrave under the triglyphs: six *drops* under each.——5. Some liquid medicines are popularly called *drops*, because the dose is regulated by pouring a certain number of drops from the lip of the phial which contains it.——6. To *drop astern* is, in seamen's language, to slacken the speed of the vessel and let another pass her.

Drop'sy, corrupted from *hydropsy*, from ὑδωρ, water, and ωψ, the face; a preternatural collection of watery fluid in the cellular substances of the body. The disease has different names according to its situation. When diffused through the cellular membrane, it is *anasarca;* in the cavity of the cranium, it is *hydrocephalus;* in the chest, it is *hydrothorax;* in the abdomen, it is *ascites;* in the uterus, *hydrometra;* and in the scrotum, *hydrocele.*——2. In *botany*, a disease peculiar to succulent plants, arising from an excessive accumulation of water in the system.

Dros'era, the Sun-dew, a genus of perennial plants. *Pentandria—Pentagynia.* Name from δρόσος, dew, because the leaves are beset with glands resembling dew-drops. There are three British species.

Drosom'eter, from δρόσος, dew, and μετρον, measure. An instrument contrived to measure the quantity of dew that gathers on a body which has been exposed to the open air during the night. It consists of a balance, one end of which is furnished with a receptacle for the dew, and the other end is loaded with a counterpoise protected from it.

Drove. 1. In *husbandry*, a narrow channel or drain much used in the irrigation of land.——2. In *masonry*, an epithet referring to a description of tooling on the faces of hard stones. *Droved ashler* is the coarsest of hewn stone for building. *Droved and stripped* applies to a series of grooves, an eighth of an inch deep, cut with a three-quarter chisel, leaving a droved space between each. This sort of hewing is common in Scotland.

Drug'get, a coarse but slight woollen fabric, used for covering carpets, and as an article of clothing by females of the poorer classes. The article manufactured under this name in Scotland has usually the warp of coarse flax, and is commonly striped blue and white.

Druids, from Welch *derw*, an oak, and *gwyz*, knowledge. The priests and philosophers of the ancient Britons and other Celtic tribes. They sacrificed under the oak.

Drum, Ir. *druma*. 1. A martial instrument of music, consisting of a hollow wooden cylinder, with vellum stretched over the ends, to be beaten with sticks by a *drummer.*——2. In *mechanics*, a hollow cylinder or barrel fixed on an axle, round which ropes or bands are passed, for the purpose of communicating motion to other parts of the machine.——3. In *architecture*, the bell-formed part of the Corinthian and Composite capitals.——4. The *drum of the ear* is called technically the *tympanum* (q. v.).

Drupe, Lat. *drupa*, a stone-fruit formed of a coriaceous seed-vessel, enclosed in a nut: from *drupæ*, over-ripe olives. Fruits of this character are called *drupaceous:* the peach and apricot are examples.

Druse (German), a gland: the name given to a hollow space in veins of ore generally lined with crystals.

Dry. In *painting*, a term applied where the outline is too strongly marked, and the colours of the objects do not unite with those around them.——In *sculpture*, applied to a want of tenderness in the forms.

Dry'ing Oil. Linseed and other oils which have been heated with oxide of lead.

Dry-rot, a term used to denote a rapid decay of timber by which the interior substance is converted into a dry powder, which issues from minute circular cavities, resembling the borings of worms. Many modes have from time to time been suggested for preventing this disease, but none have as yet proved completely successful.

Dry'-stove. A glazed structure for containing the plants of dry arid climates.

Du'alism. Those systems of philosophy which refer all existence to *two* ultimate principles.

Dub'ber, a leathern vessel, bottle, or jar, used in India to hold oil, ghee, &c. Dubbers are of all sizes, from a quart up to a barrel.

Dub'bing-out. Used by plasterers to signify the bringing of an uneven surface to a plane by pieces of tile, slate, plaster, and the like.

Du'cal, from *duke*. The *ducal coronet* consists of a circlet of gold, with eight strawberry or parsley leaves of equal height about the rim.

Duc'at, from *duke*. A coin in several countries of Europe struck in the dominions of a duke.

Ducatoo'n, from *ducat*. A silver coin struck chiefly in Holland and Flanders.

Du'ces Tecum (*bring with thee*). A writ commanding a person to appear on a certain day in the Court of Chancery, and to bring with him certain writings which the Court would view.

Duch'y Court, a court of the Duchy Chamber of Lancaster, held at Westminster.

Ductilim'eter, an instrument for comparing the degrees of ductility of different metals.

Ductil'ity, from *ductilis*, a property of some metals, as gold, silver, copper, iron, &c., in consequence of which they may be elongated or drawn into wire. It is to be distinguished from *malleability* and *laminability* (q. v.).

Duet, Ital. *duetto*, a piece of music composed in two parts; it may be vocal or instrumental.

Du'gong. In *zoology*, the *halicore du-*

gong, called also *sea-cow*, *siren*, &c., inhabits the Indian ocean, and is often confounded by travellers with the Manatus. *See* HALICORE and MANATUS.

DUKE, from *dux*. In Great Britain *Duke* is the highest title of nobility inferior to *prince*, but in some countries of the continent a duke is a sovereign prince without the title of king. In Britain *duke* is a mere title, without giving any domain or jurisdiction over the place whence the title is derived. The consort of a duke has the title of *duchess*.

DUL'CIMER, Ital. *dolcimello*, from *dolce*, sweet; a musical instrument strung with 50 wires stretched over a bridge at each end, and played upon by striking the wires with little iron rods.

DUMO'SÆ, the 43d natural order of plants in the natural system of Linnæus. Name from *dumus*, a bush, because the plants are chiefly shrubs or low bushy trees. Ex. the elder.

DU'MOSE, Lat. *dumosus*, bushy, applied to plants chiefly.

DUNE. In *geology*, a low hill or bank of drifted sand; the word is British, *dun*, an eminence.

DU'NELM. In *church matters*, the signature of the Bishop of Durham, the Christian name being usually prefixed; it is a contraction of *Dunelmensis*.

DUNG'ING. In *calico printing*, the application of a bath of cow-dung diffused through hot water to cotton goods in a particular stage of the process.

DUN'KERS, a Christian sect which arose in Pennsylvania, in 1724.

DUN'NAGE. In *commercial navigation*, loose wood, as pieces of timber, boughs of trees, fagots, &c., laid in the bottom and against the sides of a ship's hold, either to raise the cargo when she is loaded with heavy goods, or to prevent the cargo from being damaged in the event of her becoming leaky.

DUN'NING, a method of curing cod-fish so as to give them a particular colour (*dun*) and quality, practised at the isle of Shoals in New Hampshire, North America. The cod are split, slack-salted and piled for two or three months in a dark stove, covered for the greater part of the time with salt, hay, or eel-grass, and pressed with some weight. They are turned over, piled again in the same dark stove, in which they are allowed to remain for two or three months more, when they are fit for use.

DUODEC'IMALS, from *duodecim*, twelve; numbers proceeding in a proportion of twelves, in the same manner as decimals proceed in a proportion of tens. This notation is commonly employed by artificers in casting up the contents of their work, dimensions being commonly stated in feet, inches, and twelfths; and from the manner of performing the operations the process is called *cross multiplication*.

DUODEC'IMO, Lat. from *duodecim*, twelve; having twelve leaves to a sheet; the name given to a book in which the sheets are each folded into twelve leaves, written 12mo.

DUODEN'ARY ARITHMETIC, that in which the local value of the figures increases in a twelve-fold proportion (*duodeni*, twelve), instead of in a ten-fold proportion, as in the denary arithmetic. Thus in the duodenary scale 1111 expresses $12^3 + 12^2 + 12 + 1 = 1885$ in the denary or common scale.

DUODE'NUM, Lat. from *duodeni*, twelve; the name given by anatomists to the first portion of the small intestines, supposed anciently, when anatomy was restricted to the dissection of brutes, not to exceed the breadth of twelve fingers.

DU'PION, a double cocoon formed by two or more silkworms.

DU'PLE, Lat. *duplus*, double. *Duple ratio* is that of 2 to 1; *sub-duple ratio* is the reverse, or that of 1 to 2.

DU'PLEX, Lat. from *duo* and *plico*, to fold; double or two-fold; applied to leaves, petals, &c. of plants.

DU'PLICATE, Lat. *duplicatus*, doubled; applied, 1. In *botany*, to flowers which have two rows of petals.——2. In *arithmetic*, both proportion or ratio of squares, thus the duplicate ratio of *a* to *b* is the ratio *a a* to *b b*, or of the square of *a* to the square of *b*.——3. A *duplicate* is a copy of some writing, deed, or account.

DU'RA MA'TER. In *anatomy*, the tough sero-fibrous membrane which invests the brain externally to the arachnoid membrane; thus named from being hard (*durus*) compared with the *pia mater* (q. v.). It is sometimes called the *dermatoid membrane*.

DURA'MEN (Lat.) The fully formed central layers of the wood of exogenous trees, commonly known as *heart-wood*.

DURAN'TE. In *law*, during, as *durante bene placito*, during pleasure; *durante vita*, during life; *durante minore ætate*, during minority.

DU'RATE. In *music*, a term applied to whatever offends the ear by its effect.

DUR'BAR, a Persian word used in India for a court, where a sovereign or viceroy gives audience.

DURE'SS (Norm. *duresse*, from *dur*, hard), literally, hardship. In *law*, duress is of two kinds, *duress of imprisonment*, which is illegal restraint of personal liberty; and *duress* by *menace* or *threat*, in which the person is threatened with personal violence unless he perform some deed, as signing of a bond.

DUTCH'-DROPS, a preparation of oil of turpentine, tincture of guaic, nitric ether, and oils of amber and cloves. The balsam

of turpentine is also sold under this name.

Dutch'-gold, an alloy of 11 copper and 2 zinc rolled into sheets; hence frequently called *dutch-foil*. It is manufactured chiefly at the brass works of Hegermühl.

Dutch School. In *painting*, this school, generally speaking, is founded on a faithful representation of nature, without attention to selection or refinement.

Duty, from *due*. 1. In *commerce*, any tax or excise.——2. Among *engineers*, the work which a machine actually does, measured by the weight raised and the space through which it is raised conjointly.

Duu'mviri, Duu'mvirate. Among the Romans, magistrates, commissioners, and other public officers were collectively called *duumviri*; and as two were usually associated in the same function, the office or government of the two thus connected was termed a *duumvirate*.

D-Valve, or D Slide-valve. In *steam-engines*, a valve employed for opening and shutting the communications with the steam cylinder, particularly in locomotive engines: named from its shape.

Dwarf-trees. These may be produced in three ways: by grafting on dwarf slow-growing stocks; by planting in pots of small size filled with poor soil; and by cutting off part of the tap and other roots.

Dwarf-walls, those about courts, on which are iron rails; but low walls in general receive this name.

Dy'adic Arithmetic, is that in which only two characters, 1 and 0, are used; more commonly called *binary arithmetic*. Dyadic from δυας, two.

Dye. In *architecture*, any square body, as the trunk of a pedestal.

Dynam'eter, (δυναμις, power, μετρεω, to measure,) an instrument for determining the magnifying power of telescopes.

Dyn'amics, from δυναμις, power; the science of moving powers, or the action of forces not *in equilibrio*. As a branch of mechanics, it treats of bodies in motion.

Dynamite, a nitro-glycerine compound first prepared by Nobel by mixing nitro-glycerine with one third of its weight of porous or *infusorial* silica. Other Dynamites have since been prepared by substituting for silica, chalk and sawdust in varying proportions, or other substances, according to the explosive power required.

Dynamom'eter (*see* Dynameter): a machine for estimating the amount of force required to draw carriages, boats, &c.

Dyn'asty, δυναστης, a lord; a race or family of sovereigns in succession.

Dys'entery, Lat. *dysenteria*, δυς, bad, and εντερα, the bowels; bloody flux, a disease known by contagious fever, frequent griping stools, &c. It is epidemical.

Dys'odile, from δυσωδης, fetid; a mineral of a greenish colour found near Syracuse. It burns like coal, but gives out during combustion a most intolerable fœtor.

Dys'ury, Lat *dysuria*, δυς, badly, and ουρον, urine; difficulty in discharging the urine.

Dytis'cus, a numerous genus of aquatic coleopterous insects, known popularly as *water-beetles*.

E.

E, the second vowel and the fifth letter of the English alphabet. As a *numeral*, it stands for 250.—In *music*, it denotes the tone *e-la-mi*.—In the *calendar*, it is the fifth of the dominical letters.—In *charts*, &c., it distinguishes the easterly points.

Ea'gle. 1. In *ornithology* (*see* Aquila).——2. In *astronomy*, a northern constellation having its right wing contiguous to the equinoctial.——3. A gold coin of the United States of America, value 10 dollars.——4. In *architecture*, the frontispiece or pediment of a Grecian temple.——5. In *history*, the symbol of royalty.——6. In *heraldry*, a bearing of frequent occurrence, particularly assumed by sovereigns as the emblem of empire.

Ea'gle-stones, *ætites*; a variety of argillaceous iron ore of a nodular form, and varying in size from that of a walnut to that of a man's head, and containing a sort of loose kernel. It obtained this name from a supposition that the eagle carried them to her nest to facilitate the laying of her eggs.

Ea'glet. In *heraldry*, when there are several eagles on the same escutcheon they are termed *eaglets*.

Ear. 1. In *anatomy*, auris; the organ of hearing, consisting of the outer-ear or *concha*, at the bottom of which is the drum or *tympanum*, like the skin of a drum, and beneath the drum is a cavity terminated by the *eustachian tube*.——2. In *music*, the internal sense by which we perceive and judge of harmony.——3. In *husbandry*, that part of certain plants (*gramineous*) which contains the flower and seed, as an *ear* of barley.

Ear'ings. In *ships*, certain small ropes employed to fasten the upper corners of a sail to its respective yard.

Earl, a title borrowed from the Danes, *earlamh*, noble. An earl is next below a marquis and above a viscount. He had formerly the government of a *shire*, and was called a *shireman*. After the conquest, earls were for some time called *counts*, and from them shires have taken the name of *counties*, and their wives at the present time are titled *countesses*. The title is now totally unconnected with

territorial jurisdiction. The coronet has eight pyramidal points tipped with pearls, placed alternately with as many strawberry leaves, lower than the pearls.

EARL-MARSHAL (*of England*), the eighth great officer of state, who has the superintendence of military solemnities. The office is hereditary in the family of the Howards.

EAR'NEST, Scot. *earles*. In *commercial law*, a sum of money advanced by the buyer of goods, in order to bind the seller to the terms of the agreement. In Scotland servants are *earled* when they are engaged, and the common *earles-penny* is one shilling.

EARTH. 1. In *astronomy*, the planet we inhabit, the third in order from the sun, marked by the character ⊕.——2. In *chemistry*, the term *earth* was till recently employed to denote a simple elementary substance, which was neither inflammable nor metallic; but modern science has demonstrated that what were formerly termed primitive earths are metallic oxides. These are silica, alumina, lime, magnesia, zirconia, glucina, yttria, baryta, strontia, and thorina. Almost the whole crust of the globe is composed of the first three.——3. In *agriculture*, earths are distinguished from soils by their being without organised matter.

EARTH'QUAKE, a shock, concussion, or vibration of a tract or district of country, usually accompanied by subterranean noises, and spreading ruin widely around. They seem to owe their origin to the same class of agencies as volcanoes, or rather, it may be said, they are volcanic irruptions diffused. *See* VOLCANO.

EARTH-WORK. In *engineering*, a term applied to cuttings, embankments, &c.

EAR'-TRUMPET, an instrument used by persons partially deaf, to strengthen the sensation of sound, by conducting it through a funnel-shaped tube directly into the ear. The ear-trumpet is sometimes made large, to be put to the ear as occasion requires; but the more advantageous instrument of this sort is made to fit into the ear, and to lead the sound directly upon the tympanum.

EA'SEL, the frame on which painters place their canvas. Hence, *easel-pieces* are those smaller pictures painted on the easel, as contradistinguished from large paintings on walls, &c.

EA'SEMENT. In *law*, any privilege which one man has of another without profit, as a way through his lands.

EASE OFF, EASE AWAY, in *nautical language*, is the order to slacken a rope gradually.

EASE THE SHIP, the command given to the steersman to put the helm close to the lee-side, or *hard-a-lee*.

EA'STERLING, a coin struck by Richard II., and supposed to have given rise to the term *sterling*, as applied to English money.

EAST INDIA COMPANY. A famous joint-stock association, originally established to carry on the trade between this country and the countries east of the Cape of Good Hope.

EA'SY, the sea term for a ship moving over the sea without jerking or straining.

EAU DE COLOGNE (French), a preparation to which numerous virtues have been ascribed by its venders. It is simply brandy highly aromatised.

EAU DE LUCE (French), a volatile liquid formed chiefly of ammonia, a little mastic macerated in alcohol, and a very little of the oils of lavender and amber.

EAU MÉ'DICINALE (French), medicinal water. A vinous infusion of the flowers of colchicum, long celebrated for the cure of gout.

EAVES' LATH, BOARD, or CATCH, a thick feather-edged board at the eaves, to raise the bottom of the first course of slates above the sloping plane of the side of the roof, that the next course may be properly bedded.

E'BIONITES, a very ancient religious sect, who would not allow that Christ was any more than an inspired person, the son of Joseph and Mary.

EB'ONY-WOOD, brought chiefly from Madagascar, the Mauritius, and Ceylon. There are several species, but the best is the jet-black, and free from veins. It is the wood of the *Diospyros ebenus*, a small tree.

E'BOR(-ACENSIS). In *church government*, the signature of the Archbishop of York, the christian name being usually prefixed, and the part of the local word which precedes the brackets.

EBRAC'TEATE, Lat. *ebracteatus*, without a bractea, or floral leaf.

ECAU'DATE, from *e*, without, and *cauda*, a tail, without a tail. Applied to plants which have no tail or spur.

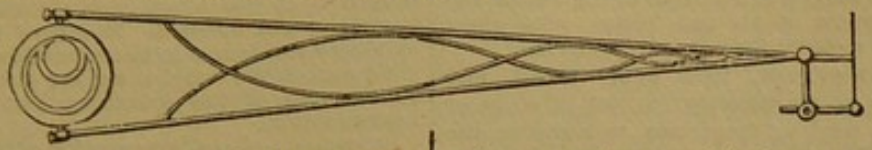
EC'BASIS, ἔκβασις. In *rhetoric*, the figure of digression.

EC'BOLE, ἔκβολή. In *rhetoric*, a digression, in which the speaker introduces another person speaking his own words.

EC'CE HO'MO, behold the Man! A painting which represents Christ with the crown of thorns on his head. John xix. 5.

EC'CENTRIC, from *ex*, and *centrum*, centre; deviating from the centre: opposed to *concentric*. In *geometry*, the term *eccentric* is used substantively to denote two circles or spheres, which though contained in some measure within each other, have not the same centre. Thus an *eccentric* or *eccentric wheel* is in general

use for working the valves of steam-engines. It consists of a wheel situated upon the main-shaft, but fixed out of its centre. It is fitted in a brass ring to



which shafts are attached; these are connected with the valve-lever, so that, as the eccentric turns round with the shaft, an alternate motion is communicated to the lever, and the valves thereby opened and closed. In *astronomy*, the *eccentric place of a planet* is its place as it would appear to a spectator at the sun, and which, when referred to the ecliptic, coincides with the heliocentric longitude. And the distance between the centre of the planet's orbit and focus is called the planet's eccentricity, a term used to denote the distance of either focus of an ellipse from the true centre.

Ecche'ia, } from ἠχέω, to sound. So-
Eche'a, } norous bell-shaped vases of bronze, &c., used in the construction of ancient theatres, to give additional power to the voices of the actors.

Ecclesias'tical Courts. The *Archdeacon's*, the *Consistory*, the Court of *Arches*, the *Peculiars*, the *Prerogative*, and the Court of *Delegates*.

Eccle'sia, ἐκκλησία. In *ancient history*, the great assembly of the Athenian people, at which every free citizen had a vote.

Eccrinol'ogy, from ἐκκρίνω, to excrete, and λόγος, discourse, the doctrine of excretions.

Ech'elon (Fr.), from *échelle*, a ladder, a scale. A term used by military tacticians, to denote the position of an army, when the divisions of which it is composed march on parallel lines, but all differently advanced. The object is to bring one part into action, and reserve the others.

Eche'neis, a genus of fishes; order *Malacopterygii sub-brachiati*, and family *Discoboli*, Cuv. There are two species. The best known is the *Remora* (the *E. remora*, Lin.) which inhabits the Mediterranean. It is sometimes called the *Sucking-fish*, from its attaching itself firmly to bodies, as ships at sea, sharks, and other large fishes. From this it takes its generic name, ἴσχω, to detain, and νηῦς, a ship, as it was supposed capable of stopping a ship on her course.

Ech'imys, from ἴσχις and μυς, the *spring-rat*; a genus of mammalia of the rodentian order, considerably larger than the brown rat. The fur of some of the species is intermixed with flattened spines like sword blades. America.

Echi'nate, Lat. *echinatus*, bristly; set with prickles, from *echinus*, a hedgehog.

Ech'inites, fossil echini, abounding in the chalk formation. *See* Echinus.

Echinoder'mata, echinoderms, a class of radiated animals, thus named from ἐχῖνος, a hedgehog, and δέρμα, skin, as the skin is generally armed with points or moveable spines. The star-fish and sea-urchin are examples.

Echinorhyncus, a numerous genus of intestinal worms composing the family *Acanthocephala* of Cuvier. Name from ἐχῖνος, a hedgehog, and ῥυγχος, a proboscis. The *E. bicornis* only has been found in the human subject.

Echi'nus, ἐχῖνος, the hedgehog. 1. The generic name of the sea-urchins: Class *Echinodermata*; order *Pedicellata*, Cuv. The body is invested by a shell or calcareous crust, composed of angular pieces, which join together exactly. The surface is armed with spines which move at the will of the animal. The animal feeds on shell-fish. The shells of echini are very abundant in ancient strata, principally those of chalk, where they are usually filled with silex. ——2. In *architecture*, an ornament near the bottom of the Ionic, Corinthian, and Composite capitals. It is a convex moulding, generally ornamented with spheroids; the upper ends cut off; the upper part of the axis projecting and the lower receding. The echinus is only used in columns, in the entablature and capital.

E'chium, the *viper-bugloss*, a numerous genus of plants. *Pentandria—Monogynia*. Name from ἔχις, a viper; because it was supposed to heal the sting of a viper.

Ech'o, from ἦχος, sound; a sound reflected from some surface, and thence repeated to the ear. That a speaker may hear a distinct echo of his own voice, he must stand at least 63 feet from the reflecting surface. This is owing to the relation between the velocity with which sound travels and the readiness of the ear to distinguish sounds. Caverns, grottoes, mountains, and ruined buildings generally, reflect sound; and as every point against which the pulses of sound strike becomes the centre of a new series of pulses, and as sound describes equal distances in equal times, these frequently give more than a single echo of a sound. That at Woodstock, in Oxfordshire, repeats the same sound 50 times. Architects have exercised their ingenuity in the construction of vaults, arches, &c.,

for producing artificial echoes. These are usually ellipses and parabolas. Whispering galleries (q. v.), are constructed on similar principles. The ancients believed that Echo was a nymph of the woods, the daughter of Air and Tellus, who pined into a sound for love of Narcissus.

Echom'eter, from ηχος, sound, and μετρεω, to measure; a sort of scale or rule used by musicians to measure the duration of sounds, and to find their intervals and ratios.

Eclec'tics, from εκλεγω, to select; ancient Greek philosophers, who, without attaching themselves to any particular sect, selected from each whatever appeared to be most rational. They endeavoured to mould the doctrines of Pythagoras and Plato, and blend with them the theology of the Egyptians and the tenets of Zoroaster. They hoped to reconcile the Christians and Pagans to the same opinions!

Eclip'se, εκλειψις, defect. An obscuration or occultation of the sun or moon by another heavenly body. An eclipse of the sun is caused by the interposition of the moon, which totally or partially obscures the sun's disc. Consequently all eclipses of the sun happen at the time of new moon. An eclipse of the moon is caused by the interposition of the earth between the sun and the moon; consequently all lunar eclipses happen at full moon. In a case of a *partial eclipse*, the dark part is called the *umbra*, and the light part is called the *penumbra*.

Eclip'tic, from εκλειπτικος, *linea ecliptica*, the ecliptic line or line in which eclipses happen. This is a great circle of the sphere, supposed to be drawn through the middle of the zodiac, and making an angle with the equinoctial in the points of Aries and Libra of 23° 28′, which is the sun's greatest declination. The points of intersection are called *equinoctial points*. An *ecliptic digit* is the twelfth part of the diameter of the moon. *Ecliptic limits* are the greatest distances at which the moon can be from her nodes, in order that an eclipse of the sun or moon may happen.

Ecpho'nesis, from εκ and φωνη, voice; a figure of speech in which the orator gives utterance to the warmth of his feelings.

Ec'ptome, } from εκπιπτω, to fall down;
Ec'ptosis, } a falling down of any part: applied to luxations, falling off of gangrenous parts, to hernia of the uterus, &c.

Ecpyro'ses, from εκ and πυρ, fire; igneous devastations of the world, which, according to the ancient Stoics, recur at certain distant intervals.

Ec'stacy, εκστασις *ecstasis*. A disease which consists in a total suspension of sensibility and voluntary motion, and mostly of mental power; the muscles are rigid, the body erect and inflexible, the pulsation of the heart is felt, and the breathing not affected. It differs from catalepsy and trance in the inflexible and rigid state of the muscles, and the obvious continuance of the breathing and the heart's action.

Ec'thyma, εκθυμα. An eruption of phlyzacious pustules which are usually distinct, arising at a distance from each other, seldom numerous, unaccompanied by fever, and not contagious.

Ec'type, from εκτυπος, a copy; a figure in relievo or embossed.

Ec'zema, εκζεμα, from εκζεω, to boil. A cutaneous disease, characterised by an eruption of small vesicles on various parts of the skin, usually set close together.

Ed'da. In *northern antiquity*, a system of the ancient Icelandic, Runic, or Scandinavian mythology.

Ed'dy, from Sax. *ed*, back, and *ea*, water; the water that by some interruption in its course runs contrary to the direction of the tide or current, and appears like the motion of a whirlpool.

Edem'atose, from οιδεω, to swell; swelling with a serous humour: applied to tumours.

Eden'tals, } An order of Mammals,
Edenta'ta. } including those genera in which the dental apparatus is incomplete.

Edenta'ta, from *edentatus*, without teeth; the sixth order of mammalia in Cuvier's arrangement, comprising quadrupeds without front teeth. The sloth is an example.

Edg'ing. In *carpentry*, reducing the edges of ribs or rafters that they may range together.

Edg'ings. In *gardening*, the series of small but durable plants set round the edges or borders of flowerbeds. The best edging is the Dutch box, especially for walks.

Edge-railway, a certain description of roadway, consisting of a succession of iron bars or girders, properly supported, upon which the peripheries of the carriage wheel revolve; a flange projecting one inch, being formed on the inner edge of the wheels, to prevent their getting off the lines.

E'dile, Lat. *ædilis*; a Roman officer thus named *quod ædes sacras, et ædificia publica procuraret*. His duty was to see to the state of public roads, conduits, buildings, &c.

Edo'lius, a genus of flycatchers, the species of which are numerous in the countries bordering the Indian Ocean. Order *Passerinæ*, family *Dentirostres*.

Educ'tion Pipe. In *steam-engines*, the pipe through which the steam escapes after fulfilling its duty.

Edulcora'tion, from *edulco*, to sweeten. 1. The freeing of any substance from saline matter by affusion of water.—— 2. The sweetening of a medicine by addition of a saccharine substance or sugar.

Eel. In *ichthyology*, the popular name of all the species of the genus *Muræna*, Lin. The common eel is the *M. anguilla*. The Conger-eel (*M. conger*, Lin.), is found in all the seas of Europe. The *electric eel* or *cramp fish* is a species of Gymnotus.

Eel-pot, a sort of basket used for catching eels.

Eel-spear, a forked instrument used for catching eels by stabbing them.

Effect', Lat. *effectus*, that which is produced by a cause; the consequence of a cause. In *physics*, it is an axiom that effects are proportional to their adequate causes.—In the *arts*, effect is taken as the sensation which a work of design produces or ought to produce upon the mind of the spectator: to produce a proper effect, therefore, the parts require to be harmoniously disposed or to be hugely great.—In *law*, the word is used in the plural *effects*, for the moveable goods of a person.

Effec'tion, from *effect*; the geometrical construction of a proposition. The term is also used in reference to problems, which, when they are deduced from, or founded upon, some general propositions, are called the *geometrical effections* of them.

Effen'di, a Turkish word meaning *lord*. Applied to *civil* functionaries, in contradistinction to *aga* or military personages.

Efflores'cence, from *effloresco*, to flower (*flos*, a flower). 1. In *botany*, the production of flowers.——2. In *chemistry*, the formation of a soft, white powdery substance in minute spiculæ on the surface of saline crystals. It takes place either by the abstraction of their water of crystallisation by the air, as in the case of carbonate of soda, or by the absorption of oxygen from the air, as in the case of alum-schist.——3. In *pathology*, any morbid redness of the skin, as in scarlatina.

Efflu'via, plural of *effluvium*, from *ef fluo*, to flow out; the particles which continually exhale from most if not all bodies in nature. The term is commonly restricted to such exhalations as are noxious or disagreeable to the senses. Thus we speak of the effluvia of putrefying matter, contagious effluvia, &c.

E. G., an abbreviation of *exempli gratiâ*, for example; for the sake of an instance.

Egg and Tongue. In *architecture*, ornaments sculptured in the echinus and Ionic volutes.

Ei'dograph, from εἶδος, likeness, and γράφω, to write; an instrument contrived for the purpose of copying drawings.

Eidoura'nion, from εἶδος, likeness, and οὐρανον, heaven; a delineation of the heavens.

Eistedd'fod, Welsh *eistedd*, to sit; the assemblies of the Welsh bards.

Ejectment. In *law*, a mixed action by which a lessee when ousted may recover his term and damages; it is real as to the lands, but personal as to the damages.

Elæag'nus, the *Dutch myrtle* or *oleaster*; a genus of trees. *Tetrandria—Monogynia*. Name from ἐλαιον, oil, and ἁγνος chaste. Warm and temperate climates.

Elæosac'charine, from ἐλαιον, oil, and σακχαρον sugar; containing oil and sugar

Elæote'rium, ἐλαιον, oil; an apartment in ancient baths where the bathers anointed themselves.

Ela'idic Acid, the name given by Boudet to an acid obtained by the saponification of elaïdine.

Ela'idine, a substance resembling stearine, obtained by the action of hyponitric acid upon olive, almond, and some other oils. The name is from ἐλαια, an olive.

E'laine, from ἐλαιον, oil; the oily principle of fats, which may be expelled by pressure, or by digesting the fat in boiling alcohol; upon cooling, the stearine precipitates, and the elaine collects upon the surface of the supernatant liquor. It is called *oleine* by some chemists.

Ela'idic Acid, an acid obtained from elaine.

E'lais, the *oil palm-tree*; a genus. *Diœcia —Hexandria*. Name from ἐλαιον, oil. Hot climates.

Elao'lite, from ἐλαια, an olive, and λιθος, stone; olive-stone; a sub-species of pyramidal felspar; colours dark-brown, inclined to green, and flesh red inclined to grey or brown. It is the *fettstein* (fat stone) of Werner.

Elasmothe'rium, a fossil animal nearly allied to the rhinoceros: name from ἐλαω, to drive, and θηριον, a beast.

Elas'tic, elasticity, from ἐλαστης, (from ἐλαω), impulsor. A body is *elastic* which has the power of returning to the form from which it was made to deviate by some external force; and the force which it exerts in endeavouring to recover its posture is the measure of its *elasticity*. If two bodies when struck together rebound and remain unaltered in form, they are *elastic*; if their form be altered, they are *non-elastic*. If a body yield to compression, and return to its former bulk when the pressure is removed, it is *elastic*; if it be not compressible, or being so does not re-assume its

former bulk, it is *non-elastic*. Gases are therefore elastic, and liquids are non-elastic. All bodies belong to one or other of these divisions, yet there is perhaps no substance in nature perfectly elastic or completely non-elastic: all partake of these properties in a greater or less degree.

Elastic Curve, the figure assumed by an elastic plate, one end of which is fixed horizontally in a vertical plane, and the other end loaded with a weight tending to bend the plate.

Ela'ter, the *skipper*, a genus of coleopterous insects of the serricorne family. Name ελατης, a leaper. The *E. noctilucus*, Lin., is the most celebrated species. It is rather more than an inch long; dusky brown; a convex yellow shining spot on each side of the thorax, in consequence of which it is used by the ladies as an ornament for the hair during the evening paseo, and the Indians fix it to their feet to light them in their nocturnal journeys. This species belongs to South America, but the elaterides have a wide geographical distribution.

Elate'rite, mineral caoutchouc, a brown, massive, elastic variety of bitumen: constituents, 52 carbon; 40 oxygen, and 8 hydrogen.

Elate'rium, from ελατηριον, a name given by the Greeks to any drastic purgative, and to the juice of the wild cucumber in particular. At present, (1). The wild cucumber (*momordica elaterium*); (2). A peculiar substance deposited from the juice of the wild cucumber and dried; its active power as a cathartic is derived from a minute quantity of *elatin* which it contains; (3). The name of a genus of annual plants. *Monœcia — Syngenesia*, South America.

Ela'tin, the active principle of Elaterium (q. v.). It is contained in the proportion of 12 per cent.

Elbow. 1. The outer angle made by bending the arm.——2. The name given to an abrupt turn in a river, frequently caused from the action of the current upon one of the banks, which thereby becomes washed away, when the silt is thrown to the other side, where it forms an *elbow*.——3. The *elbows of a window* are the two panelled flanks, one under each shutter.——4. *Elbow joints* are voussoirs of an arch which form part of a horizontal course.

El'caja, an Arabian tree, the fruit of which is emetic, and is employed in an ointment for the cure of the itch.

El'der. 1. In *ecclesiastical affairs*, from *ealdor*, the comp. of *eld*, now *old:* elders are officers, who with the ministers and deacons of Presbyterian churches compose the kirk session. In the first Christian churches the elders were persons who enjoyed ecclesiastical functions. The word indeed comprehends apostles, pastors, presbyters, bishops or overseers; hence the ancient Christian councils were called *presbyteria* or councils of elders.——2. In *botany*, from Sax. *ellarn*, Dan. *hyldetræ*, the popular name of the *Sambucus*, a genus of trees of seven species, and as many varieties. Temperate climates.

El Dorado, the Spanish name of an imaginary country in South America, abounding in gold and precious stones.

Eleat'ic, an epithet given to a sect of philosophers, from Elea, a town of Lucania, where most of its teachers were born.

Elect', Lat. *electus* (from λεγω, to choose); one chosen. The Calvinists denominate those whom they believe God to have predestinated to be saved, the *elect*. In matters of polity the word *elect* signifies chosen, but not inaugurated. Thus the Lord Mayor of London, before his predecessor's mayoralty is expired, is called the lord mayor *elect*.

Elec'tion. In the *Calvinistic theology* the divine choice of objects for salvation is *election*. *See* Elect. In *arithmetic*, the different ways of taking any number of quantities given is called *election*, but the term is rarely used.

Elec'tive, depending on choice, as an *elective* monarchy. The term is used in chemistry thus: when a substance already combined with another is presented to a third for which it has a greater affinity, it separates from the former and enters into combination with the latter; this preference is called *elective attraction*, or more commonly *elective affinity*. It is upon this gradation of alterative force that the uniformity of chemical action depends, and by which decompositions are effected.

Elec'tric, from ηλεκτρον, amber; a term used, (1). To denote whatever relates to electricity; (2). To denote a substance or body capable of exhibiting electricity by means of friction or otherwise, and resisting the passage of it from one body to another. Hence an *electric* is called a *non-conductor*, and an *electric per se*. Such are amber, glass, rosin, wax, shell-lac, sulphur, &c.

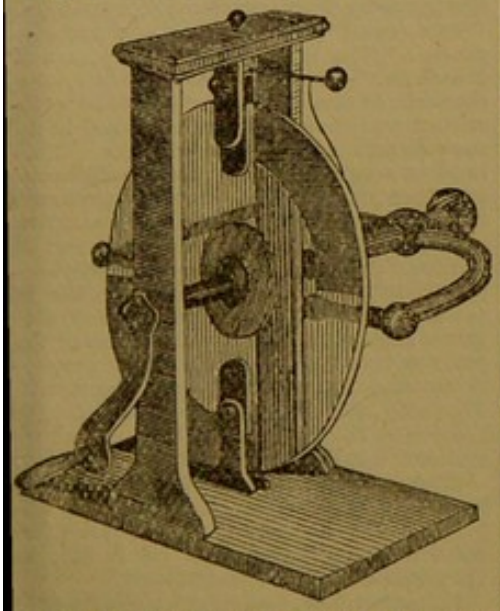
Elec'trical Appara'tus, the various instruments and machines necessary for the illustration of the laws of electric action.

Elec'trical Bat'tery, a number of coated jars connected with each other, which being *charged* or electrified, are then exploded or discharged with an effect proportioned to the extent of the coated surface.

Elec'trical Eel, a species of gymnotus; it is five or six feet long, and com

municates such violent shocks that men and horses are struck down by them. This power is dependent upon the will of the animal, which gives it that direction it pleases, and renders it effective even at a distance. It is, however, dissipated by use, just as muscular power is. —*Cuvier.* The organ, which is the seat of this wonderful faculty in the electric eel, extends along the under side of the tail, occupying about half its thickness.

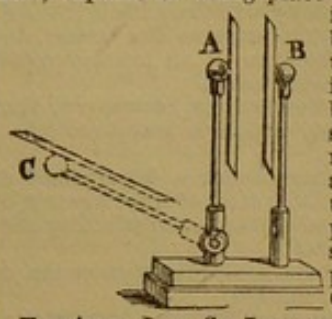
Elec'trical Machine, a part of electrical apparatus constructed for the purpose of collecting the electric fluid in quantity, so as to charge jars, &c., to exhibit its effects in a very sensible manner. It has been constructed of many forms, either for the sake of convenience, or to render it more efficient. The most common is that which consists of a glass cylinder fixed in such a manner that it may be turned by a winch; a cushion supported by a glass pillar, and having a piece of silk between it and the cylinder, and a metallic tube called the *prime conductor*, supported also by a glass pillar; this is the cylindrical machine. Another form is that represented below. It has a plate of glass instead of the cylinder.



Elec'trical Rubber, a part of electrical apparatus consisting of black oiled silk, which serves to aid the friction in an electrical machine.

Elec'tric Fluid, a term for that which produces electrical effects; the matter of electricity.

Elec'tric Condenser, an instrument by which small quantities of electricity may be accumulated and rendered apparent; B is a brass plate supported by a glass stem · A is another brass plate of the same size, capable of being placed as close to it as possible without touching. It is supported by a brass stem which moves upon a joint, so that it is capable of assuming the position at C.



Elec'tric Jar. *See* Leyden Jar.

Electric'ity (*see* Electric); the name of an unknown natural power which produces a vast variety of phenomena, the first of which were observed (by Thales, A.C. 600) in the mineral substance called *amber* by us, but *electron* by the Greeks. It was thence called *electric power;* and the laws, hypotheses, experiments, &c., by which the *electrical phenomena* are attempted to be explained and illustrated constitute *electricity.* If a glass tube be rubbed with a dry silk handkerchief, and then approached to bits of paper, cotton, feathers, &c., it will first attract these bodies, then repel them. After a while the excited body loses its influence, but it may be renewed for any number of times by friction. If we substitute a stick of sealing-wax for the glass tube, and rub it with a dry, warm flannel, it will, when approached to a feather, exhibit the same phenomena of attraction and repulsion, and in the same order; but if we present the excited wax to a feather which has received the repulsive property from the glass, or the excited glass to the light substance repelled by the wax, strong attraction will be manifested in both cases. From these phenomena is deduced the doctrine of two electricities,—the *vitreous* and *resinous* of the theory of Du Fay, or the *positive* and *negative* of the theory of Dr. Franklin. The same phenomena gave rise to the terms *electrical attraction* and *electrical repulsion.*

Electric Kite, a contrivance devised by Dr. Franklin to verify his hypothesis respecting the identity of electricity and lightning. It differs nothing in shape from a school-boy's kite, but is covered with silk or varnished paper, and armed with a wire. The string with which the kite is raised is hemp, with a piece of silk cord or ribbon next the hand. From a key suspended at the union of the twine and silk, when the kite is raised during a thunder-storm, a Leyden jar may be charged. The experiment is not perfectly free from danger.

Elec'tric Spark. If a body containing only its natural share of electricity be presented sufficiently near to a body

electrified *positively* or *negatively*, a quantity of electricity will force itself through the air from the latter to the former, appearing in the form of an intense *spark*, called the *electric spark*.

Electric Tension or Intensity, that state of a body which is measured by an electrometer.

Electro-Chemistry, a department of science which treats of the agency of electricity and galvanism in effecting chemical changes.

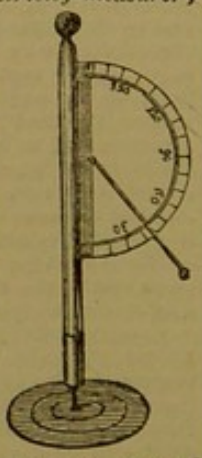
Electro-Dynamics, the phenomena of electricity in motion.

Elec'trode, from ἤλεκτρον, electricity, and ὁδός, away; the point at which an electric current enters or quits the body through which it passes. The name is chiefly used in speaking of the plates of a galvanic battery, by which the current passes into and out of the liquid, and as being the doors by which the current enters and departs. These are further distinguished as the *zincode* and *platinode*.

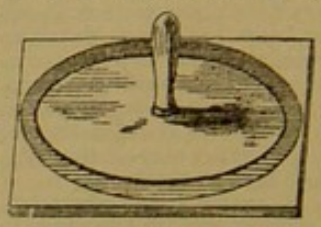
Elec'tro-Mag'netism, a branch of electrical science showing the joint effects of electricity, or galvanism, and magnetism; magnetism produced by electricity.

Electrol'ysis, } from ἤλεκτρον, elec-
Electroly'te, } tricity, and λύω, to loosen. The process of resolving a compound body into its elements by the voltaic current, has been named *electrolysis*, and substances which can be so decomposed, are called *electrolytes*.

Electrom'eter, the *electricity-measurer*; an instrument for measuring the quantity or intensity of electricity, or the degree in which a body is electrified. The most common is the *quadrant electrometer*, shown in the figure. The index, composed of a straw terminated by a pith ball, moves from its centre of suspension as the charge increases, and measures the intensity upon the graduated semicircle.



Electroph'orus, from ἤλεκτρον, and φέρω, to bear; an electric machine, consisting of two plates, one of which is a resinous electric, and the other a metallic plate. A second polished metal plate, of rather smaller diameter, is fitted with a glass handle, by which it can be lifted on or off the upper surface of the plate of resin. When the resin has been excited by gentle friction with dry fur or flannel, and the plate placed upon it by its handle, and immediately removed, it will be found feebly charged with resinous electricity. If it be then replaced and uninsulated by a metallic rod, and again lifted by its insulating handle, it will be found to give a strong spark of vitreous electricity. The process may be repeated an unlimited number of times without additional excitation.



Electro-Po'lar, applied to conductors, one end of which is positive and the other negative.

Elec'troscope, from ἤλεκτρον, electron, and σκοπέω, to view; an instrument for exhibiting the attractive and repulsive agency of electricity. This term is generally used synonymously with *electrometer*, but sometimes applied appropriately to Bennet's gold-leaf electrometer, shown in the figure with gold leaves apart. Coulomb's torsion-electrometer is an excellent electroscope.

Ele'gance (Fr. and Eng.), from *elegantia*: "The beauty of propriety, not of greatness."—*Johnson*. In *literature*, the elegance of a composition consists in well-chosen words and phrases arranged in an appropriate and happy manner. This implies neatness, purity, and perspicuous arrangement of parts—a style calculated to please rather than excite admiration or strong feeling. It is now much out of fashion. Elegance of speaking includes propriety of diction and gracefulness of action. In *architecture* and *painting*, elegance consists in a nice distribution of the parts with a just regard to their proportions and appropriate embellishments. Similarly, the term may be applied in a loose way to many works both of nature and art, which please by their symmetry.

Ele'git. In *law*, a writ of execution by which a defendant's goods are appraised and delivered to the plaintiff, upon a recognizance that he is able in his goods to satisfy his creditors.

El'ement, Lat. *elementum*, a simple substance, or one which has not been decomposed. The ancients considered fire, air, earth, and water, to be of this nature; hence they are still called the *four elements*. Three of these *elements*, air, earth, and water, are however now well known to be compound bodies; but instead of the four classical elements, chemistry at present recognises 54, of which 41 are metallic. These are termed *elementary bodies*.

Elemen'tary. In *chemistry*, is synonymous with undecompounded.

EL'EMENTS, plu. of *element* (q. v.). 1. In *chemistry*. *See* ELEMENT. The elements of a compound body are its constituent parts: these may be either *proximate* or *ultimate*. —— 2. In *astronomy*, certain quantities which require to be known in order to determine something else; thus the elements of the planets require to be known in order to determine the theory of their elliptic motion.——3. First principles, as the *elements of geometry*.——4. The bread and wine in the eucharist.

ELE'MI, or GUM-ELEMI, a resin which exudes from incisions made in the bark of the *Amyris elemifera*, a tree which grows in South America and Brazil.

E'LENCH, Lat. *elenchus*, a fallacious argument. A sophism.

EL'EPHANT, the largest terrestrial animal. *See* ELEPHAS.

ELEPHANT, WHITE. A Danish order of knighthood.

EL'EPHANT-BE'ETLE, a large species of *scarabeus* found in South America. It is covered by a hard black shell, is nearly four inches long, and has a proboscis an inch and a quarter in length.

ELEPHANTI'ASIS, a species of leprosy, named popularly *elephant-leg*, from the swellings and incrustations resembling those of the hide of an elephant. It is considered contagious.

EL'EPHAS, ἐλέφας, the elephant. Order *pachydermata*; family *proboscidiana*. There are two species; the Indian elephant (*E. Indicus*, CUV.), and the African elephant (*E. Africanus*, CUV.). The first has an oblong head, the latter a round head. Elephants live in herds, and their food is strictly vegetable.

ELEUSIN'IAN MYSTERIES, anciently secret religious rites annually performed at Eleusis.

ELEVA'TION, Lat. *elevatio*, a raising (*levo*, to raise). 1. In *astronomy*, altitude, the height of a body above the horizon of any place.——2. In *gunnery*, &c. the angle which the axis of the gun makes with the horizon.——3. In *perspective*, the representation of the whole body, a geometrical projection drawn on a plane perpendicular to the horizon.

ELEVA'TOR. 1. In *anatomy*, a muscle which serves to raise a part to which it is attached, as the lip.——2. In *surgery*, an instrument for raising a depressed portion of bone, especially of the cranial bones.

ELF-AR'ROWS, flint-stones sharpened on both sides in the shape of arrow-heads, made use of in war by the ancient Britons, but vulgarly supposed to have been shot by *elves* or fairies.

EL'GIN MARBLES, certain ancient marbles brought from Greece by the Earl of Elgin, chiefly from the Parthenon at Athens, and deposited in the British Museum, having been purchased by government for 35,000*l*. They are believed to be the work of Phidias. Among them are some of the finest specimens of ancient sculpture.

ELIMINA'TION, from *elimino*, to thrust out, denotes, in analysis, that process by which all the unknown quantities, except one, are exterminated out of an equation.

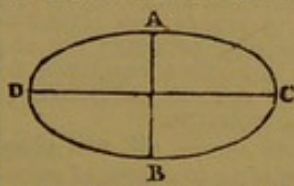
ELIQUA'TION, from *eliquo*, to melt. An operation by means of which a more fusible substance is separated from one less fusible, by applying a degree of heat sufficient to fuse all the former, and not the latter.

ELI'SOR, from Norm. *eliser*, to choose. In *law*, when the sheriff is not an indifferent party in a suit, or when he is concerned by interest or affinity, the *venire* is issued to the coroners: or if exception lies to these, it is issued to two persons of the county, named by the court and sworn. These are called *elisors*, and return the jury.

ELK, an animal of the cervine genus, the *Cervus alce*, Lin. Found in the northern regions of Europe, Asia, and America. In the latter country it is called *moose*, from the Indian name *musu*.

ELL, a measure of length. The English ell is 49 inches, the Scotch 37·2, the French 54, and the Flemish 27.

EL'LIPSE, ELLIP'SIS, ἔλλειψις, defect. 1. In *geometry*, a figure generated from the section of a cone by a plane cutting both sides of the cone, but not parallel with the base: popularly called an *oval*. The line C D is the *transverse diameter*, and the shorter line, A B, is the *conjugate diameter*. These lines are at right angles to each other, and both equally divided in the centre; they are, therefore, called the *greater* and *lesser axis*.——2. In *grammar*, a figure of syntax, by which one or more words are omitted, which the hearer or reader may supply.



ELLIP'SOID, an elliptical spheroid, being a solid generated by the revolution of an ellipse about either axis.

ELLIP'TIC, } something relating to an
ELLIP'TICAL, } ellipse. An *elliptical arc* is any part of the periphery of an ellipse. An *elliptic conoid* is synonymous with *spheroid*. An *elliptic dial* is one usually made to fold up for convenience of the pocket. An *elliptic spindle* is the solid generated by the revolution of any segment of an ellipse about its chord. *Elliptical Compasses*. *See* COMPASS.

ELLIPTIC'ITY, the difference between the greater and lesser semi-axis of an ellipse.

ELLIP'TOGRAPH, from ἔλλειψις, an ellip-

sis, and γραφω, to describe. An instrument for drawing ellipses.

El'mo's Fire, St., an appearance caused by fiery meteors in the atmosphere, often seen playing about the masts and rigging of ships at sea. It is an electrical phenomenon.

Elonga'tion, from *longus*. 1. In *astronomy*, the angle under which we see a planet from the sun when reduced to the ecliptic, or it is the angle formed by two lines proceeding from the earth's centre to the centres of the sun and planet when reduced to the ecliptic. The greatest elongation is the greatest distance which the planet recedes from the sun. It can only be used in speaking of the inferior planets Venus and Mercury.——2. In *surgery*, an imperfect luxation, where the ligaments are only lengthened, and the bone not put out of its socket; also the extension of a limb for the purpose of reducing a dislocation or fracture.

E'lul, a Jewish month answering to part of August and September.

Elutria'tion, from *elutrio*, to cleanse. The operation of pulverising a solid substance, diffusing it through a large body of water, allowing it to settle for a little till the larger and heavier particles subside, and then pouring off or decanting the supernatant liquor. The liquid run off will be found to contain an impalpable powder, which in repose will collect on the bottom, and may be taken out and dried. This is a method employed by chemists, &c., to separate substances of different specific gravities.

Elydor'ic, from ελαιον, oil, and υδωρ, water. A term applied to a mode of painting with a substance containing oil and water.

El'ytra, plural of *elytron*, the wing-sheath of an insect, from ελυω, to involve. The elytra are the crustaceous membranes which cover the true membranous wings of coleopterous insects.

El'ytroid, from ελυτρον, a sheath, and ειδος, like; sheath-like.

Emar'ginate, Lat. *emarginatus*, nicked; applied, 1. In *botany*, to leaves terminating in a small notch at the summit.——2. In *conchology*, to shells which have no margin, but have the edges hollowed out.——3. In *mineralogy*, to crystals having all the edges of the primitive form truncated each by one face.

Emalm'ing, a process in which balsams were employed to preserve human corpses from putrification. A body thus prepared is called a *mummy* (q. v.). Modern chemistry furnishes more simple means of preventing putrefaction than the Egyptian system of salting, spicing, smoking, and bitumening.

Embar'go, an order issued by the government of a country to prevent the sailing of ships out or into port. The word is Spanish, *embargo*, from the same root as *embarrass*.

Embat'tled. In *architecture*, indented with notches in the form of embrasures, and on the top of a wall, parapet, or other building. Heralds expressed the embattled line or embrasure by the word *crenelle*; the military architect sometimes calls them *cannonieres*; and *meurtrieres* when only big enough for muskets: and when the parapet is so low that cannon may be shot without embrasures, they are said to shoot *en barbe*.

Ember, in *ember-days*, *ember-weeks*, is the Saxon *emb-ren* or *ymb-ryne*, a circle or revolution; from *ymb*, around, and *ren*, or *ryne*, course. *Ember-days* are the Wednesday, Friday, and Saturday after Quadragesima-Sunday, after Whit-Sunday, after Holyrood-day in September, and after St. Lucia's-day in December: they are therefore days returning at certain seasons. *Ember-weeks* are the weeks in which ember-days fall, and formerly, our ancestors used the words *ember-fast* and *ember-tide* or season.

Em'blem, from εμβλημα, properly inlaid or Mosaic work, from εμβαλλω, to insert; something inserted into the body of another. The term is now used to designate a painted or sculptured enigma, such as the image of Scævola holding his hand in the fire with these words: "*agere et pati fortiter Romanum est*"—to do and to suffer with fortitude is Roman.

Em'blements, from Norm. *emblear*, from *embleer*, to sow, *blé*, corn; the produce of land sown or planted by a tenant for life or years, whose estate is determined suddenly after the land is sown and before harvest. The word comprehends the produce of all annual plants, but not of perennial plants.

Em'bolus, εμβολος; anything inserted and acting in another, as the piston of a pump.

Embos'sing, from Fr. *bosse*, a protuberance; the forming or fashioning of works in relievo, whether by raising, by carving, or by depression; wherein, according to the prominence of the figures, they are said to be in *alto*, *mezzo*, or *basso-relievo*. Wood, stone, and other inflexible substances are embossed by carving; silver-plate, &c., by the pressure of a hydrostatic press upon the patterns; paper, cloths, &c. by revolving cylinders on which the required patterns are engraved. Mr. Thos. Greig of Rose-Bank, near Bury, Lancashire, patented an invention in 1835 for both embossing and printing silk, cotton, &c., in one or more colours at one operation.

Embra'cery. In *law*, an attempt to corrupt a jury.

Embras'ure (Fr.), from *ebraser*, to widen; an aperture in a parapet through which cannon are fired, called also an *embattlement*.—In *architecture*, the enlargement of the aperture of a door or window towards the inside of the wall.

Embroi'dery, figured work wrought with silver or gold, or both, on silk, cloth, stuffs, or muslins. The art was till lately a handicraft practised by ladies of rank, on account of its elegance, but an ingenious machine, invented by M. Hulmann of Mulhausen, has brought it within the factory system. By this machine one female may attend to 140 needles doing the work of 20 hand sewers.

Em'erald, a gem of a beautiful green colour, called by the Latins *Smaragdus*, from σμαραγδος. Under this name are comprehended the prismatic emerald, the *euclase* of Werner and Haüy, and the rhombohedral emerald, which contains two varieties, the precious emerald, and beryl or common emerald. The constituents of the emerald are 65 alumina, 16 glucina, 13 oxide of chromium with some lime and iron.

Emer'gent, Lat. *emergens*, rising above the water; applied, 1. To a star at the moment it goes out of the sun's beams so as to become visible.——2. To the year or epoch from which any computation of time is made.

Emeri'ti (Lat.), the public functionaries of Rome who had retired from their country's service on half-pay.

Emer'sion, from *emergo*. The term is chiefly used in astronomy, for the appearance of the sun and moon after they have undergone an eclipse. The *minutes* or *scruples of emersion*, as applied to a lunar eclipse, is the arc of the moon's orbit which she has passed through from the time she begins to emerge from the earth's shadow. The term *emersion* is also used for the re-appearance of a star which had been hid by the sun's rays. *See* Emergent.

Em'ery, a mineral substance, a subspecies of corundum, used in powder for polishing hard bodies, as metals, glass, &c. It contains alumina (about 60 per cent.), silica, and iron. It is imported in large quantities from the Island of Naxos, in which it occurs abundantly at Cape *Emeri*.

Em'etine, a substance obtained from the ipecacuanha root, of whose emetic properties it is believed to be the sole cause. It forms transparent brownish-red scales. Half a grain is a dose.

Em'inence, Lat. *eminentia*, elevation; an honorary title given to cardinals since the time of Urban VIII., previous to which they were styled *illustrissimi* and *reverendissimi*.

Eminen'tial Equa'tion, a name for a certain assumed equation, which involves itself in several particular equations.

E'mir, a title of dignity among the Turks, denoting a prince. The title was first borne by the Caliphs, but when they assumed the title of *Sultan*, that of Emir remained to their children. At length it was attributed to all who were deemed descendants of Mohammed by his daughter Fatimah.

Em'issory, Lat. *emissorius*, from *emitto*, an epithet applied by physiologists to ducts which convey fluids out of the body, especially to certain veins.

Emolles'cence, *emollescens*, softening, a term used in metallurgy for that degree of softening in a fusible body which alters its shape; the first and lowest degree of fusibility.

Empa'lement, from *in* and *palus*, a stake; a fencing. In *heraldry*, a conjunction of coats of arms, pale-wise. In *botany*, an old name for the calyx or flower-cup.

Em'phyma, from εμφυσαω, to inflate; a tumour originating below the integuments, and unaccompanied with inflammation; such as fleshy, bony, and other morbid growths.

Emphyteu'sis, εμφυσις. In *law*, a contract by which property is given to be possessed for ever, or for a long term, on condition it shall be improved, and a small annual rent paid to the granter.

Emplec'tion, εμπλεχω, I entangle. In *architecture*, a method of constructing walls, in which the front stones were wrought fair and filled in with stones behind.

Emprosthot'onos, εμπροσθεν, forwards, τεινω, I draw; a spasmodic action of the muscles by which the body is drawn forwards.

Empye'sis, from εμπυεω, to suppurate; the name given by Dr. Good to a genus of diseases characterised by phlegmonous pimples, which gradually fill with a purulent fluid; e.g., small-pox.

Empy'real, from εν and πυρ, fire; formed of the element of fire. *Empyreal air* is a name given by Scheele to oxygen gas.

Empyre'um. In *theology*, the highest heaven where the pure element of fire, εμπυρος, is supposed to subsist.

Empyreu'ma, εμπυρευμα from πυρ; the peculiar and disagreeable smell produced by the burning of animal and vegetable oily matters in close vessels, or under such circumstances as prevent the accession of air to a considerable part of the mass, and occasion an imperfect combustion.

E'mu. In *ornithology*, the *struthio casuarius* of New Holland.

EMUL'GENT, Lat. *emulgens*, milking; applied to the artery and vein which go from the aorta and vena cava to the kidneys, because the ancients supposed that they strained, or as it were milked the serum through the kidneys. The emulgent arteries supply the kidneys with blood.

EMUNC'TORY, from *emungo*, to drain off. The emunctories are the excretory ducts of the body, and the cavities containing the fluids to be excreted. The skin and kidneys, are the common emunctories.

ENAL'LAGE, εναλλαγη, change; a grammatical figure by which some change is made in the common mode of speech, as when one case or mood is put for another.

ENAM'EL (Fr. *en email*). 1. The hard siliceous substance which covers the teeth.——2. In the *arts*, a coloured glass formed by combination of different metallic oxides, to which some fixed fusible salt is added, as borates, fluates, and phosphates. Enamels possess all the properties of glass except its transparency. They are used to counterfeit gems, and in enamel painting.

ENAM'EL-PAINTING is performed on plates of gold or copper. The plate is first covered with a coating of white enamel. The colours finely ground are mixed with oil of spike and laid on. The plate is then gently warmed, and afterwards made red-hot, to incorporate the colours of the picture with the enamel.

ENAN'THESIS, from εν and ανθεω, floreo; efflorescence from internal affection; a *rash*. The term is opposed to *exanthesis*, an eruption on the skin, not connected with internal affection.

ENARTHRO'SIS, from εν and αρθρον, a joint; the ball and socket-joint; a species of diarthrosis in which the round head of one bone is received into a cavity of another, in such a manner as to admit of motion in every direction.

ENCÆ'NIA, from εγκαινια, renewal; a festival among the Jews called the Feast of Dedication (of the Temple). The term has since been used for any commemorative festival.

ENCAN'THIS, from εν and κανθος, the angle of the eye; a disease of the lachrymal caruncle of the eye, appearing at first as a small, soft, red, but often livid excrescence, granulated like a mulberry. It often assumes a cancerous malignity, and emits an exceedingly acrid discharge.

ENCAR'PUS, Gr. from εν, and καρπος, fruit; the festoons on a frieze.

ENCAUSTIC, from εν and καιω, to burn; burning in; applied to a species of painting in wax liquefied by heat, whereby the colours acquire considerable hardness, brilliancy, and durability. The term has also been applied to painting on porcelain, enamel-work, and to painting on glass; and in short to all species of painting where the colours are fixed by means of heat, and even to works in metals where gold and silver are inlaid, melted, or laid on by the application of heat.

ENCE'INTE (Fr. from *en* and *ceindre*), to gird. 1. The wall or rampart which surrounds a place, sometimes composed of bastions and curtains.——2. In *law*, a state of pregnancy.

ENCEPH'ALON, } εγκεφαλος. The brain,
ENCEPH'ALOS, } εν and κεφαλη, the head, or contents of the cranium.

ENCHAS'ING, CHAS'ING, Fr. *enchasser*, to enchase; the art of enriching and beautifying any work in metal by some design or figure represented in low relievo. Gold and silver plate are usually enchased. It is a species of embossing performed by punching out from the back, and clearing with gravers and like tools.

ENCHO'RIAL, from εγχωριον, a term applicable to whatever is characteristic of a country, but especially applied to the language, and used in ancient Egyptian inscriptions, as distinguished from hieroglyphics (the sacred language) and from the Greek. These are all found on the Rosetta stone of black basalt.

ENCHIRID'ION (Gr.), from εν, and χειρ, hand. A manual, a short and useful compilation.

EN'CLAVE, from *clavis*. A heraldic term denoting something let into another, especially when the piece so let in is a square.

ENCLIT'IC, from εγκλιτικος, inclined. Applied to particles or words so closely connected with others as to seem parts of them; as *que* in *virumque*. Such particles are also called *enclitics*.

EN'CRINITE, a fossil encrinus. The encrinites form a genus of the order crinoidea, known by the name of stone-lily. *See* ENCRINUS.

ENCRIN'ITAL, containing encrinites, as the *encrinital marble* of Derbyshire, which consists chiefly of encrinites cemented together by carbonate of lime.

ENCRI'NUS, a genus of radiate animals or zoophytes. Class *Echinodermata*, order *Pedicellata*, Cuv. Name from κρινον, a lily, in allusion to the form. There are only two living species known, but the fossil genera are exceedingly numerous.

ENCYST'ED, from *cyst*. A term applied to tumours when the matter is inclosed in a sac or cyst.

ENDEC'AGON, or UNDEC'AGON, ενδεκα, eleven, and γωνια, angle. A plane geometrical figure bounded by eleven sides.

ENDEM'IC, from εν, and δημος, people. Peculiar to a country. Applied to any

disease that affects many persons of the same country, proceeding from some cause peculiar to the country or region where it prevails. The term is often used substantively.

ENDOCAR'DITIS, from ἔνδον, within, and καρδία, the heart. Inflammation of the lining membrane of the heart.

EN'DOCARP, from ἔνδον, within, and καρπος, fruit. The stone or shell of certain fruits, as the cherry. The outer skin is the *epicarp*, and the fleshy substance the *sarcocarp*.

ENDOG'ENOUS, from ἔνδον, within, and γίννᾱω, to engender. An epithet for plants (endogens), the growth of whose stems takes place by addition from within. The ferns and equicetaceæ are endogenous plants; most others are *exogenous*, or increase from without. *See* EXOGENS.

ENDOPLEU'RA, ἔνδον, and πλευρα, side. In *botany*, the internal integuments of a seed.

ENDORHIZ'Æ, ἔνδον, and ῥιζα, root. The embryo of monocotyledons.

ENDOSMO'SIS, from ἔνδον, within, and ωσμος, impulsion. The passage of fluids through the membranes of organised bodies from the exterior to the interior. Some gases *endosmose*.

ENDOSPER'MIUM, ἔνδον, and σπερμα, seed. The albumen of seeds.

ENFEOFF'MENT, from *in* and *fief*. The deed whereby one is invested with the fee simple of an estate.

ENFILA'DE (Fr.), a line or straight passage (*en*, and *fil*, a thread). A term used in speaking of trenches, &c. which may be seen and scoured with shot all the length of a line. Hence trenches are usually dug in a zig-zag manner, that they may not be *enfiladed*, or shot along their whole length.

ENFI'LED. In *heraldry*, a term designating that a head or other charge is placed on the blade of a sword.

ENGAGED COLUMNS are those attached to, or built in, walls or piers, a portion being concealed.

ENGINE'ER, Fr. *ingenieur*. A person skilled in mathematics and mechanics, and whose business it is to form plans, and superintend the construction of works. If these are for offence and defence he is called a *military engineer*; if they are intended for industrial purposes, as public works, railways, canals, &c., he is called a *civil engineer*. The name is also used to designate one who constructs engines.

EN'GISCOPE, an instrument, a kind of microscope.

ENGOM'PHOSIS, from ἐν, and γομφος, a nail. A species of articulation which resembles a nail driven into wood, as a tooth in its socket.

ENGRA'ILMENT, the ring of dots round the edge of a model.

ENGRA'VING, the art of producing upon plates of copper or other metal, by means of a steel instrument called a *graver*, representations, as letters, portraits, &c., without the use of aqua-fortis, and which, by means of ink and a rolling-press, are transferred to paper. Copper has hitherto been generally used for engraving upon, but for fine pieces, steel plates are used, and many "pictorial editions" are now got up with wood engravings. In complicate pieces, as landscapes, etching and dry-point engraving are usually combined, so that the picture is produced in a certain state by means of nitric acid, and finished with the graver.

ENGROSS', ENGROSS'ING. In *law* (1.) To copy in a large (*gross*) hand any deed or record, for preservation on paper or parchment. (2.) To buy up corn or other dead victuals with intent to sell them again, and thereby to make profit by enhancing the price. For a long time, most scarcities which occurred in the country were ascribed to the influence of engrossers and forestallers, and hence statutes were framed for the suppression of engrossing and forestalling. The first is still an indictable offence, punishable at common law by fine and imprisonment.

ENHARMO'NIC. In *music*, an epithet for such species of composition as proceed on very small intervals, or smaller intervals than the diatonic and chromatic. An enharmonic interval is the eighth of a tone.

EN'NEAGON, from ἐννεα, nine, and γωνια, a corner. A figure of nine sides and nine angles.

ENNEAHE'DRIA, from ἐννεα, nine, and ἑδρα, a side. A genus of columnar double-pointed crystals, composed of a trigonal column, terminated at each end by a trigonal pyramid.

ENNEAN'DRIA, from ἐννεα, nine, and ανηρ, a man. A class of plants of the sexual system, containing such as have hermaphrodite flowers with nine stamina.

ENNEAPET'ALOUS, from ἐννεα, nine, and πεταλον, a petal. A coralla having nine petals.

ENNEAT'IC, ENNEATICAL, from ἐννεα, nine; every ninth. *Enneatical days* are every ninth of a disease; *enneatic years* are every ninth of an individual's life.

ENROCK'MENT, a term applied to the stone-filling upon breakwaters and the banks of rivers, underneath quays, &c. It consists of large stones thrown in at random, and of sufficient size to resist the action of the current.

ENROL'MENT, the registering of a document in the rolls of chancery, or superior

courts of common law, or the records of quarter sessions.

ENS, ENTITY, } (part. pres. of *esse*, to be.) The old metaphysicians distinguished the *ens reale* and *ens positivum* from their *ens rationis*, which exists only in the imagination. The old chemists also had their *ens* to designate the essence or virtue of a substance.

ENSATE, Lat. *ensatus*, shaped like a sword (*ensis*). *See* ENSIFORM.

ENSEMBLE (Fr.), a term used in the fine arts to denote the general effect of a whole work, without reference to the parts.

ENSIFORM, Lat. *ensiformis*, sword-shaped (from *ensis* and *forma*); applied to leaves, &c.

ENTABLATURE, Fr. *entablement*, from Lat. *tabula;* that part of a column which includes the *cornice*, *frieze*, and *architrave* (q. v.).

ENTAIL, from Fr. *entailler*, to cut. In *law*, an estate entail, abridged and limited by certain conditions, prescribed by the first donor, to descend in a particular line of heirs. *Estates-tail* are either *general* or *special*, and are always lesser estates than a fee simple. To *entail* is to settle the descent of lands so that no subsequent possessor can bequeath or alienate it.——2. In *Gothic architecture* the term *entail* is used to denote delicate carving.

ENTASIA, from *entasis;* a generic name for constrictive spasm, embracing trismus, tetanus, priapism, &c.

ENTASIS, ἔντασις, from ἐντείνω, to strain; a name given to the slight curvature of the shafts of the ancient Grecian columns, particularly the Doric, which is exceedingly graceful.

ENTE. In *heraldry*, a term signifying grafted.

ENTELECHY, ἐντελέχεια, an Aristotelian word expressing an object in its complete existence, as opposed to potential existence.

ENTERING 1. *Entering goods at the custom-house* is the lodging of a manifest of them, and gaining permission to land them.——2. *Entering ports* are ports cut on the middle gun-deck of three-decked vessels to serve as doors.——3. *Entering ropes*, three ropes hanging from the entering ports of a ship, on the right, left, and middle of the steps: called also *side ropes*.

ENTERITIS, from ἔντερον, an intestine; inflammation of the intestines.

ENTEROCELE, from ἔντερον, an intestine, and κήλη, a tumour; an intestinal rupture or hernia.

ENTEROGRAPHY, from ἔντερον, an intestine, and γράφη, description; anatomical description of the intestines.

ENTEROLOGY, from ἔντερον, an intestine, and λόγος, doctrine; that part of anatomy which treats of the intestines.

ENTHYMEME, ἐνθύμημα, from ἐν and θυμός, mind; a term in rhetoric for an argument consisting of only two propositions, an antecedent, and a consequent deduced from it; the major is not expressed, but supposed to be present to the mind.

ENTIRE, complete or undivided. In *botany*, applied to leaves when the margins are devoid of notches, serration, or incisions.—In *conchology*, applied to a shell, in opposition to *emarginate*.

ENTIRETY, ENTIERTIE. } In *law*, the whole of a thing, in distinction from a *moiety*.

ENTOMOLOGY, from ἔντομα, an insect, and λόγος, discourse; that branch of zoology which treats of insects.

ENTOMOSTOMATA, the second family of Siphobranchiata, in the conchological system of De Blainville, including many genera, as Buccinum, Dolium, &c., all univalves.

ENTOMOSTRACA, from ἔντομα, an insect, and ὄστρακον, a shell; shelled insects, which, in the arrangement of Cuvier, form the second section of Crustacea. They are mostly microscopic, and all aquatic, generally inhabiting fresh water.

ENTOZOA, from ἔντος, within, and ζῶον, an animal; intestinal worms. These form the second class of the *Radiata* in Cuvier's arrangement. The greater number inhabit the bodies of other animals.

ENTREMETS (Fr.), small plates or dainties set between the principal dishes at table. The term is used in music for the inferior movements inserted in a composition between those of more importance.

ENTREPAS (Fr.), a term used in the menage for the broken pace of a horse resembling an amble.

ENTRESOL (Fr.) *See* MEZZANINE.

ENTROCHI, ENTROCHITES, } from τροχός, a wheel, wheel-stones; a name given to the broken stems of fossil encrinites. These are well known under the name of St. Cuthbert's beads.

ENTRY, Fr. *entrée*. 1. In *commerce*, the depositing of a ship's papers in the custom-house, and obtaining licence to land goods:—"The person entering any goods inwards, shall deliver to the collector or comptroller a bill of the entry of such goods, fairly written in words at length, expressing the name of the ship, the place whence the goods were brought, and the name of the person in whose name the goods are to be entered, and the quantity and description of the goods," &c.—this is a *bill of entry*.——2. In *law*, a writ directed to a sheriff, requiring him to command the tenant of land, that he render to the

demandant the premises in question, or appear in court on such a day and show reason why he has not done it, is termed a *writ of entry*.——3. Accounts are *entered* in account-books, and these account-books are kept either by *single* or *double entry*.

Enumer'ation. In *rhetoric*, that part of a peroration in which the orator recapitulates the principal points or heads of the discourse or argument.

Enur'ney. In *heraldry*, an epithet for a bordure charged with wild beasts.

En'velope, a wrapper, Fr. *enveloppe*; a term in fortification for a work of earth, sometimes in the form of a single parapet, and at others like a small rampart with a parapet, raised sometimes on the ditch, and sometimes beyond it, to cover weak places with single lines.

En'vironne'. In *heraldry*, surround with other things.

Envoy, Fr. *envoye*, from *envoyer*, to send; a person deputed by government to negociate some affair with a foreign government. Envoys are inferior in rank to ambassadors, but are equally under the protection of the law of nations.

E'ocene, from ἠως, aurora, and καινος, recent; one of the four terms proposed by M. Deshayes and Mr. Lyell, to designate the marine formations of the tertiary series, founded on the proportions which their fossil shells bear to marine shells of existing species. These terms are *Eocene*, *Miocene*, *Older Pliocene*, and *Newer Pliocene*. The proportion of living species in the Eocene are less numerous than in any of the others, and indicates what may be regarded as the *dawn* or commencement of the existing state of animate creation.

E'pact, from ἐπακτος, adscititious; the name given to the excess of the solar month above the lunar synodical month, and of the solar year above the lunar year of twelve synodical months. The lunar month is 29 days, 12 hours, 44 min., 3 sec., consequently the lunar year is 354 days (nearly), and the annual epact 11 days, to which one is added every year to 19 (the lunar cycle), when it becomes 30 or 0, as 30 is an embolismic month. The Gregorian epact for any year is the same as the Julian epact for the preceding year, the difference between the Gregorian and Julian years being equal simply to the difference between the solar and lunar year.

Epago'ge, from ἐπάγω, induco; a rhetorical figure whereby like things or arguments are compared, to prove universal propositions by particulars.

Epanadiplo'sis, επαναδιπλωσις, reduplication; a rhetorical figure wherein a sentence begins and ends with the same word.

Epanalep'sis, επαναλεψις, resumption; a rhetorical figure wherein the same word is repeated in resuming the subject after a long parenthesis.

Epanaph'ore, from επαναφερω, refero; a rhetorical figure which makes several clauses begin with the same word.

Epan'odos, from επι and ἀνοδος; a rhetorical figure wherein two things spoken of together are afterwards spoken of severally.

Epaule'. In *fortification* (Fr. *epaule*, a shoulder), the shoulder of a bastion; the angle of the face and flank, often called the *angle of the epaule*.

Epaule'ment, from Fr. *epaule*, a shoulder. A term in *fortification* for a side-work made of gabions, fascines, or bags of earth. It also sometimes denotes a semibastion, and a square orillon to cover the cannon of the casemate.

E'pha, } a Jewish dry measure, equal
E'phah, } to an imperial bushel, nearly.

Ephebei'um, εφηβος, a youth. In *ancient architecture*, a building appropriated for the wrestling and exercises of youth prior to their entering the gymnasium.

Eph'elis, from επι, and ἡλιος, the sun. A term denoting not only the freckles or little yellow spots which appear on persons of a fair skin, and the larger brown patches which likewise arise from exposure to the direct rays of the sun, but also those large dusky patches which are very similar in appearance, but occur on other parts of the surface which are constantly covered.

Ephem'era (Lat.), from ἐφημερος, daily. 1. A fever of only one day's continuance. ——2. The *day-fly*, a genus of neuropterous insects of the subulicorne family. Epithet *ephemeral*. The ephemera take their name from their short term of life in their perfect state. They usually appear at sun-set, in fine weather, in summer and autumn, along the banks of rivers, lakes, &c., and sometimes in such innumerable hosts, that after their death the surface of the ground is thickly covered with their bodies; in certain districts, cart-loads of them are collected for manure. The continuance of their species is the only function which these animals have to fulfil, for they take no nourishment, and frequently die on the day of their metamorphosis, and even within a few hours of that event. If, however, we trace them back to that period in which they existed as larvæ, we find that their career extends from two to three years. In this state they live in water.

Ephem'eris, an almanack, from εφημερος, daily. An account of, or tables calculated to show, the state of the heavens for every day of the year, i. e. the position of planets, &c. The Nautical Almanack, published by the Board of Longitude, is

the most authentic specimen of an *Astronomical Ephemeris*. The term is sometimes used in the plural, *Ephemerides*, for a collection of astronomical tables.——2. In *literature*, a collective name for all kinds of periodical literature.

EPHIALTA, the herb peony, said to cure night-mare (*ephialtes*).

EPHIAL'TES, ἐφιαλτης, Night-mare.

E'PHOD. In *Jewish antiquity*, a part of the sacerdotal habit. It was a sort of girdle, brought from behind the neck over the two shoulders, and hanging down before, was put across the stomach, then carried round the waist, it served as a girdle to the tunic.

EPH'ORI. In *Grecian antiquity*, magistrates (usually five) established in ancient Sparta to balance the regal power.

EP'ICARP, from ἐπι, and καρπος, fruit. The outer skin of some fruits. *See* ENDOCARP.

EP'ICENE, ἐπικοινος, common to both sexes. Applied to nouns of common gender.

EP'ICLINE, from ἐπι, and κλινη, a bed. An epithet applied by Mirbel to a nectary, when it is placed on the receptacle of a flower.

EPICRAN'ITIS Gr., ἐπικρανω, I finish. A term in *architecture* for the cyma of the cornice.

EPICURE'ANS, an ancient sect of philosophers, who followed the doctrines of Epicurus, a celebrated philosopher of Gargettium, in Attica, about 300 years before Christ.

EP'ICYCLE, from ἐπι, and κυκλος, a circle. A little circle whose centre is in the circumference of a greater circle; or a small orb, which, being fixed in the deferent of a planet, is carried along with its motion; and yet, with its own particular motion, carries the body of the planet fastened to it round about its proper centre. Epicycles were of particular use in the ancient astronomy.

EPICYC'LOID, ἐπικυκλοειδης, a curve generated by the revolution of the periphery of a circle along the convex or concave part of another circle, thus differing from a cycloid (q. v.).

EPIDEM'IC, from ἐπι, and δημος, people. An epithet applied to those diseases which attack a multitude of persons at the same time and same place. The word is also used substantively for *epidemy*, an epidemic disease. Epidemics may arise from contagion or atmospheric causes.

EPIDEN'DRA, a natural family of plants, of which the genus *Epidendrum* is the type.

EPIDEN'DRUM, the *tanellæ*. A genus of perennial plants. *Gynandria—Monandria*. Name from ἐπι, and δενδρον, a tree, because the species grow parasitically on the trunks or branches of trees. Hot climates.

EPIDER'MIS, ἐπιδερμις, from ἐπι and δερμα, the true skin. The cuticle or scarf-skin of an animal or plant.

EPIDER'MOID, from ἐπιδερμις and ειδος, resembling the epidermis. The word should be written *epidermatoia*.

EPIDID'YMUS, ἐπιδιδυμις, from ἐπι and διδυμος. A hard, vascular body, principally composed of minute elastic tubes (*tubuli seminiferi*), intricately convoluted, and placed at the outer and back part of the testis.

EP'IDOTE, from ἐπιδοσις, addition. A mineral of a green colour, and crystallised structure, thus named from an enlargement of the base of the prism in one direction: named also *pistacite*, from its colour. Found in primary rocks throughout Europe, Comp. 37 silica, 27 alumina, 14 lime, 17 oxide of iron, and 1·5 oxide of manganese. There are many varieties.

EPIGÆ'OUS, ἐπι, upon, and γη, earth. In *botany*, applied to plants which grow close to the earth.

EPIGAS'TRUM, ἐπιγάστριον, from ἐπι, and γαστηρ, the belly. The upper part of the abdomen or belly, immediately over the stomach.

EP'IGENE, from ἐπι, and γινομαι, to produce. A term which, with pseudomorphous, is applied to forms of crystals not natural to the substances in which they are found.

EPIGEN'ESIS, ἐπιγενεσις, from ἐπι, and γινομαι, to generate. A name given to that theory of generation which regards the fœtus as the joint production of matter furnished by both sexes.

EPIGLOT'TIS, ἐπιγλωττις, from ἐπι, and γλωττα, the tongue. The cartilaginous valve at the root of the tongue, which falls on the glottis, or superior opening of the larynx. Its use is to close the glottis during the act of swallowing, and thereby prevent the passage of food into the trachea or windpipe.

EP'IGRAPH, ἐπιγραφη, from ἐπι, and γραφω. An inscription on a monument explanatory of its use, its destination, or pointing out the time of its erection, &c.

EPIG'YNOUS, ἐπι, upon and γυνη, a female. In *botany*, any organ growing upon the summit of the ovarium.

EPINYC'TIDES, ἐπινυκτιδες, from ἐπι, and νυξ, night. A fugacious kind of nettle-rash, which arises during the night, and disappears in the morning.

EPIPET'ALOUS, Lat. *epipetalus*. An epithet applied to stamina and glands which are attached to the corolla of a flower.

EPIPHA'NY, ἐπιφανια, from ἐπι, and φαινω, to appear. A church festival, celebrated on the twelfth day after Christmas, in commemoration of the Saviour's being manifested to the wise men of the East, by the appearance of a miraculous star.

EP'IPHRAGM, from ἐπι, upon, and φραγμα, a partition. The slender membrane which sometimes shuts the peristome of mosses.

EPIPHYL'LOSPER'MOUS, from ἐπι, φυλλον, a leaf, and σπερμα, seed. An epithet applied to plants which bear their seed on the back of the leaves. These plants are cryptogamic, and form a natural family, under the name of *epiphyllospermæ*.

EPIPHY'LLOUS, ἐπι and φυλλον, a leaf. In *botany*, something inserted upon a leaf.

EPIPH'YSIS, ἐπιφυσις, from ἐπι, upon, and φυω, to grow; a portion of bone growing upon another bone, but not forming a part of it, as is the case of *apophysis*.

EPIPLEX'IS, from ἐπι and πλεκω, to fold; a figure of rhetoric in which the speaker endeavours to convince by a gentle kind of upbraiding.

EP'IPLOCE, ἐπιπλοκη, implication; a figure of rhetoric by which one aggravation is added by due gradation to another.

EPIPLOCE'LE, from ἐπιπλοον, the omentum, and κηλη, a tumour; an omental hernia; a rupture produced by the protrusion of a portion of the omentum.

EPIP'LOIC, appertaining to the *epiploon* or omentum, as the *epiploic arteries*, which are branches of the gastro-epiploic artery distributed to the omentum.

EPIP'LOON, ἐπιπλοον, from ἐπιπλεω, to sail over; the omentum, which sails as it were upon the intestines.

EPISCE'NIUM, ἐπισκηνιον, a place on the top of an ancient theatre where the machinery was kept.

EPISCOPA'LIANS, an appellation given to those who adhere to the episcopal form of church government.

EP'ISODE, ἐπισωδη, an incident, story, or action, introduced into a poem, and connected with, but separable from, the main action. The episode was originally something rehearsed between the parts of a chorus in ancient tragedy, to amuse the audience.

E'PISPERM, ἐπι and σπερμα, seed. In *botany*, the integuments of a seed.

EPISTATES, ἐπιστατης, the title of the presidents of the two great Athenian councils, the Ecclesia and the Senate of the five hundred.

EPIS'TROPHE, ἐπιστροφη, from ἐπι and στρεφω, to turn; a figure in rhetoric wherein several successive sentences end with the same affirmation: thus, "Are they Hebrews? So am I. Are they Israelites? So am I. Are they of the seed of Abraham? So am I," &c.

EP'ISTYLE, from ἐπι and στυλος, a column; a term used by the ancient Greek architects for what is now called the *architrave* (q. v.).

EPIT'ASIS, from ἐπιτεινω, to strain; the second division of an ancient dramatic poem; that in which the plot entered upon in the *protasis* was carried on and strained, or worked up, till it arrived at its height in the *catastasis*. The term has also been used in medicine for the increase of the paroxysm of a fever, and in rhetoric for that part of an oration in which the speaker addresses himself most forcibly to the passions.

EPITATH'IDES, ἐπι and τιθημι, I place. In *architecture*, the crown of an entablature.

EPIT'ROPE, ἐπιτροπη, from ἐπι and τρεπω, to turn; a figure in rhetoric whereby something is granted with a view to gain an advantage.

EPIZOOT'IC, from ἐπι, upon, and ζωον, an animal; an epithet for a disease which prevails among cattle in the same manner as an epidemic does among men.

EPIZOO'TY, an epizootic disease of which murrain is an instance.

EP'OCH, } from εποχη, a stop; a chro-
EP'OCHA, } nological term for the point of time at which a new computation is begun and from which dates are numbered, such as the Creation, 4004 B.C.; the Deluge, 2348 B.C.; the taking of Troy, 1184 B.C.; the building of Rome, 753 B.C.; the Birth of Christ, the commencement of the Christian era; the Hegira, 622 A.D.

EP'ODE, επωδη, from ἐπι and ωδη, an ode; the third or last part of the *ode* (q. v.). The term is now commonly used for any little verse which follows one or more great ones. Thus a pentameter after a hexameter is an epode.

EPOP'TÆ, ἐποπται, a name for those who were admitted to view the greater mysteries of the Greek theology.

EPROUVETT'E (French), an instrument for ascertaining the relative strength of different kinds of gunpowder.

EP'SOM SALTS, a popular name for sulphate of magnesia, formerly obtained by boiling down the mineral water found in the vicinity of Epsom, but now prepared from bittern and magnesian limestone.

EPULO'NES, officers among the Romans who had charge of the *epulum* or sacred banquets for Jupiter and the other gods.

E'QUABLE. In *mechanics*, a term applied synonymously with *uniform*. Thus *equable motion* is motion neither accelerated nor retarded. Motion is also said

to be *equably* accelerated or retarded when it is increased or decreased by equal quantities in equal times.

EQUAL'ITY, a term of relation between things equal in magnitude, quantity or quality. The sign now commonly used to express equality is = but some writers use $\propto$, and others χ.

E'QUANT, a circle in astronomy, for regulating and adjusting certain motions of the planetary bodies.

E'QUATED BODIES, or *Gunter's Scale;* two lines which relate to the comparison of the sphere and the regular bodies. They are seldom given on modern scales.

EQUA'TION, that disposition of quantities by which one set is made equal to another however differently expressed. Thus $2l.\ 16s.\ 6d. = 678d.$ is an equation, so is $y^n + y = a\,b + c - d$. Equations are said to be *literal* when the quantities are expressed by letters, and *numerical* when the co-efficients of the unknown quantities and the absolute terms are given in numbers. They are *simple*, when the unknown quantities enter only in the first degree; *quadratic*, when they enter in the second degree; *cubic*, when they enter in the third degree, &c. (*See* DEGREE.) In *astronomy*, the term *equation* is used to express the amount of correction to be added to or subtracted from the mean position of a heavenly body to obtain its true position; hence *equation of time* denotes the difference between mean and apparent time, or it is the quantity to be added to or subtracted from the mean time, to find the true astronomical time. The equation of time arises from two causes, the eccentricity of the earth's orbit, and the obliquity of the ecliptic. *Equation of payments* is an arithmetical process for finding the time to pay at once several debts due at sundry times, and bearing no interest till after the time of payment, so that no loss shall be sustained by either party.

EQUA'TOR, Lat. *æquator*, the equalizer; a great circle of the sphere, equally distant from the two poles of the world, and dividing it into two hemispheres, the northern and southern. It is called the *equator*, because when the sun is in this circle the days and nights are of equal length in all parts of the world. For this reason the celestial equator is also called the *equinoctial* (q.v.), and when drawn on maps and globes, it is called the *equinoctial line*, or simply the *line*. From this circle, referred to the earth, are reckoned the degrees of latitude, both north and south. Epithet *equatorial*, as the *equitorial regions*.

EQUATO'RIAL, an astronomical instrument contrived for keeping an object in view for any length of time, notwithstanding the diurnal motion.

EQUERY, } from Fr. *escurie*. 1. A grand
E'QUERRY, } stable.——2. An officer of the royal household under the master of horse. The equerries are five in number, and ride in the leading coach on grand occasions, and have a table provided for them.

E'QUES AURATUS, a knight bachelor called *auratus;* q.d., *gilt*, because anciently none but knights were allowed to beautify their habiliments of war with gold.

EQUES'TRIAN, from *equus*, a term now chiefly used in the phrase *equestrian statue*, which is the representation of a person on horseback. The *equestrian games*, the *ludi equestres* of the Romans, were horse races of five kinds: the plain horse-race, the chariot-race, the decursory race about funeral piles, the *ludi sevirales*, and the *ludi neptunales*. The *equestrian order* was the second rank in Rome next to the senators.

EQUIAN'GULAR, having equal angles, such as the square and all regular bodies. The term is also applied to two or more figures having equal angles.

EQUICRU'RAL, from *æquus*, equal, and *crus*, a leg; having equal legs, but longer than the base: *isosceles*.

EQUIC'ULUS, } the *Horse's Head;* a
EQUUS MI'NOR, } constellation of the
EQUU'LEUS, } northern hemisphere, representing, according to the poets, the horse which Mercury gave to Castor, and which he named *Celeris*. From the imperfect representation of the animal in this constellation it has also been called *equi lectio*. Number of stars 10.

E'QUIDIF'FERENT, having *equal differences:* applied in arithmetic to any series of quantities which proceed in arithmetical proportion, i.e. when the difference between the first and second, the second and third, the third and fourth, &c., terms is the same, as $1 + 3 + 5 + 7 + 9 +$ &c., is an *equidifferent series*. The term is also applied to crystals when the faces of the prism and each of the summits are different, but form a series, as 6. 4. 2.

E'QUILAT'ERAL, from *æquus*, equal, and *latus*, a side; equal-sided. A *bivalve* is said to be *equilateral* when a transverse line drawn through the apex of the umbo bisects the valve.—An *equilateral hyperbola* has the two axes equal to one another.

E'QUILIB'RIUM (Lat.), equipoise; a term used in mechanics for an equality of forces acting in opposite directions, whereby the body acted upon remains at rest, or technically, *in equilibrio*. In *fine arts*, equilibrium means the just poise or balance of an object, so as to appear to stand firmly.

E'QUIMUL'TIPLES, products arising from the multiplication of two or more primitive quantities by the same number or

quantity. The 3 *a* and 3 *b* are equimultiples of *a* and *b*. *See* MULTIPLE.

EQUINOCTIAL, EQUINOCTIAL LINE, THE LINE, } from *æquus* and *nox*, night; the great circle of the sphere under which the equator of the earth moves in its diurnal course, and to which, when the sun in his progress through the ecliptic comes, he makes equal days and nights all over the globe, as then he rises due east and sets due west. From this circle the declination of the heavenly bodies is counted (*see* EQUATOR and EQUINOX).—*Equinoctial colure* is that passing through the equinoctial points (*see* COLURE).—*Equinoctial dial*, one whose plane is parallel to the equator.—*Equinoctial points* are the two points wherein the equator and ecliptic intersect each other (*see* EQUINOX). — *Equinoctial gales*, storms which are observed generally to take place about the time when the sun crosses the equinoctial.

E'QUINOX, from *æquus*, equal, and *nox*, night; the precise time at which the sun enters one of the equinoctial points (the first point of *Aries* or *Libra*), for then, moving exactly in the equinoctial circle, he makes our days and nights equal. The sun enters Aries about the 21st of March, which is the *vernal* or *spring equinox*, and Libra about the 23rd of September, which is the *autumnal equinox*. The word *Equinoxes* taken absolutely in common language, generally signifies the equinoctial gales, and the small observed retrograde motion of the equinoctial points is what is termed, in astronomical language, the *precession of the equinoxes*.

E'QUIPAGE, from *equip*, the furniture of an army. *Camp equipage* includes tents and everything necessary for accommodation in camp. *Field equipage* consists of arms, artillery, waggons, tumbrils, &c. An army furnished with all its camp and field equipage is said to be *equipped* for service.

EQUI'RIA, equestrian games instituted by Romulus at Rome in honour of Mars.

E'QUITANT, Lat. *equitans*, riding; applied to leaves which are disposed in two opposite rows, and clasp or ride upon each other by their compressed base.

E'QUITES, plural of *eques*, a knight or horseman; the equestrian order among the Romans. The *equites* composed the Roman cavalry, and constituted the second order of nobility.

E'QUITY (*quasi æqualitas*), the impartial distribution of justice. Equity, in its true and general meaning, is the soul and spirit of all law; positive law is construed and rational law is made by it. In this equity is synonymous with justice. In English jurisprudence, equity is the law of reason, and a court of equity is one whose business it is to correct the operations of the literal text of the law, and supply its defects. Chancery is, or ought to be, such a court.

EQUIV'ALENTS. In *chemistry*, a term introduced by Dr. Wollaston to denote the primary proportions in which the various chemical bodies reciprocally combine, referred to a common standard, as oxygen or hydrogen, reckoned unity or 1·000. Dr. Dalton, who is justly considered the true author of the grand discovery of definite and multiple chemical ratios, calls these equivalent numbers *atomic weights*, when reduced to their lowest terms, oxygen or hydrogen being the radix of the scale. The following is—

A Table of all the Chemical Equivalents at present known, with their Symbols.

	Equivalents. Hydrogen = 1.	Equivalents. Oxygen = 1.	Symbols.
1. Aluminum .	10	1·25	Al.
2. Antimony .	65	8·125	Sb.
3. Arsenic . .	38	4·75	As.
4. Barium . .	69	8·625	Ba.
5. Bismuth . .	72	9·	Bi.
6. Boron . . .	20	2·5	B.
7. Bromine . .	78	9·75	Br.
8. Cadmium . .	56	7·	Cd.
9. Calcium . .	20	2·5	Ca.
10. Carbon . . .	6	0·75	C.
11. Cerium . .	48	6·	Ce.
12. Chlorine . .	36	4·5	Cl.
13. Chromium .	28	3·5	Cr.
14. Cobalt . .	30	3·75	Co.
15. Columbium .	185	23·125	Ta.
16. Copper . .	32	4·	Cu.
17. Fluorine . .	18	2·28	F.
18. Glucium . .	18	2·25	G.
19. Gold . . .	200	25·	Au.
20. Hydrogen .	1	0·125	H.
21. Iodine . .	125	15·625	I.
22. Iridium . .	96	12·	Ir.
23. Iron . . .	28	3·5	Fe.
24. Lead . . .	104	13·	Pb.
25. Lithium . .	10	1·25	L.
26. Magnesium .	12	1·5	Mg.
27. Manganese .	28	3·5	Mn.
28. Mercury . .	200	25·	Hg.
29. Molybdenum	48	6·	Mo.
30. Nickel . . .	28	3·5	Ni.
31. Nitrogen .	14	1·75	N.
32. Osmium . .	100	12·5	Os.
33. Oxygen . .	8	1·	O.
34. Palladium .	54	6·75	Pd.
35 Phosphorus	16	2·	P.
36. Platinum . .	96	12·	Pl.
37. Potassium .	40	5·	K.
38. Rhodium . .	45	5·625	R.
39. Selenium .	40	5·	Se.
40. Silicium . .	8	1·	Si.
41. Silver . . .	110	13·75	Aq.
42. Sodium . .	24	3·	Na.

	Equivalents. Hydrogen = 1.	Equivalents. Oxygen = 1.	Symbols.
43. Strontium .	44	5·5	Sr.
44. Sulphur . .	16	2·	S.
45. Tellurium .	32	4·	Te.
46. Thorium . .	60	7·5	Th.
47. Tin. . . .	58	7·25	Sn.
48. Titanium . .	24	3·	Ti.
49. Tungsten .	100	12·5	W.
50. Vanadium .	68	8·5	V.
51. Uranium .	217	27·12	U.
52. Yttrium . .	32	4·	Y.
53. Zinc . . .	32	4·	Zn.
54. Zirconium .	30	3·75	Zr.

The foregoing enumeration may again be very properly subdivided and classified according to their analogies, as the greater number of them fall under the character of metals. Some, therefore, have been called *metalloids*, as only in certain respects they resemble metals, but in others are greatly different; others, again, by entering into peculiar and distinct saline combinations, have been termed *halogens*, of which common salt is the type; while a third class have been designated *gazolytes*, having never been either liquefied or solidified, but when isolated always presenting themselves in the form of permanent gases. The following, therefore, is the classification adopted by Berzelius:

I. *Metalloids.*	II. *Halogens.*	III. *Gazolytes.*
Sulphur.	Chlorine.	Oxygen.
Phosphorus.	Iodine.	Hydrogen.
Carbon.	Bromine.	Nitrogen.
Boron.	Fluorine.	

For the classification of metals, *see* METALS.

EQUIVALVE. In *conchology* (from *æquus* and *valva*), a term applied to bivalves when the valves are found exactly alike as to their length, width, depth, &c.: opposed to *inequivalve*.

EQUU'LEUS, EQUIC'ULUS, or E'QUUS MINOR. } In *astronomy*, *the little horse*; one of Ptolemy's constellations. Also, *Equuleus* signifies a species of rack used as an instrument of torture.

E'QUUS, the *horse*; a genus of solipede quadrupeds: family *Pachydermata ordinaria*, Cuv., *E. caballus*, the horse, properly so called; *E. hemionus*, the dzigguetai of Central Asia; *E. asinus*, the ass, a native of Central Asia also; *E. zebra*, the zebra of the South of Africa; *E. quaccha*, the quagga of South Africa; *E. montanus*, the onagga of Africa; *E. marinus*, Lin., the sea-horse or walrus.

ERA, Lat. *æra*; a particular reckoning of time, counting from some remarkable epoch. (The terms epoch and era are frequently confounded, both in speaking and writing).

ER'ASED. In *heraldry*, an epithet for the head or limb of a creature violently torn from the body, so as to give it a jagged appearance.

ERAS'TIANS, the followers of Erastus, a German divine.

ER'ATO, ἔρως, love. In *ancient mythology*, the muse who presided over love poetry.

EREC'TILE, from *erigo*, to set upright; a term applied to a tissue peculiar to some parts of the animal body, as the nipples, lips, iris, &c. It is formed of veins, arteries, and nervous filaments.

ERECT'OR. In *anatomy*, a muscle, the office of which is to erect or raise the part into which it is inserted.

ERETHI'SM, from ἐρεθίζω, to irritate, preternatural sensibility of the animal system.

ER'GOT, Fr. *ergote*, a spur. In *farriery*, a stalk like a piece of soft horn, situated behind and below the pastern joint.—In *agriculture*, a black curved morbid excrescence, like the spur of a fowl, found in the spike of the rye (*Secale cerealis*, Lin.), especially in hot climates, when great heat suddenly succeeds to much moisture. The disease is caused by a small insect which penetrates the grain, feeds on its amylaceous part, and leaves its poison in the parenchyma. The excrescence is extensively used in medicine, under the name of the *ergot of rye*.

ERI'CA, the *heath*; a genus of permanent plants, of which Don enumerates 402 distinct species, besides varieties. *Octandria—Monogynia*. There are two British species, the Cornish and common heath, or *ling*, of which however there are many varieties. Almost all the other species are greenhouse plants.

ERID'ANUS, THE RIVER PO, } a constellation of the southern hemisphere. This immense constellation is fabled to derive its name from Phæton's tumbling into the river Eridanus or Po. It contains 84 stars, of which Achernar is the most brilliant. Its course winds from Orion to Cetus, and thence to Phœnix.

ERINA'CEUS, the *hedgehog*; a well-known genus of insectivorous mammalia. One species is common in the woods and hedges of Europe. It eats fruit as well as insects. Its skin was formerly used to dress hemp.

ERIOM'ETER, from ἔριος, wool, and μέτρον, measure; an instrument for measuring the fibres of wool, &c.

ER'MINE. 1. In *zoology*, a species of weasel, the *Mustila candida*, Lin., abundant in all cold countries, especially Russia, Norway, and Lapland. In summer it is brown, and is then called the *stoat*, but in winter it is snowy white, and its

fur is then highly prized, and constitutes the *ermine* of commerce.——2. In *heraldry*, the word *ermine* denotes a white field or fur powdered and interspersed with black spots. It is supposed to represent the linings and doublings of mantles and robes.

Ero'ded, Lat. *erodo*, I gnaw. In *zoology*, when an edge is irregularly jagged.

Ero'se, Lat *erosus*, jagged; applied to leaves irregularly notched.

Eroto'many, } from ἐρως, love, and
Erotomania, } μανια, mania; that species of insanity which is the effect of love, or which shows itself in erotic passion.

Erpetology. *See* Herpetology.

Er'rhine, ἑρρινα, from ἐν and ῥιν, the nose; a substance which excites sneezing when snuffed up the nose. Medicines of this soft are called *sternutatories*.

Er'ror. In *law*, signifies an error in pleading, or in the process, and the writ which is brought for a remedy thereof is called a *writ of error*.

Erse, the name given to the language spoken by the Scotch Highlanders.

Erup'tion, from *erumpo*, a violent bursting forth of contained matters, as the *eruption* of lava from a volcano. In *medical language*, an eruption is the sudden appearance of a disease on the skin, as an *eruption* of *measles*, *small-pox*, &c. The term applies both to the disease as developed on the skin, and to the act of its breaking out.

Erysip'elas, ἐρυσιπελας, from ἐρυω, to draw, and πελας, adjoining. *Ignis sacer*; St. Anthony's Fire; the Rose; a particular form of inflammation which occurs chiefly in the skin. It takes the name erysipelas from its tendency to spread to the neighbouring parts.

Erysipela'toid, from ἐρυσιπελας, erysipelas, and εἰδος, like; resembling erysipelas.

Er'ythem, } from ἐρυθρος, red; the
Erythe'ma, } red-rush; a nearly continuous redness of some portion of the skin, attended with disorder of the constitution, but not contagious. This disease, usually symptomatic of debility, developes itself commonly in large red patches, which may be mistaken for erysipelas.

Erythri'na, the *Coral-tree*; a genus of plants mostly arborescent. *Diadelphia—Decandria*. Name from ἐρυθρος, red, in allusion to the beautiful scarlet blossoms of some of the species. Warm climates.

Escala'de, from *scala*, a ladder; an attack made by troops on a place, made by scaling the walls of the fortifications, filling up the ditches with fascines, and entering by ladders.

Escal'op, } the *scollop*; a bivalve
Escal'lop, } whose shell is regularly indented.

Escapa'de (Fr. naturalised). An impropriety of speech or behaviour of which the person is unconscious.

Escape'ment, a mechanical contrivance for transmitting the maintaining power of a clock or watch to the regulator, whether balance or pendulum, in order to restore the loss of motion, in every vibration arising from the friction of the acting parts and the resistance of the air.

Escar'p, } Fr. *escarpement*. 1. In
Escar'pment, } *fortification*, the exterior slope facing fortified works; the interior slope is the *counterscarp*.——2. The steep face of a high ridge of land.

Es'char, ἐσχαρα, from ἐσχαροω, to scab over; the crust or scab occasioned by the application of a caustic to a part of the animal body.

Es'chara. In *malacology*, the fifth order of zoophytes in Linnæus' system. Each polypus is contained in a calcareous or horny shell, without any central axis.

Escharot'ic, from *eschar*; a caustic application, or one which has the power of forming eschars when applied directly to the parts of an animal body, as nitrate of silver.

Esche'at, from Fr. *echeoir*, from Norm. *escheir*, to happen; any possession which falls to a lord of fee within his manor, either by forfeiture, death of tenant, failure of heirs, or other contingency.

Escrol'l. In *heraldry*, that exterior ornament of an escutcheon representing usually a slip of paper or parchment, on which the motto is inscribed.

Es'crow, Fr. *écreu*, scroll. In *law*, a deed delivered to a third party, to be the deed of the party making it, upon a future condition, when a certain thing is performed.

Es'cuade, vulgarly *squad*; a military term for the third or fourth part of a company, so divided for mounting guard.

Es'cuage, from Norm. *escu*, a shield; service of the shield, called also *scutage*; Lat. *scutum*, a shield; a species of feudal tenure, by which the tenant was bound to follow his lord to war.

Escu'lic Acid, a peculiar acid found by Bussy in the bark of the horse-chesnut, *æsculus*.

Escutch'eon, from Norm. *escusson*, from *escu*, a shield. A shield on which the armorial insignia of a family are painted. It is in imitation of the shields anciently used in war.

Esoph'agus οισοφαγος, from οιω and φαγω; the canal or passage leading from the pharynx to the stomach, and through which the food passes to the stomach written often *œsophagus*.

ESOTER'IC, from ἐσωτερος, interior; an epithet applied to the private instructions and doctrines of Pythagoras; opposed to *exoteric* or public.

ESPAR'TO, the Spanish name of a species of rush, the *Stipa tenacissima*, Lin., described by Pliny under the name of *Sparta*. It is extensively used in the manufacture of cables, and various things of a fibrous nature, especially *alpergates*, a light sort of shoes worn by the Valencian peasantry.

ESPLANA'DE, Fr. from Lat. *planus*. The empty space between the glacis of a citadel and the first houses of the town; or the glacis of the counterscarp or covert-way towards the champaign.

ES'PLEES. In *law*, the general products which lands yield, or the profit which is to be made of a thing.

ES'QUIRE, from Fr. *escuier*, and *scutifier*, and Lat. *armiger*, armour-bearer; the armour-bearer or attendant on a knight. The dignity is next below a knight.

ESSE'NES, a sect among the Jews in the time of our Saviour.

ES'SERA, from *eshera*, an Arabic word, literally meaning *papulæ;* a species of cutaneous eruption, distinguished by broad, shining, smooth, red spots; differing from the nettle-rash in being elevated.

ES'SOIN. In *law* (from Norm. *exon*, excuse), an excuse for a person summoned to appear and answer in a court, on account of sickness or other reasonable cause. In England the three first days of a term are called *essoin-days*, these being allowed for the appearance of suitors.

ES'SORANT. In *heraldry*, a term for a bird standing on the ground with its wings expanded, as if it had been wet, and was drying itself.

ESTA'BLISHMENT OF THE PORT. The interval between the time of high water at any given port, and the time of the moon's transit immediately preceding, when the moon is in syzygy.

ESTACA'DE (Fr.), a military term for a dike constructed with piles in the sea, a river, or morass, to oppose the entry of troops.

ESTAFFETTE', } a name given on the
ESTAFETTE, } continent of Europe to a state messenger.

ESTATE. In *law* (from *status*), the interest which a man has in lands, tenements, &c. *Real estate* consists of lands or freeholds; *personal estate* consists in chattels or moveables.

ESTIVA'TION. In *botany* (from *æstas*, summer), the disposition of the petals within the floral gem or bud. These are convolute, imbricate, conduplicate, or valvate.

ESTOP'PEL, from Fr. *estouper*, to block up. In *law*, an impediment or bar of action arising from a man's own act or deed, against which he is forbidden to plead.

ESTO'VERS. In *law* (from Norm. *estoffer*, to store), reasonable allowance out of lands or goods for the sustenance of a felon in prison, for a woman divorced, &c. The term is more commonly taken for the allowance of wood to tenants, called from the Saxon house-bote, plough-bote, fire-bote, cart-bote, &c.

ES'TRAPPADE, Fr. *strappado*. The defence of a restive horse, when he rises before, and yerks out his hind legs furiously.

ESTREAT'. In *law*, a copy, note, or an extract of some original record, especially that of fines.

ES'TREATE, Norm. *estraite*. A law term for the copy of an original writing.

ESTRE'PEMENT. In *law* (from Norm. *estreper*, to waste), the stripping of land by a tenant to the prejudice of the owner.

ESTRICH, } the fine soft down which
ESTRIDGE, } lies immediately under the feathers of the ostrich (q. v.).

ETC., an abbreviation of *et cætera*, and so on, written also &c.

ETCH'ING, from Germ. *etzen;* a mode of engraving on copper, &c., the lines being corroded in with nitric acid, instead of being cut with a graver, and which for many purposes is superior to any point engraving. The name is also applied by the artist to the lines drawn through the *etching-varnish* upon the plate by the stylus, or *etching-needle*, which are afterwards to be deepened by aquafortis.

ETE'SIAN, from ἐτησιος, fixed, applied to certain periodical winds, answering to the monsoons of the East Indies. The etesian winds mentioned by the Greek and Roman writers, are the periodical winds of the Mediterranean.

E'THER, Lat. *æther*. 1. In *chemistry*, a volatile, inflammable liquid, prepared by the distillation of alcohol with an acid: the sulphuric ether is the best known.—2. The hypothetical subtile fluid or gas which fills space, and which is infinitely more rare than atmospheric air. From this we have the epithet *ethereal*, in ethereal regions, &c.; and the same term is applied in pharmacy to any highly rectified essential oil or spirit.

E'THIOPS, a term applied by the old chemists to several preparations, because they are black (like the Ethiopian's skin). Thus: *E. martial*, the black oxide of iron; *E. mineral*, the black sulphuret of mercury; *E. per se*, the black oxide of mercury, formed by agitation, with access of air. The term is obsolete.

ETH'MOID, from ἠθος, a sieve, and εἰδος, like; sieve-like: applied to a bone of the nose, because it is perforated like a sieve or sponge.

ETHNOG'RAPHY, ἐθνος, nation, and γραφω,

I describe; the science of the manners and customs of nations.

Ethnol'ogy, from ἔθνος, a nation, and λογος, discourse; a treatise on the rise, decline, and fall of nations.

Eti'olate, Fr. *etioler*; to blanch by concealment from the light: hence *etiolation*, the operation of whitening by concealment from light, as the inner leaves of endive and lettuces when tied up, and celery when earthed.

Etiquette' (Fr.), a ticket; originally a little piece of paper, mark, or title, affixed to a bag or bundle, expressing its contents; subsequently an account of ceremonies; at present forms of ceremony. The word took its present meaning in the old custom of delivering tickets containing the orders of ceremony to be observed on public occasions.

Et'rupa, a crane and pully, formerly used in France as an instrument of torture.

Etrus'can, having reference to the ancient inhabitants of Tuscany prior to the Romans.

Etymol'ogy, from ἔτυμος, true, and λογος, word; that branch of philology which treats of the origin and derivation of words. The term as used in grammar implies not only derivation, but also inflection of nouns and verbs.

Et'ymon, ἔτυμον, from ἔτυμος, true; a primitive word.

Eucalyp'tus, a genus of trees. *Icosandria — Monogynia.* Name from εὖ and καλυπτω, to hide, in allusion to the great size of the species, especially the brown gum-tree. New Holland.

Eu'chlorine, from εὖ, very, and χλωρος, green; the protoxide of chlorine, thus named by Sir H. Davy from its vivid green colour.

Eu'chlorite, a mineral thus named, from εὖ, very, and χλωρος, green, on account of its lively green colour. It is remarkable as containing water and copper.

Euchol'ogy, εὐχολογιον, from εὐχη, a prayer, and λογος, discourse; the formulary or ritual of the Greek church, in which is prescribed the order of ceremonies, sacraments, and ordinances.

Eu'clase, the prismatic emerald, thus named from εὖ, easily, and κλαω, to break, because easily broken, or rather divided into laminæ. It has been confounded with the emerald on account of its green colour. It contains silica, alumina, glucina, and the oxides of iron and tin.

Eudiom'eter, from εὐδιος, purity, and μετρον, measure; an instrument for ascertaining the quantity of oxygen contained in any given bulk of elastic fluid, originally applied in experiments upon atmospheric air. The oxygen is absorbed by nitrous gas, or spongy platinum, and the remainder measured, or a definite quantity of hydrogen is introduced into a tube containing a known portion of atmospheric air, and the mixture exploded by passing an electric spark through it. Ure's Explosive Eudiometer is perhaps the most convenient, and it is the cheapest.

Eudiom'etry, the operation of ascertaining the purity of air by means of an eudiometer (q. v.).

Eug'enia, an extensive genus of trees. *Icosandria—Monogynia.* Thus named by Micheli, in honour of Prince Eugene of Savoy. The clove-tree, the Malabar apple-tree, the Malay plum-tree, &c., are species. All the species are stove-plants.

Euharmon'ic, from εὖ, well, and harmonic; producing harmony well, as the *euharmonic* organ.

Euni'ce, a genus of *Annulata*. Order *Dorsibranchiata*. The *E. gigantea*, Cuv., is the largest of the known annulata, being upwards of four feet. It is found in the sea of the Antilles.

Eupato'rium, an extensive genus of plants, mostly perennials. *Syngenesia—Poly. æqualis.* Name εὐπατωριον, the hemp agrimony (the only British species), from Mithridatus Eupator, who brought it into use as a counterpoison; but some derive the name *quasi pepatorium*, from ἡπαρ, the liver, because the plant was said to cure diseases of the liver. Temperate climates.

Eupa'tridæ, εὐπατριδαι. In *ancient history*, the nobles of Attica.

Eu'phemism, εὐφημισμος, from εὖ, well, and φημι, to speak; a rhetorical figure, in which a soft or agreeable word or expression is substituted for one which is offensive to delicate ears.

Eu'phony, εὐφωνια, from εὖ, and φωνη, voice; an easy and smooth enunciation of words. Euphony is sometimes obtained at the expense of grammatical accuracy, by omission and substitution of letters in words. The Greek language abounds with such euphonies.

Euphor'bia, the *Spurge;* an extensive genus of plants. *Dodecandria—Digynia.* Named in honour of Euphorbius, physician to King Juba. Some species are shrubby, others are herbaceous, and many are succulent. All parts of the world.

Euphorbia'ceæ, a natural tribe of plants of which the genus *Euphorbia* is the type.

Euphor'bium, a gum-resin obtained from a perennial species of spurge, the *Euphorbia officinarum.* It is imported from Ethiopia, Libya, and Mauritania.

Euphra'sia, the *Eyebright;* a genus of hardy annual plants. *Didynamia—Angiospermia.* The name is corrupted from ευφροσυνη, from ευφων, joyful, because it exhilarates the spirits. Europe. Its English name is derived from its supposed efficacy in ophthalmic diseases.

Euri'pus, a space, in ancient architecture, which separated the seats of the circus from the arena.

Eurith'imy. In *architecture*, &c. *See* Eurithmy.

Eu'rithmy, ευρυθμια, from ευ, good, and ρυθμος, harmony; that agreeable harmony between the breadth, length, and height of the rooms of a fabric, which suddenly, where it is, taketh every beholder, by the secret power of proportion. The word is used also in painting and sculpture to imply ease, dignity, and elegance combined, and arising from just proportions in the composition.

Euroc'lydon, from ευρος, wind, and κλυδων, a wave; a tempestuous wind which drove ashore, on Malta, the ship in which Paul was sailing to Italy, Acts xxvii.

Eusta'chian. In *anatomy*, an epithet for the tube which forms a communication between the posterior nares and the ear, discovered by Eustachius.

Eusta'thians, a sect of heretics of the fourth century.

Eu'style, from ευ, beautiful, and στυλος, column; an intercolumniation of 2¼ diameters, which is one of the most beautiful arrangements that can be given to a row of columns.

Euter'pe, ευ and τερπω, I delight. In *mythology*, the muse which presided over wind instruments.

Eutych'ians, an ancient sect, who supposed the human nature of Christ to be merged in the divine.

Evan'tes, priests of Bacchus.

Evapora'tion, from *e* and *vapour;* conversion of any liquid into vapour. As an artificial operation, it is usually performed by applying heat to the substance, but it differs from distillation in its object, which chiefly consists in preserving the more fixed matters, while the volatile parts are dissipated and lost. The vessels accordingly differ also; evaporation being commonly performed in shallow vessels, and distillation in apparatus nearly closed from the external air. Evaporation, as a natural process, is of vast importance in the economy of nature. When a liquid is exposed to a free atmosphere, vapour rises continually from it, and the liquid at length disappears; and as very considerable portions of the earth's surface are covered with water, vast quantities of it are perpetually being converted into vapour, which, being lighter than atmospheric air, ascends, and afterwards, by partial condensation forms clouds, to be subsequently precipitated in rain, &c.

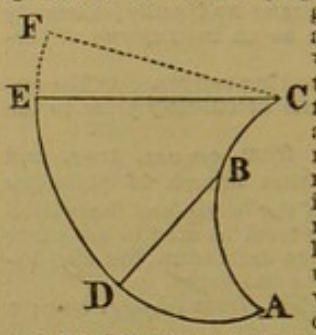
Evaporom'eter, from *evaporo* and μετρον, a hygroscope (q. v.).

Ev'ates. Strabo divides the British and Gaulish philosophers into three sects, *Bards, Evates,* and *Druids.* The bards were the poets and musicians, the evates the priests and naturalists, and the Druids were moralists as well as naturalists.

Evec'tion, from *eveho,* to carry away, a term in astronomy for one of the most considerable lunar irregularities caused by the action of the sun upon the moon.

E'ven Keel, a ship is said to be on an even keel when she draws the same abaft as forward.

Ev'olute, from *evolvo,* a particular species of curve first proposed by Huygens. Thus, if a thread be wound round the curve ABC, fixing one end at C, and carrying the other round to A; and if this thread be now unwound, keeping it tight upon the convexity of the curve, its end A will describe another curve, A D E, passing further and further from the former curve, A B C, as the thread unwinds, till it reaches the point C, where it is supposed to be fixed. If carried further to F, the arc E F will be part of a circle. The primary curve round which the thread was wound is the *evolute,* and the secondary curved formed by unwinding the thread is termed an *involute.* The term evolvent is by some used for *involute,* as being the curve evolved by the opening of the evolute.



Evolu'tion, from *evolvo.* 1. In *military tactics,* the motion made by a body of men in changing their position or form of drawing up. —— 2. In *geometry,* the equable evolution of the periphery of a circle, or other curve, is such a gradual approach of the circumference to rectitude, as that all its parts do meet together, and equally evolve or unbend. ——3. In *algebra,* &c., the extraction of roots, being thus opposed to *involution.*—— 4. In *natural history,* the theory of evolution supposes that the germs of all plants and animals were really all formed within the *first* of their respective kinds, and are not evolved by the process of generation: opposed to *Epigenesis.*

E'vovæ. In *music,* the vowels used with the ending notes of the ecclesiastical tones.

Ewry, from Sax. *hwer*, an officer of the royal household, who has charge of the table-linen, &c.

Exacerba'tion, from *exacerbo*, to irritate; a nosological term for any increase in the intensity of the symptoms of a disease recurring at intervals; synonymous with *paroxysm*.

Exæ'resis, from εξαιρεω, to remove; that branch of surgery which comprises all operations for the removal of whatever is injurious or superfluous to the body, as tumours, foreign bodies, &c.

Exalta'dos. In *Spanish history*, the name of the party attached to the *liberal* system of politics.

Exalta'tion. In *astrology*, the dignity which a planet acquires in certain signs of the zodiac, which dignity was supposed to give it a peculiar influence.

Exan'gy, } from εξ and αγγειον, a ves-
Exan'gia, } sel; a generic name for those diseases which consist in enlargement, breach, or other morbid perforation of a large blood-vessel without external opening, as *aneurism*, *varix*, and *cyania*.

Exan'thema, } εξανθημα, from εξανθεω,
Exanthisma, } to effloresce; a term in nosology for an eruption or rash which is accompanied with fever, and which has its regular periods of efflorescence and decline.

Exan'thesis, εξανθησις, from εξανθεω, to effloresce; properly, the breaking out of an efflorescence on the skin, but applied also to the efflorescence itself.

Ex'arch, from αρχος, a chief. 1. A prefect under the ancient Eastern emperors.——2. A legate of the Greek church.

Ex Cathedra, a Latin phrase, applied to every decision pronounced by one in the exercise of his peculiar authority; a professor in his lecture-room, a judge from the bench.

Ex'cellency, Lat. *excellentia*, a title of honour, formerly given to kings and emperors, but now given to governors, ambassadors, &c., who are elevated by virtue of particular offices. It is in no case hereditary or transferable, but belongs to the office.

Except'ion, from *ex* and *capio*, to take; a term in law implying a denial of what is alleged, and considered as valid by the other party, either in point of law or in pleading. It is a stay or stop to an action, and is either dilatory or peremptory.

Excerp'ta (Latin), things picked out; selections.

Excess, *excessus*. In *mathematics*, the difference between two unequal numbers or quantities.

Excha'nge. In *commerce*, a term generally used to designate that species of mercantile transactions by which the debts of individuals residing at a distance from their creditors are cancelled without the transmission of money. For instance, A in London owes B of Hamburgh a certain sum, and C of Hamburgh owes D of London a like sum; A then, instead of remitting the sum due to B, buys a bill upon Hamburgh, that is, he buys an order from D of London addressed to his debtor C of Hamburgh, and having indorsed it, transmits it to B of Hamburgh, who receives the money from C. Thus A of London pays D of ditto, and C of Hamburgh pays B of ditto, and yet no money is remitted. Bills of this nature are called *bills of exchange*, and these are *foreign* when drawn by the merchants of one country upon another, and *inland* when drawn in one part of a country upon another part. The *par of exchange* is the equivalency of a certain amount of the currency of one country in the currency of another country, supposing the currencies of both to be precisely of the weight and purity fixed by their mints. The *course of exchange*, that is, the variations *above* and *below par*, depends on the same causes that regulate the price of commodities generally, the quantity in the market. Thus if Hamburgh be proportionally little indebted to London, then are bills upon Hamburgh scarce, and the London merchant, who wants them to remit to Hamburgh, pays dearly for them, and complains that the exchange is *above par*; whereas the Hamburgh merchant can procure bills upon London *below par*, because they are proportionally plentiful. In London, bills of exchange are bought and sold by brokers. These meet for the purpose of transacting business in the *exchange*. The arithmetical rule by which we find how much money of one place is equivalent to a given sum of another, according to a certain course of exchange, is called simply *exchange*; but that by which we calculate the exchanges of different places with a view to ascertain the most advantageous mode of liquidating a foreign debt, is called *arbitration* of *exchange*. This is *simple* when the exchanges of three places are considered, and *compound* when four or more are concerned.

Exche'quer, an ancient court of record, intended principally to collect and superintend the revenues and debts of the crown, and so called from *scaccharium*, denoting a chequered cloth which covers the table. It consists of two divisions: the receipt of the exchequer, which manages the revenue, and *judicial*, which is subdivided into a court of equity and a court of common law.

Exchequer-bills are bills or tickets issued by the Exchequer, payable out of the produce of a particular tax, or generally out of the supplies granted for the year.

EXCI'SE, the name given to the taxes or duties levied on commodities consumed at home; distinct from *customs*, which are duties levied on imports and exports.

EXCITABIL'ITY, from *excito*. The condition of living bodies, wherein they can be made to exhibit the functions and phenomena which distinguish them from inanimate matter.

EXCŒCA'RIA, a genus of trees. *Diœcia—Tyiandria*. Two species, of which the aloes-wood (*Agallocha*) is one. The heart of this tree is the tambac or calombac, so much valued in India.

EXCOMMUNICA'TION, an ecclesiastical penalty or censure, whereby such persons as are guilty of any notorious crime or offence are separated from the communion of the church.

EXCRE'TION, from *excerno*, to separate. The expulsion, by the various outlets of the body, of such matters as would prove injurious if they remained; also, the matters excreted.

EX'CRETORY, from *excerno*, to separate. A term in physiology, applied to those ducts which convey the secreted fluids from the glands, some of which have several excretory ducts.

EXCUR'RENT, a botanical term, descriptive of the ramification of a body whose axis continues always in the centre.

EX'EAT, an ecclesiastical term for the permission granted by a bishop to a priest to go out of his diocese.

EXECU'TION, from *ex* and *sequor*. In *law*, a judicial writ grounded on the judgment of the court whence it issues, and is supposed to be granted by the court at the request of the party at whose suit it is issued, to give him satisfaction on the judgment which he hath obtained. In *fine arts*, the mode of performing a work of art, and the dexterity with which it is accomplished.

EXEC'UTIVE. In *politics*, that branch of the government which executes the functions of the state. The word is used in distinction from *legislative* and *judicial*.

EX'EDRA. 1. A small conversation-room, equivalent to the modern *boudoir*.——2. A building separate from a church, but within the limits of the consecrated ground.

EXEMPLIFICA'TION (*of letters patent*), a duplicate of them, made from the enrolment thereof, and sealed with the great seal.

EXEQUA'TUR (Lat.), an official recognition of a person in the character of consul, or commission agent, authorising him to exercise his powers in the country.

EXERGUE', from ἐξ, and ἔργον, work. A term used by medallists to denote the little space around and without the work or figures of a medal, for an inscription, device, date, &c.

EXFOLIA'TION, from *ex*, and *folium*, a leaf. A term, in *surgery*, for the scaling of a bone; the separation of a dead piece of bone from the living portion.

EXHAUS'TIONS. In *geometry*, the method of exhaustions is a way of proving the equality of two magnitudes by a *reductio ad absurdum*, showing that if one be supposed greater or less than the other, there will arise a contradiction. It was of frequent use among the old mathematicians.

EX'HEDRA, ἐξ, out of, and ἕδρα, a chair. In *ancient architecture*, a small room in public buildings for conversation.

EXHEREDA'TION, from *ex*, and *hæres*, an heir. A father's excluding a child from inheriting any part of his estate.

EXHIB'IT from *ex* and *habeo*. In *law*, a term used where a writing, being produced in a chancery suit, the commissioner certifies on the back thereof, that the same was shown to the witness at the time of his examination, and by him sworn to: the paper so certified is called an *exhibit*.

EXHIBI'TION, from *exhibeo*, a benefaction settled for the benefit of students in a university.

EX'IGENT, from *exigo*. In *law*, a writ which lies where the defendant cannot be found, nor any effects of his within the county, by which he may be attached or distrained in a personal action. The *exigent*, or *exigi facias*, requires the defendant to be proclaimed in five counties to render himself, and if he does not, he is then outlawed.

EX MERO MOTU, a phrase used in charters and letters-patent, to signify that they are granted by the sovereign *of his own free will and motion*, *i. e.* without petition.

EX'ODE, ἐξόδιον, the concluding part of a Greek drama.

EX'ODIUM, the end or denouement of the play, in Greek tragedy.

EX'ODUS, Ἔξοδος, from ἐξ, and ὁδός, way. The second book of the Pentateuch, so called because it describes the journey of the Israelites from Egypt.

EX-OFFI'CIO (Lat.), by virtue of office, and without especial authority. *Ex officio informations* may be filed by the attorney-general in virtue of his office, without applying to any court, and without giving the defendant notice.

EX'OGEN, an exogenous plant, which adds to its wood by successive external additions.

EXO'GENOUS, from ἔξω, without, and γίνομαι, to grow. A term applied to plants which increase by additions to the outside of their wood, in contradistinction to *endogens* (q. v.).

EX'OPTHALMY, } A species of ophthal-
EX'OPTHALMIA } my, in which the ball

of the eye protrudes to such a degree, that the eyelid cannot cover it.

Exophyl'lous, ἐξ, and φυλλον, leaf. Applied to the young leaves of exogens.

Exop'tiles, ἐξ, and πτιλος, feather. A term for dicotyledonous plants.

Ex'osmose, Gr. from ἐξ, and ωσμος, impulsion. The passage outward from within, of gases, &c., through porous membranes.

Exosto'sis, from ἐξ, and οστιον, a bone. A term in *surgery* and *botany* for any osseous or knotty excrescence.

Exote'ric, from ἐξωτερος, exterior. External, opposed to *esoteric*, internal. The exoteric doctrines of the ancient philosophers were openly professed and taught; the esoteric were secret, and taught only to a few.

Expan'sion, from *expansum*. The increase of bulk which a body undergoes by the recession of its particles from one another, so that it occupies a greater space, while its weight remains the same. Expansion is one of the most general effects of heat, being common to all bodies whatever, whether solid, liquid, or gaseous.

Expan'sive En'gine, a steam engine in which the expansive power of steam is taken advantage of and employed, instead of being dismissed at full power into the air or condenser. The steam is cut off before the end of the stroke, which is finished by the expansion of the steam which was let into the cylinder. There are also engines in which there are two steam cylinders employed, both connected to the same beam: in one the steam works at full force, and is afterwards discharged into the other, which is of a larger size, where it acts a second time by its expansive force.

Ex-par'te (Lat. for *partly*). A term used in the Court of Chancery, when a commission is taken out and executed by one side or party only, upon the other parties refusing or neglecting to join in the same.

Expect'ant, looking for. An *expectant* estate is one which is suspended till the determination of some particular estate. Estates of this kind are *remainders* and *reversions*.

Expecta'tion, from *expecto*. 1. In the *doctrine of chances*, the value of any prospect or prize depending upon the happening of some uncertain event.——2. In the *doctrine of life annuities*, the particular number of years which a life of a given age has an equal chance of enjoying, or the term which a person of a given age may justly expect to live.

Experimen'tal Philosophy, those branches of science, the deductions of which are founded on experiment or trial, as contrasted with the moral, mathematical, and reflective branches.

Experimen'tum Crucis (Latin), a leading or decisive experiment.

Explora'tion, from *exploro*. A term in medicine for the investigation of the *physical signs* of a disease, as opposed to the diagnosis derived from *symptoms*. Exploration is used chiefly in diseases of the thorax and abdomen.

Expo'nent, from *expono*. In *algebra*, the exponent or index of a power is the number which expresses the degree of power, or which shows how often a given power may be divided by its root before it becomes unity. Thus 2 is the exponent of x^2, and 4 of $x^4 = xxxx$.

Exponen'tial, from *exponent*. In *mathematics*, exponential curves are such as partake both of the nature of algebraic and transcendental ones. They consist of a finite number of indeterminate terms, but cannot be algebraically constructed. The exponential theorem is an expansion of $a^x = 1 + Ax + \frac{A^2x^2}{1\cdot2} + \frac{A^3x^3}{1\cdot2\cdot3} + \ldots$

where $A = 1 + \left\{ a - 1 - \frac{1}{2}(a-1)^2 + \frac{1}{3}(a-1)^3 - \text{&c.} \right\} x + \text{&c.}$

Ex Post Facto, a Latin phrase, used in *law* to denote something done after another thing that was committed before, and after the time it should have been done. An *ex post facto law* is one which operates upon a subject not liable to it at the time the law was made.

Expres'sed Oil, an oil obtained by pressing it out of the substance containing it, as olive oil from the olive, almond oil from the almond, &c.

Expres'sion, from *expremo*. 1. A mechanical operation by which the juices of plants and various fixed oils are obtained.——2. The indication of the state of the feelings, passions, and sensations, presented by the countenance, attitude, and gesture.——3. That manner and tone of voice in singing which gives life and reality to ideas and sentiments; the modulation of voice suited to any particular subject.

Exsert'ed, Lat. *exsertus*, protruding; applied in botany in opposition to *enclosed*.

Exstip'ulate, from *ex* and *stipula*. A botanical term applied to plants destitute of stipules.

Exten'sion, from *extend*. A term in physics for that essential property of a body by which it occupies some part of space. *Figure* is the result of extension.

Exten'sor. In *anatomy*, a muscle which serves to *extend* any part; the name is opposed to *flexor*.

Extent. In *law*, a writ of execution

or *extendi facias*, commanding a sheriff to value the lands of a debtor. Sometimes the term is taken as the act of the sheriff or other commissioner in making the valuation upon the writ.

EXTER'MINATION. In *algebra*, surds, fractions, and unknown quantities, are *exterminated*, eradicated, or extirpated by the rules for reducing equations.

EXTINC'TION, the trituration of Mercury with some other substance till the globules disappear, is sometimes called the *extinction* of the mercury, but the word *killing* is more commonly used.

EXTIN'GUISHMENT. In *law*, extinction; consolidation of an estate with another.

EXTIP'ULATE, Lat. *extipulatus*, without stipulæ; applied to stems of plants.

EXTRACT', from *ex* and *traho*, to draw. 1. In *literature*, a piece selected from a book, &c.——2. In *law*, a copy or draught of a writing.——3. In *chemistry*, the soluble matter obtained from vegetables by decoction, reduced by careful evaporation of the menstruum to a pasty or solid consistence. Fourcroy made many researches upon vegetable extracts, and was led to the conclusion that they all had a common basis, which he called the *extractive* principle; but Chevreul and others have since proved that this pretended principle is a heterogeneous and very variable compound. The subject, however, still requires further examination.

EXTRAC'TION, from *extract*. In *arithmetic* and *algebra*, the extraction of roots is the operation of finding the root of a given number or quantity; also the rule by which the operation is performed.

EXTRA'DOS, the outside of an arch of a bridge, vault, &c., in contradistinction to *intrados*.

EXTRAFOLIA'CEOUS, Lat. *extrafoliaceous*, underneath the leaf; applied to stipulæ which are below the footstalk, and external with respect to the leaf.

EXTRAV'AGANTS. In *ecclesiastical history*, certain decretal epistles which were published after the Clementines, and not at first arranged and digested with the other papal constitutions.

EXTRAVAGAN'ZA. In *music*, the Italian word for any wild and incoherent composition. The term is used also for a species of irregular dramatic compositions, generally of the burlesque kind.

EXTRE'ME, Lat. *extremus*, last. 1. In *logic*, the *extremes* of a syllogism are the predicate and subject.——2. In *mathematics*, the *extremes* of a proportion are the first and last terms.——3. In *music*, employed in describing those intervals in which the diatonic distances are increased or diminished by a chromatic semitone. 4. *Extreme unction*, is one of the seven sacraments of the Romish Church.

EXTRE'MITY, Lat. *extremitas*, the utmost point; the *extremities* of the body, in *painting* and *sculpture*, are the head, hands, and feet, but in *anatomy* the term is applied to the limbs, as distinguishing them from the head and trunk.

EXU'VIÆ, Lat. from *exuo*, to strip off. The cast off skins of those animals which change their skin by a natural process, as the sloughs of serpents. The term has also been extended to shells, &c., and in geological language to all animal remains found in a petrified state in the earth; fossils.

Ex Vo'to (Latin), a votive gift, such as a picture dedicated to a temple.

EYE, the organ of sight, from Sax. *eá* or *ey*, water, an island. The word has many trivial applications derived from the form, uses, &c. of the eye. Thus we speak of the *eye* of a peacock's feather, the *eye* of a needle, of *hooks* and *eyes* (the eyes being the catches for the hooks), and we apply the word eye in a very similar sense to certain loops in block and tackle apparatus. The *eyes of a ship* are the parts which are near the hawse-holes, particularly in the lower apartments. The *eyes of a plant* are the buds from which shoots proceed. The *eyes of a potato*, are those points at which the new sprouts issue, but the *eye of an apple*, &c., is the depression opposite the stalk; and the bud or shoot inserted into a tree by way of graft, is an *eye*. The *eye of an anchor* is the hole wherein the ring of the anchor is put into the shank. The *eye of a block strop* is the place by which it is fastened or suspended to any particular place upon the sails; and that part of a stay which is formed into a collar to go round the mast-head, is termed the *eye of the stay*. In *architecture*, any round window made in a pediment, an attic, the reins of a vault, &c., is called an *eye;* and an aperture at the top of a dome, usually covered by a lantern, is termed the *eye of the dome*. Similarly the centre of a volute is called the *eye*.

EYE'-BOLT. In *ships*, a bar or bolt of iron with an eye in one end of it, formed to be driven into the deck or sides for the purpose of hooking tackle to.

EYE'STONE, a small calcareous stone used for taking substances from between the lid and ball of the eye.

EYE'TOOTH, the two upper cuspidati, thus called because the fangs extend up to near the orbit.

EYRE, Lat. *ites*, journey. In *law*, signifies the court of justices itinerant.

F.

F, the sixth letter of the alphabet, as a numeral denotes 40, and with a dash over it, thus, F, it stands for 40,000. In *music*

it stands for the bass-clef, and frequently for *forte*, as *ff* does for *forte forte*. F is also the nominal of the fourth note in the natural diatonic scale of C. In *medical prescription*, F. or ft stands for *fiat* or *fiant*, let it, or them, be made.

Fa. In *music*, one of the syllables invented by Guido Aretine to mark the fourth note of the modern scale, which rises thus, *ut, re, mi, fa*. It is either flat or sharp, the flat marked thus ♭, the sharp thus ♯, and the natural thus, ♮, and called *biquadro*.

Fa'ba, the bean. The Falisci, a people of Hetruria, called it *Naba*, whence Latin *faba*.

Faba'ciæ, Faba the type; an extensive natural order of plants.

Fa'bian, an epithet signifying that line of military tactics which declines the risking of a battle in the open field, but seeks every opportunity of harassing the enemy by counter-marches, ambuscades, &c., as was practised by Q. Fabius Maximus, a Roman general, opposed to Hannibal.

Fab'liaux. In *French literature*, the metrical tales of the Trouvères or early poets of the north of France.

Fabra'rum A'qua, the pharmaceutical name for *forge-water*, a mild chalybeate formed by quenching red-hot iron in water.

Fab'ulous Age, that period in the history of every nation in which supernatural events are represented as having happened: sometimes called the *heroic age*.

Façade, a French term for *front*, used to denote the whole exterior side of a building that can be seen at one view.

Face, the visage, Lat. *facies*, whence the epithet *facial*. The edge of a cutting instrument is vulgarly called the face; and when one side of an object is flat and the others not, the smooth or flat side is called the *face*. "Stones are *faced* in the opposite direction of their splitting grain." A cube has six *faces*, and a polyhedron has many *faces*. Small faces are *facets*.

Face Mould, the name given by workmen to the pattern for making the plank or board out of which ornamental hand-railings for stairs or other works are to be cut.

Fa'cet, Fr. *facette*, the face. A little face or small plane, as the *facets* of a brilliant or rose diamond. The *facets* of a column are the flat projections between the flutings. Multiplying glasses have many *facets*.

Fa'cial, appertaining to the face, as the *facial artery*, otherwise called the labial or angular artery. The *facial angle* is that contained between two lines, one drawn from the most prominent part of the forehead to the alveolar edge of the upper jaw, opposite to the incisor teeth, and the other from the external auditory foramen to the same point.

Fa'cies Hippocratica, that state of the countenance which immediately precedes death; so called from particular attention being directed to it by Hippocrates in his prognostics.

Fa'cing. In *hydraulic earth-work*, a layer of common materials or soil, laid over the lining or puddle, and upon the bottom and sloping sides of a canal, reservoir, &c.—In *carpentry*, facings are the wooden coverings of the sides of windows and door-places in the insides of rooms.—In *architecture*, that part of the work seen by a spectator, but usually a better sort of work which masks the inferior one internally.

Fac Sim'ile (Lat.), an exact copy.

Fac'tion (Lat.), anciently, an appellation given to the different troops or companies of combatants in the games of the circus. At present the term *faction* is bandied about by the three great parties of the country, the Whigs, Tories, and Radicals, and applied to one another.

Fac'tor, Lat. from *facio*. 1. In *commerce*, an agent employed by merchants at a distance (usually in some other country), to transact business on their account. He is usually paid a per centage on the goods he sells or buys, and if he acts under what is termed a *del credere* commission, i. e. if he guarantee the price of the goods sold on account of his principal, he receives an additional per centage, to indemnify him for his additional responsibility.——2. In *arithmetic*, the numbers employed in forming a product or *factum* are called *factors*. Thus 7 and 3 are the factors of 21.

Fac'torage, the allowance, per centage, or *commission*, given to factors by the merchants, &c., who employ them. *See* Factor.

Fac'tory, a place where factors meet to transact business for their employer. The English merchants have *factories* in China, Turkey, Portugal, Hamburg, Russia, &c. The word *factory* is now also used for a building or collection of buildings appropriated to the manufacture of goods; but in this sense it is a contraction of *manufactory*.

Fac'tum (Lat.), something made. In *arithmetic*, a product.—In *law*, a man's own act.

Fac'ulæ, Lat. dim. plu. of *fax*, a torch; bright spot generally: used to denote certain liquid spots on the sun's disc, brighter than the rest of the body.

Fac'ulty, Lat. *facultas*, ability. 1. In *logic*, the power of the mind, imagination, reason, and memory.——2. In *physiology*, a power or ability to perform any action, natural, vital, or animal.——3. In *schools*, one of the departments of a university.

In most universities there are four faculties, viz., *arts*, including languages and philosophy, *theology*, *physic*, and *civil law*. —4. The *faculty of advocates* is a body of lawyers, who plead in all actions before the Court of Session in Scotland, and their elective president is called the *Dean of Faculty*. Similarly there are *faculties* of physicians and surgeons, of civil-engineers, &c., some of which have peculiar privileges granted by charter, others are merely professional associations.

Fæ'ces, Lat. pl. of *fæx;* the alvine excretions. The fossil fæces of certain fishes are called *coprolites;* the excrement of dogs and wolves, *album græcum;* of mice, *album nigrum*.

Fa Fen'to. In *music*, a feigned F, or a feint upon that note.

Fa'gotto, the same as Bassoon, which see.

Fa'gus, the *beech-tree;* a genus of four species. *Monœcia—Polyandria*. Name from φαγω, to eat, its nut being one of the first fruits used by man. Britain, North America, &c.

Fahl'erz, gray copper-ore, called also *panabase*, from the many oxides it contains.

Fahl'unite, a name for automolite or octahedral corundum, found at Fahlun, in Sweden.

Fa'ience, } A fine sort of pottery glazed
Fa'yence. } and painted, named after Faënza, in Italy.

Fainting. *See* Syncope.

Faints, the impure spirit which comes over first and last in the distillation of whiskey. The first sort is called *strong*, and the latter *weak* faints. This impure spirit is strongly impregnated with a fetid essential oil.

Fairy, Fr. *fée*, a fay, or imaginary spirit, whence *feer*, to enchant, and *feerie*, a fairy-land. The native land of the fairy mythology is Arabia, whence it was brought to Europe by the Troubadours, but the radix of the word is doubtful. Fairies were much in favour at one time, but they are now consigned to nurseries and to *mines*. The fairy of the English miners answers to the *cobalt* of the German mines.

Fai'ry Ring, } A phenomenon fre-
Fai'ry Circle. } quently seen in lea fields. There are two species: one consists of a round and apparently beaten path, with grass in the middle; the other is a circular patch, of which the grass appears destroyed. Both of these were formerly ascribed to the dances of the fairies (believed at present in some parts of the country). Some have supposed them to be the effect of lightning, but they are now generally believed to be produced by an unknown species of fungus which grows in a circle from the centre outwards, destroying the grass as it extends.

Fake'er, } A name common in the East
Fakor'. } Indies for a Mohammedan mendicant or devotee. The word in Arabic means a poor man, and in Ethiopia an interpreter.

Falca'de, from *falx*, a sickle. In the *menage*, a horse is said to make a *falcade* when he throws himself on his haunches, two or three times, as in very quick curvets.

Fal'cate, Lat. *falcatus*, sickle-shaped, from *falx*, a sickle. The moon is said to be *falcate* when it appears horned: hence also a figure formed by two curves bending the same way and meeting in a point at the apex, the base terminating in a straight line is called a *falcate*.

Fal'co, a *falcon*. The genus *Falco*, Lin., is subdivided into two great sections. The first comprises the *noble birds of prey*, the *falcons*, properly so called. To this belongs the common falcon (*F. communis*, Gm.), and the gerfalcon (*Hierofalco*, Cuv.). The second section comprises the *ignoble birds of prey*, or those of the genus which cannot be employed in falconry. To this belongs the eagle (*Aquila*, Bris.), the goshawk (*Astur*, Bech.), the sparrow-hawk (*Nisus*, Cuv.), the kite (*Milvus*, Bech.), the honey-buzzard (*Pernis*, Cuv.), the buzzard (*Buteo*, Bech.), the harriers (*Circus*, Bech.), and the snake-eater or secretary (*Serpentarius*, Cuv.). Order *Accipitres*, family *Diurnæ*. *See* Falcon.

Fal'con, a bird of prey, the *Falco communis*, Gm., capable of being trained to sport, and which has given name to that kind of hunting in which birds of prey are used. It inhabits the whole of the northern regions, and builds in the most inaccessible cliffs. The female is generally one third larger than the male, which on this account is by sportsmen termed a *tarsel*, or *tercelet*, the name *falcon* being reserved to the female. The name *falcon* is also used to designate a particular size of ordnance. The bore is 5¼ inches, and the weight of the shot 2½ lbs.

Fal'conet, a little falcon. A piece of ordnance whose bore is 4¼ inches, and shot 1¼ lb.

Fal'conry, the art of taking birds by means of falcons and other birds of prey (*see* Falcon). The sport is ancient, and was of such high repute in England, that some of the nobility hold their estates on condition of providing the sovereign with hawks.

Fal'dage, from Wel. *fald*, a fold. A privilege, which anciently several lords reserved to themselves, of setting up folds of sheep in any fields within their manors, the better to manure them.

Fall. 1. Descending from a higher to

a lower place by the force of gravity.——2. Descent of water, as the *falls* of Clyde.——3. Diminution, as the *fall* of prices.——4. Extent of descent, as the river has a *fall* of two feet per mile.——5. The loose end of a tackle.——6. A Scotch superficial measure, 1 fall = 36 ells.——7. A Scotch long measure, 1 fall = 223·2 imp. inches.——8. The loss of their first estate by our first parents, Adam and Eve.

Falling-home Applied to the timbers or upper parts of the sides of a ship, when they curve inwards.

Falling-sluice, a certain description of flood-gate, in connection with mill-dams, rivers, canals, &c., which are self-acting, or contrived to fall down of itself in the event of a flood, whereby the water-way is enlarged.

Fallo'pian. In *anatomy*, an epithet applied to two tubes, canals, or ducts, of a tortuous figure, arising from the womb, and joined to the fundus, one on each side. Their use in the process of conception was first pointed out by Gabriel Fallopius, an Italian anatomist of the sixteenth century. The term *fallopian* is also sometimes applied to Poupart's ligament.

False, Lat. *falsus*, not true. Applicable to subjects physical and moral. In *music*, those chords which do not contain the intervals appertaining to them in their perfect state are termed *false*, and the same term is applied to those intonations of the voice which do not truly express the intended intervals, and, indeed, to all ill-adjusted combinations. A false cadence is one wherein the bass rises a tone or semitone, instead of rising a fourth, or falling a fifth. In *law*, the epithet is applied to something illegal, as *false*-imprisonment. A *false flower* is one which does not seem to produce fruit. A *false gem* is a counterfeit one, a paste. A *false roof* is the part of a house between the roof and the covering. There are also *false* alarms, *false* attacks, *false* weights, *false* coin, *false* foundations, &c. *False fire* is a species of blue signal fire.

False Keel. The timber added to the main keel of a ship, both to serve as a defence, and also, by deepening the vertical surface, to give the ship a better hold of the wind.

Falset'to. In *music*, an Italian term for a feigned voice, an octave above its natural pitch.

Fa'lun, a provincial name given to some shelly strata in the neighbourhood of the Loire, and which resemble in their lithological characters what we term *crag*.

Famil'iar Spirits, demons supposed to be perpetually within call, and at the service of their masters.

Fam'ily. In *natural history*, a collection of a number of genera, which are nearly allied to each other by characters derived from their organisation: the term is sometimes loosely applied. In *mathematics*, a *family of curves* is a congeries of several kinds of curves, all of which are defined by the same equation, but in a different manner, according to their different orders.

Fan, Sax. *fann*, Fr. *van*, Lat. *vannus*. 1. A well-known hand ornament used by ladies.——2. An apparatus for winnowing grain: it consists of a series of boards, arranged edgewise round an axle, which is made to revolve with the necessary velocity; called in Scotland *fanners*.

Fanal'. In *architecture*, a French name for a pharos or light-house, or, more particularly, the lantern placed in it.

Fandan'go, an old Spanish dance, which proceeds gradually from a slow and uniform to the most lively motion. It is seldom danced except at the theatre.

Fan'fare, a French name for a short, warlike piece of music, composed for trumpets, kettle drums, &c.

Fan'ner. In *mechanics*, a contrivance of vanes or flat discs, revolving about a centre, for the purpose of creating a draught by producing a current of air. Used in windows, &c. to ventilate apartments.

Fanta'sia. In *music*, an Italian name for an instrumental composition, supposed to be struck off in the heat of imagination, and in which the composer is allowed to give free scope to his ideas, unconfined by the rules of science. The *fantasia* differs from the *capricio* in this, that when it is finished it no longer exists.

Fantocci'ni It., *fantoccio*, puppet. Dramatic representations, in which puppets are substituted in the scene for human performers.

Far'cin, } In *farriery*, a disease of
Far'cy. } horses, which appears to be a peculiar inflammatory affection of the absorbent vessels below the skin. It is of the nature of scabies or mange.

Fari'na, Lat., from *far*, corn. Meal or flour of any species of corn, or starchy root, as potato, arrow-root, &c. The *farina fœcundans* of botanists is the fecundating dust or pollen contained in the anthers of plants. *Farina fossilis* is a name for mineral agaric.

Fari'nose. In *entomology*, having the surface covered with dust resembling flour (*farina*), which the slightest touch removes. Most of the Lepidoptera are *farinose*.

Far'riery, from *ferrarius*, of *ferrum*, iron. Originally the art of shoeing horses. In the modern acceptation of the term, it includes the whole veterinary art, as it relates to the management of horses, cows, &c., and their diseases.

F.A.S., an abbreviation of *Fraternitati*

Antiquariorium Socius, Fellow of the Antiquarian Society.

Fas'ces (Lat.), bundles of rods and axes carried before the Roman consuls, as a badge of their office.

Fas'cets. In *glass-making*, the irons thrust into the mouths of bottles to convey them to the annealing tower.

Fas'cia (Lat.), a band or fillet. In *architecture*, a broad fillet or band, particularly used in architraves and pedestals. In *anatomy*, a tendinous expansion of a muscle, inclosing others like a band, binding them to their places. In *astronomy*, the belts seen on the discs of the superior planets, Mars, Jupiter, and Saturn, are called *fasciæ*.

Fas'cicle, } Lat. *fasciculus*, from *fascis*,
Fas'cicule, } a bundle, a little bundle. A term in *botany* for a manner of flowering, in which there are several flowers on little stalks, variously inserted and subdivided, *e. g.* sweet-william.

Fascic'ular, Lat. *fasciculares*, bundled. Applied to roots which are sessile at their base, and consist of bundles of finger-like processes, &c.

Fascic'ulate, Lat. *fasciculatus*, bundled or clustered. Applied to nerves, stems of plants, leaves, and flowers.

Fascina'tion, from *fascino*. A species of witchcraft or enchantment by the influence of the eye. The notion of an *evil eye*, not yet entirely forgotten among the ignorant, is a vestige of this superstition.

Fas'cines, bundles, from *fascis*, a bundle. The term is used, in *fortification*, for those bundles of rods, bound at both ends and in the middle, used for raising batteries, filling ditches, strengthening ramparts, making parapets, &c.

Fash'ion-pieces. In *ships*, the hindermost timbers, which terminate the breadth. and form the shape of the stern.

Fas'ti, the Roman calendar, wherein were expressed the several days of the year, with their feasts, games, and other ceremonies.

Fastig'iate, Lat. *fastigiatus*, flat-topped. Applied to umbelliferous flowers, &c.

Fastig'ium, the Latin name for the Greek Ætos, the apex, summit, or ridge of a house or pediment.

Fat, the oily concrete substance deposited in the cells of the adipose or cellular membrane of animal bodies. The fats differ in different animals, but they are all chiefly composed of stearine, margarine, and oleine, with a little colouring and odorous matter. The fat of the goat yields hircine, that of the dolphin phocenine, and butter yields butyrine. They saponify with alkalies, and generate the stearic, margaric, and oleic acids.

Fa'ta Morga'na, the fairy Morgana. A singular optical deception which frequently occurs in the Straits of Messina, between Sicily and the coast of Calabria, and sometimes, though rarely, on other coasts. It consists in the objects ashore being delineated on the surface of the sea in magnificent and fantastic fashions, and is the effect of atmospheric refraction.

Fa'talist. In *ethics*, one who maintains that all things happen by invincible necessity or *fate*. This doctrine constitutes *fatalism*.

Fa'ther. An *adoptive father* is he who adopts the children of another. A *natural father* is the father of illegitimate children. A *putative father* is a reputed or supposed father. *Fathers of the Church* were the early christian writers, whose works have thrown light upon the primitive history of Christianity.

Fa'therlash'er, a fish, the *Cottus bubulus*, Cuv. Called in Scotland the Lucky Proach. It is at once recognised by its well-armed head, and long spines.

Fath'om, Sax. *faethem*. A measure of length, equal to six feet, employed in marine and mining operations, in measuring vertical distances.

Fau'ces, plural of *faux*. 1. In *anatomy*, the gorge or opening of the pharynx.—— 2. In *botany*, *see* Faux.

Fault. In *mining*, &c., a break of strata, with displacement, which interrupt the miner's operations, and put him at *fault*, by an apparently abrupt termination of the vein or bed. Faults consist of fissures, which often traverse the strata for miles, and are generally accompanied by depression on one side of the line, and elevation on the other. They are numerous in coalfields.

Fau'na, Lat. *fauni*. The animals peculiar to a country constitute its *fauna*, as the plants constitute its *flora*.

Fauns, Lat. *fauni*. Rural deities among the Romans, inhabiting the woods and forests, represented with horns, sharp-pointed ears, and bodies like goats. They are also termed *sylvans*, or sylvan deities.

Fausse'braye. In *fortification*, a small mound of earth, four fathoms wide, erected on the level round the foot of the rampart.

Faux, plural *fauces*, a mouth. In *botany*, the opening of the tube of a monopetalous plant. In *conchology*, the first chamber of a shell, seen by looking in by the aperture.

Faux Jour (French), false light. Used in the *fine arts*, to signify that a picture is placed so that the light falls upon it from a different side from that which the painter has represented it in the painting.

Fa'vose, Lat. *favosus*, honeycomb-like. 1. Applied to some cutaneous diseases. ——2. To parts of plants.

Fa'vus (Lat.), a honeycomb. The name given to a pustule larger than the achor flatter, and not acuminated.

F. D. abbreviation of *Fidei Defensor*, Defender of the Faith: a title conferred by the Pope on Henry VIII., for writing a book against Luther.

Feal'ty, Fr. *feal*, trusty, from Lat. *fidelis*. A term, in *feudal law*, for the oath taken by the tenant, to be true to the lord of whom he held his land, and to defend him against his enemies. This obligation was called his *fidelity* or *fealty*. The tenant was called a *liege* man, the land a *liege* fee, and the superior a *liege* lord.

Feasts, Fes'tivals. In *church rituals*, are anniversaries of joy and thanksgiving, on stated days, in commemoration of some great event. They are called *immoveable*, when they occur always on the same day of the year, as Christmas-day; and *moveable*, when they depend on astronomical calculations, and do not return on the same days of the year, as Easter, which fixes all the others.

Feath'er-edged, a term referring to any wrought substance, in which the work is considerably reduced in thickness towards the edge.

Feath'ery, plumose. Applied to plants furnished with lateral hairs.

Feb'rifuge, Lat. *febrifugus*, from *febris*, fever, and *fugo*, to drive away; a medicine which alleviates or removes fever.

Feb'ruary, Lat. *Februarius*. In the *old Roman calendar* this was the last month of the year, until the decemvir ordered that it should rank as the second. It takes its name from *februa*, a festival held in behalf of the manes of the deceased, and this from *februs*, to purify by sacrifice. It means, therefore, the month of purification. In common years it has 28 days; in leap years, 29.

Fecia'les, a college of priests, instituted at Rome by Numa. They were the arbitrators in all matters of war and peace, and the guardians of the public faith. Hence our epithet *fecial*.

Fe'cit, a Latin word inscribed by artists on their works, to indicate the designer.

Fec'ula, Lat. *fæcula*. Any substance derived by spontaneous subsidence from a liquid. The term is now commonly applied to the pulverulent matter extracted from vegetables by grinding them in water, and allowing the fluid to settle; the fecula subsides. Starch is an example.

Fed'eral, from *fœdus*. Relating to a league or international contract. A *federal government* is one formed by the union of several sovereign states, each surrendering a portion of its power to the central authority.

Fee, primarily, a loan of land. An estate in trust, granted by a prince or lord, to be held by the grantee on condition of personal service, or other condition, and if the grantee failed to perform the conditions, the land reverted to the lord or donor, called the *land-lord* or *lend-lord*, the lord of the loan. A *fee*, then, is any land or tenement held of a superior on certain conditions. It is synonimous with *fief* and *feud*. All the land in England, except the crown lands, is of this kind. *Fees* are absolute or limited: an *absolute fee*, or *fee-simple*, is land which a man holds to himself and his heirs for ever, who are called tenants in fee-simple. Hence, in modern times, the term *fee* or *fee-simple* denotes an estate of inheritance: and in America, where lands are not generally held of a superior, a *fee* or *fee-simple* is an estate in which the owner has the whole property, without any condition annexed to the tenure. A *limited fee* is an estate limited or clogged with certain conditions: as a *qualified*, or *base fee*, which ceases with the existence of certain conditions: and a *conditional fee*, which is limited to particular heirs.

Feeder, a carriage or catch drain: a small canal, cut, or channel, by which a stream or supply of water is conveyed for the use of a canal, &c.

Feed'-pipe of a Steam-engine, the pipe employed for conveying the water to the boiler.

Feed'-pump, the force-pump employed in supplying the boilers of steam-engines with water.

Feel'ers, a name for the horns or antennæ of insects, usually two in number, but sometimes four.

Fee Tail, a conditional fee. *See* Fee.

Fe'lis, a cat. A genus of carnivorous mammalia of the digitigrade tribe, the essential character of which consists in having four teeth, the intermediate ones equal, grinders three on each side, the tongue beset with bristles backwards, and the claws retractile. At the head of the genus stands the lion (*F. leo*, Lin.), next the tiger (*F. tigris*, Buff.), the jaguar (*F. onca*, Lin.), the panther (*F. pardus*, Lin.), the leopard (*F. leopardus*, Lin.), the couguar or puma (*F. discolor*, Lin.), the lynxes (*see* Lynx), and the domestic cat (*F. catus*, Lin.). Epithet *feline*.

Fel'loes or Fellies. In *mechanics*, the covered pieces of wood forming the circumference of a carriage-wheel, into which the spokes are inserted.

Fe'lo-de-se. In *law*, one who commits felony by suicide, or being of the years of discretion and in his right senses, wilfully destroys his own life.

Fel'on. 1. In *law*, a person who commits felony.——2. In *surgery*, a whitloe arising between the periosteum and the bone.

Fel'ony. In *law*, any crime which incurs the forfeiture of lands or goods, except treason, which is a crime *sui generis*. As all crimes punishable by death are

felonies, the true import of the word is in a measure lost, or at least so mixed up with the idea of *hanging*, that both law and usage now conspire to limit the term of *felony* to capital crimes.

Fel'spar. In *mineralogy*, one of the three ingredients of granite: quartz, and mica, being the others. Next to quartz it forms the chief ingredient of many rocks. It is nearly opaque, harder than glass, and of a lamellar structure. Prof. Jameson divides it into five species: 1. Rhombohedral felspar or Nepheline; 2. Prismatic felspar, comprehending common felspar, ice-spar, adularia, clinkstone, amazon stone, porcelain earth, &c.; 3. Tetarto-prismatic felspar or albite: 4. Polychromatic or Labrador felspar, a beautiful mineral first discovered on the coast of Labrador, as a constituent of syenite; 5. Pyramidal felspar, comprehending scapolite, weionite, parathine, wernerite, dipyre, and elaolite. The constituents are silica, 66, alumina, 18, potash, 12, lime, 3, and some oxide of iron, but the proportions vary in the species and varieties. The name is altered from the German, *feldspath*, from *feld*, a field, and *spath* or *spar*, a shining substance. Epithet *felspathic*.

Felt, a fabric of hair, wool, &c., interlaced and pressed into a firm texture.

Feluc'ca, Sp. *feluca*, a little vessel with 6 oars and lateen sails, used in the Mediterranean. It is capable of going either stem or stern foremost.

Fe'male-flower, a flower which is furnished with pistils and not with stamens.

Fe'male-screw, a screw, the spiral thread of which is cut in the cavity of the cylinder.

Feme, Femme (French), a woman. A *feme-covert* is a married woman who is under covert of her husband, and cannot sue or be sued. A *feme-sole*, an unmarried woman. A *feme-sole merchant*, a woman who carries on trade alone without her husband.

Fe'mur, the thigh; also the *os femoris* or bone of the thigh. In *architecture*, the intersticial between the channels in the triglyph of the Doric order. These *femora* are sometimes called the legs of the triglyph.

Fen'ders. 1. Timbers placed in front of a quay-wall or other work, to protect it from injury by vessels, &c.; these are also called *fender piles*.——2. Pieces of old rope, &c., made up into bundles and hung over the sides of vessels to protect them from contact with others, with the sides of docks, &c.

Fen'd off, to push off a boat or any heavy body, to break the shock or avoid contact.

Fen'es'tra (Latin), a window; the name given by anatomists to two foramina in the ear, the one oval and the other round; the first situated between the cavity of the tympan and the vestibule, and the other leading from the tympan to the cochlea of the ear.

Fenes'trate, Lat. *fenestra*, window. In *entomology*, the naked hyaline transparent spots on the wings of butterflies.

Feod, low Latin, *feodum*. A feudal law term for the right which the vassal had in the land, to use the same, and take the profits thereof, rendering unto the lord the proper fees.

Feo'dal. In *law*, held of another. *See* Feod.

Feoff'ment, law Lat. *feoffamentum*. The grant of a fee or corporeal hereditament: a grant in fee-simple.

Fe'ræ. In *zoology*, the third class of mammalia in the arrangement of Linnæus, distinguished by having six sharpish fore-teeth in the upper jaw, and tusks solitary. They are nearly all beasts of prey. Epithet *ferine*.

Fe'ræ Natu'ræ. In *law*, beasts and birds that are wild, as foxes, wild ducks, &c.

Fera'lia, a festival observed among the Romans on the 21st of February, in honour of the manes of deceased relations.

Fer De Fourchette. In *heraldry*, a cross having at each end a forked iron, like that formerly used by soldiers to rest their muskets upon.

Ferenta'ria, a sort of light armed soldiers in the Roman army.

Fe'ria, a holiday, as the *feriæ* of the Romish breviary. The *feriæ* of the Romans answered in some measure to the sabbaths of the Jews, but the name was also given to holidays in general.

Fe'rio. In *logic*, a mode in the first figure, of syllogisms consisting of a universal negative, a particular affirmative, and a particular negative.

Fer'ison. In *logic*, a mode in the third figure of syllogisms, closely allied to the *ferio* of the first figure.

Fer'ment, yeast or barm, *quasi fervimentum*, from *ferveo*, to be hot. This is the scum which collects on beer &c., while fermenting. It has the property of exciting fermentation in various other substances in which water is present, and seems to be the result of a chemical alteration which vegetable albumen and gluten undergo, with contact of air amidst a fermenting mass.

Fermenta'tion, from *ferment*. The reaction which takes place among the proximate principles of some vegetable substances, (as sugar, starch, gluten, &c.), when under the influence of water, air, and warmth, so that their ultimate principles (carbon, oxygen, and hydrogen,) combine in new proportions, and form new compounds. Of this process there are

five species: (1). The *saccharine* fermentation, in which starch and gum are changed into sugar; (2.) The *vinous* fermentation, in which sugar is converted into alcohol; (3.) The *mucilaginous* fermentation, in which sugar is converted into slime; (4.) The *acetous* fermentation, in which alcohol and other substances are converted into vinegar; (5). The *putrid* fermentation, or putrefaction, which produces ammonia.

Fer'ret. 1. An African animal of the weasel tribe (*see* Mustela) used to hunt rabbits, rats, &c., as it is slender and can enter their holes.——2. In *glass making*, the iron used to make the rings at the mouths of bottles.

Ferri-cal'cite, a species of calcareous earth combined with iron (*ferrum*).

Fer'ro-chy'azic Acid, an acid obtained by adding to a solution of ferro-cyanite of baryta just enough of sulphuric acid to precipitate the baryta, and thus named from *ferrum* and *chyazic acid* (q. v.). It is of a yellow colour, and is decomposed by a gentle heat or strong light, when hydrocyanic acid is formed, and a white hydrocyanite of iron is precipitated, which becomes blue by exposure.

Ferro-cy'anate, a salt formed by the union of the ferro-cyanic acid with a base: more correctly, *ferro-cyanide*.

Fer'ro-cy'anic Acid, } The *ferruretted*
Fer'ro-prus'sic Acid. } *chyazic acid* of Mr. Porrett. A lemon-coloured compound of cyanogen, protoxide of iron, and water.

Ferro-cy'anide, }
Ferro-cyan'odide, } A compound of the protocyanide of
Ferro-prus'siate. } iron with a cyanide of potassium, sodium, barium, &c. The double cyanide of iron and potassium is the important salt called *prussiate of potash*, or technically *ferrocyanodide of potassium*. Prussian blue is a *ferrocyanodide of iron*.

Fer'ry, Ger. and Sax. *fahren*, to pass over. In *law*, a grant to have a boat to carry men and horses across a river, and to levy a reasonable toll.

Fe'sapo, an arbitrary name for one of the modes of the fourth figure of syllogisms.

Fes'cennine Verses (so called, from Fescennia, in Etruria, where they originated), were pieces of poetry recited by the youths at rustic festivals. They consisted principally of raillery and playful abuse.

Fesse. In *heraldry*, one of the honourable ordinaries, which occupies the third part of the middle of the field. The term is Lat. *fascia*, a band. Any charge within the breadth of the fesse is borne *en fesse*; the centre of the escutcheon is the *fesse point*; anything borne in a rank across the middle of the shield is borne *in fesse* or *fesse-ways*; a parting across the middle of the shield, from side to side, through the fesse point, is *parte per fesse*, &c.

Fes'tino. An arbitrary term in logic for a mood of syllogisms in the second figure: the first proposition is a universal negative, the second a particular affirmative, and the third a particular negative.

Feston', Fr. *feston*; a term in architecture for an ornament of carved work, in the form of a wreath, or garland of flowers or leaves twisted together.

Festu'ca, the stalk or shoot of an herbaceous plant; also the *Fescue-grass*: a genus of herbaceous and mostly perennial plants. *Triandria—Digynia*. There are 28 species, 15 of which are British.

Fet'ichism, } The worship of idols
Fet'icism. } among the negroes of Africa. *Fetich* is their name for an idol, or more generally *fetich* is the name which they give to any object of worship. Every family has a *fetich* to watch, reward, and punish the members of the household as they deserve.

Fet'lock, *feet* and *lock*. A tuft of hair that grows behind the pastern joint of horses.

Fet'tered. In *zoology*, applied to the feet of animals when they are stretched backwards and appear unfit for walking.

Feu, Lat. *feodum*, fief. In *Scotch law*, is used in contradistinction to *ward-holding*, or military tenure, to signify that the vassal makes a return in grain or money, in lieu of military service. The *feu-contract* is that which regulates the giving out of lands, the rent paid being called *feu-duty*.

Feud. 1. Sax. *fæhw*, a quarrel between families or parties of a state: originally applied to a combination of kindred to avenge the murder of a kinsman on the offender and his race.——2. From Norm. *fei*, faith, and *had*, state; a fief, fee, or right to lands or hereditaments held in trust or on the terms of performing certain conditions. *See* Fee and Feod.

Feu'dal System. A form of government anciently subsisting in Europe, and which forms the basis of our modern forms and customs. It was this:—When the Goths, Vandals, Franks, Huns, and Lombards overran Europe, on the declension of the Roman empire in the fifth century, they made it a principle that all conquered land should be divided among the chief officers. These again divided their shares among the officers of a second rank, who divided in like manner to the third rank, &c. These stipends of land were called *fiefs*, *feods*, or *feuds*, and the condition of tenure was that the tenants in fief should serve the owner of the fee-simple, at home and abroad, in all wars and military expeditions. To this they bound themselves by an *oath of fealty*, so that a reciprocal tie linked the highest chief with

the humblest of his followers, who could not only enjoy but dispose of their territory as they pleased, the possessor being, by his occupancy, bound for military service, as was his predecessor. According to the Doomsday-book, England was divided by William the Conqueror into 60,215 military fiefs, some of which he kept to himself, and divided the rest among his Norman followers, on condition of their appearing in the field when he should raise his standard of war. *See* FEE.

FEU'DATORY. In *law*, one who holds in chief, but by some conditional tenure.

FEU'DUTY. In *Scots law*, the annual duty which a vassal, by the tenor of his right, becomes bound to pay to his superior: hence the tenure of *feu-holding*.

FE'VER, a general name for diseases in which the temperature of the surface of the body is preternaturally high, and the pulse quick: it is sometimes continued and sometimes intermittent. There are many species, but typhus is most feared.

FIARS, pron. *feears;* the price of grain, as fixed, in the counties of Scotland, by the respective sheriffs and a jury.

FI'AT, a Latin word meaning "let it be done." In *law*, a short order or warrant signed by a judge for making out and allowing certain processes.—In *medicine* (*see* F).—In *bankruptcy*, a commission sued out by creditors, when a trader fails.

FIB'RIL, Lat. *fibrilla*, dim. of *fibra;* a small fibre; applied to the little roots of plants which are given off.

FI'BRINE, a solid, white, flexible, slightly elastic, insipid, and inodorous substance, denser than water, but containing 4-5ths of its weight of it; it constitutes the principal part of animal muscle: it exists in the chyle, the blood, and may be regarded as the most abundant constituent of animal bodies. It may be obtained pure by agitating newly drawn blood with a bundle of twigs, and washing in cold water the long reddish filaments which adhere to them: the fibrine is thus washed from the colouring matter of the blood, and may be freed from any adhering grease by digestion in alcohol.

FIB'ULA (Lat.), a clasp or brace; a long bone of the leg, so named on account of its connecting and giving firmness to the other parts. It is situated on the outerside of the tibia, and its lower end forms the lower ankle.

FIC'TION. In *law*, a supposition that a thing is true, without inquiring whether t is or not, so that it may have the effect of truth, as far as is consistent with equity.

FIC'TOR (Lat.), a potter or modeller who fabricates images, &c., with terra cotta, clay, and similar substances.

FIC'US, the *fig-tree;* a genus of many species. *Polygamia—Triœcia.* Warm climates.

FIDD. In *navigation* (1.) a pin tapering and sharp at one end, used to splice ropes; (2.) the pin in the heel of the top-mast.

FID'EI COMMIS'SUM. In *Roman law*, a species of testamentary disposition, recognised by the Roman law, by which a testator charged his heir to deliver over to a specified person the whole or part of the goods which he inherited.

FIDE JUS'SOR. In *law*, one who engages to pay the debt of another in case of failure: called in England a *guaranter*.

FI'EF. *See* FEUDAL SYSTEM.

FIELD. In *heraldry*, the whole surface of the shield: the ground on which the colour, bearings, metals, &c., are represented.—In *agriculture*, a portion of land inclosed by a fence. The *field of view* in a telescope or microscope, is the space within which the objects are visible when the instrument is adjusted.

FIELD'BOOK. In *surveying*, the book in which the angles, distances, stations, &c., are set down.

FIELD'COLOURS, small flags, carried along with the quartermaster-general, in marking out the ground for the squadrons and battalions.

FIELD'MARSHAL, the highest military officer in England.

FIELD'OFFICER, a military officer above the rank of a captain, as a major or colonel.

FIELD'PIECES, small cannons, from 3 to 12 pounders, carried along with an army.

FIELD'STAFF, a weapon, carried by the gunners, about the length of a halbert, with a spear at the end, and having on each side ears screwed on, like the cock of a matchlock, into which bombardiers screw lighted matches when they are upon command; the field-staff is then said to be armed.

FIELD'-WORKS, in *fortification*, are those thrown up by an army in besieging a fortress, or, by the besieged, to defend the place; or by an army, to strengthen a position.

FI'ERI FA'CIAS, a judicial writ for him who has recovered in an action of debt or damages, to the sheriff, commanding him to levy the same.

FIFTEENTH, an ancient tribute or tax laid upon cities, boroughs, &c. through all England, and so termed because it amounted to a fifteenth part of what each city or town had been valued at; or it was a fifteenth of every man's personal estate. In *music*, an interval of two octaves; also a stop on an organ, a double octave above the diapason.

FIFTH. In *music*, a distance comprising four diatonic intervals, *i. e.* three tones and a half.

FIFTH-MON'ARCHY-MEN, a fanatical sect, who formed a principal support of Cromwell during the protectorate.

Fifth Sharp. In *music*, an interval comprising eight semitones.

Figs, the fruit of the fig-tree, *Ficus carica*, a native of Asia, but now naturalised in the milder countries of Europe, Turkey, Greece, Spain, Italy, &c.

Fig'ural or Fig'urate Numbers, are such as do or may represent some geometrical figure, in relation to which they are always considered as *triangular* numbers, *pentagonal* numbers, &c.

Figu'rate. In *music*, that counterpoint wherein there is a mixture of discords with concords is called *figurate*; and a descant is *figurate* when the discords are less concerned than the concords.

Fig'ure, Lat. *figura*, from *figo*, to set; the form of anything as expressed by the terminal lines; form or shape. In *geometry*, there are rectilinear, curvilinear, and mixed figures, just as the extremities are bounded by straight lines, curved lines, or both. A *rhetorical figure* is a combination of words deflected from their ordinary meaning, to express a passion, or an idea, with more force and beauty than by the ordinary way. In a painting, the *figures* are the animals, more particularly the human personages, represented in it. An *astrological figure* is a description of the disposition of the heavens at a certain hour, when the places of the planets and other stars are marked in a *figure* of twelve triangles or houses. The *arithmetical figures* are the nine digits and cipher. In *optics*, the *apparent figure* is the figure under which an object presents itself to our view.

Fig'ure-head, the figure, statue, or bust on the projecting part of a ship's head.

Fig'ure-stone, agalmatolite, a variety of talc-mica, of many colours. The best is brought from China, where it is extensively used for carvings, toys, &c.

Fil'acer, Lat. *filazarius*. An officer in the Common Pleas, so called from his filing the writs on which he makes out processes.

Fil'bert, the fruit of the hazel. *See* Corylus.

File. In *mechanics*, an instrument of forged steel, having teeth made by furrowing the surface with a chisel; used for cutting and abrading metals, ivory, wood, &c. When the teeth are a series of sharp edges, raised by the flat chisel, and appearing in parallel furrows, the tool is said to be *single-cut*; but when these teeth are crossed by a second series of similar teeth, the file is *double-cut*. When the teeth are made by a sharp-pointed tool, in the form of a triangular pyramid, the file is called a *rasp*.

Fil'ices (Lat. pl. of *filix*), ferns. The first of Cryptogamia; the first tribe of acotyledonous plants. They bear their flowers and fruit on the back of the leaf or stalk, which is called *frons*.

Fil'iform, from *filum*, a thread, and *forma*, form; thread-like. Applied, in *botany*, (1.) To peduncles when very fine. (2.) To the tube of monopetalous flowers, when of a thread-like form. (3.) To aments.

Fill, the sea term for bracing a yard which had been laid aback, so that the wind may act on the after side of the sail.

Fill'agree, } from *filum*, a thread, and
Fil'agrane, } *granum*, grain. A term in the arts for a sort of enrichment on gold and silver, wrought delicately in the manner of little threads or grains, or both intermixed. The fillagree-work of Sumatra has been most esteemed, but it has of late been cheaply imitated with coloured and gilt paper.

Fil'let. 1. In *architecture*, &c. a little member that appears in ornaments and mouldings, otherwise called a *listel*.——2. In *heraldry*, a bordure or orle, one-third part of the breadth of the common bordure.——3. In the *manége*, the loins of a horse are called the *fillets*.

Fil'ibeg, a dress reaching only to the knees, worn by the Highlanders of Scotland.

Filling-in-pieces are short pieces of timber, affixed to hips of roofs, groins, and other frame-work.

Film, a thin skin or pellicle. In *botany*, the thin skin which divides the seeds in pods.

Fil'ose, Lat. *filum*. In *geology*, when a part ends in a thread-like process.

Fil'ter, Fr. *filtre*. A strainer through which any liquor is passed, to separate the gross particles, and render it limpid. The root of the term is *felt*, this substance being formerly used for straining liquors.

Fil'tering-basins, stones, &c. for filtering water, are either natural or artificial. Insoluble, porous material, of any sort, serves the purpose.

Fil'ter-paper, a sort of thick bibulous paper, without size, used for filtering liquids.

Fim'bria, a fringe. Applied, in *anatomy*, to any fringe-like body; and in *botany*, to dentated rings of the operculum of mosses. Epithet *fimbriate*, fringed.

Final Cause. In *ethics*, the end for which anything is done. It is the first object in the intention of a person who does a thing, and the last in the execution.

Fina'le. 1. The last note of a musical composition.——2. The last piece of an opera, &c.

Finance', primarily, revenue arising from *fines*. The term is now used in the plural, *finances*, for the revenue accruing to the public treasury. The word is Norman.

Finch, a bird. The word is generally

used in composition, as goldfinch, chaffinch, &c. *See* FRINGILLA.

FINE. In *law*, a pecuniary punishment; a sum of money paid as compensation for an offence; a mulct. The term seems to be the Lat. *finis*, and the application of it to pecuniary compensation seems to have proceeded from its feudal use in the transfer of lands, in which a *final* agreement between a lord and his vassal. It was made the basis of the word finance.

FINE ARTS, Fr. *fin*, whence *finesse*. Those arts which depend chiefly on mental labour and the imagination, combined with manual dexterity: called also *polite arts*. Poetry, music, painting, and sculpture are fine arts.

FINE OF LANDS. In *law*, a species of conveyance or record, for the settling or securing lands and tenements, now abolished.

FI'NERS (of gold and silver) are those who separate those metals from their coarser ores.

FI'NERY. In *metallurgy*, the name of a furnace at which cast iron is converted into malleable iron.

FINE STUFF. In *architecture*, plaister used in common ceilings or walls, for the reception of paper or colour; composed of finely-sifted lime, mixed with hair and fine sand. *Coarse stuff* is a mixture of lime and hair, used in the first coat.

FIN'IAL. In *Gothic architecture*, the figure of a lily, trefoil, endive, acorn, or the like, made to terminate canopies, pinnacles, high-pointed pediments, and other parts of buildings.

FIN'FOOTED, } Palmipedous. having feet
FIN'TOED. } with membranes between the toes connecting, them with each other.

FIN'GER-BOARD, the board at the neck of a violin, guitar, &c., where the fingers act on the strings.

FIN'GERING. In *music*, the manner of touching an instrument, so as to give passages with articulation, accent, and expression. It is on dexterity of fingering that graceful execution depends.

FINISH. In the *fine arts*, the last touching up of any object, so as to complete it.

FINISHING-COAT. In *architecture*, the best coat of stucco, when three coats are used.

FI'NITE. In *mathematics*, an epithet for a series, line, &c., which is limited in extent, duration, &c., in distinction from *infinite*.

FINTO (Italian), a feint. A term in *music*. *See* FA FINTO.

FIR, FIR-TREE, a name common to all the species of the genus *Pinus*. The Scotch fir (*P. sylvestris*), Spruce fir (*P. nigra* and *abies*), and Larch (*P. larix*), are well known species.

FIR-IN-BOND, a name given to lintels, bond-timbers, wall-plates, and indeed all timbers built in walls.

FIRE, the evolution of light and heat which attends combustion. Fire was for a long time regarded as a constituent of bodies, which required only a concurrence of favourable circumstances for its development; hence the ancients regarded it as one of their four elements. No theory respecting fire is as yet fully established, though many have been proposed.

FIRE, GREEK; this fire was employed in the wars between the Christians and Saracens in the middle ages; naphtha was its principal ingredient.

FIRE-ARMS. Under this name is comprised all sorts of guns, fowling-pieces, blunderbusses, and pistols. All gun-barrels are to be *proved* in a public proof-house, under a penalty of 20*l*.

FIRE-ARROW, an iron or steel dart armed with combustible matter, used by privateers and pirates, to set fire to the sails of ships.

FIRE-BALLS. 1. In *meteorology*, globular masses of luminous matter, occasionally seen moving through the atmosphere. ——2. In *military operations*, masses of combustible matter to be thrown from mortars or howitzers upon the enemy's works, houses, &c.

FIRE-BARRELS, hollow cylinders filled with reeds and fire-brand composition; as sulphur, pitch, tallow, &c., used in fire-ships to convey the flame to the shrouds.

FIRE-BLAST. In *agriculture*, sometimes applied to plants suffering from the mildew fungi, or from minute insects; also used when the delicate parts of plants are too suddenly exposed to a brilliant sun, whereby they are shrivelled up.

FIRE-BOTE. In *old customs*, fire-wood allowed to tenants out of the landlord's grounds.

FIRE-ENGINE, the name generally given to a machine by which water is thrown upon fires in order to extinguish them.

FIRE-ESCAPE, a machine for removing persons from upper stories of houses when on fire. There are many sorts, but all partake of the nature of ladder work.

FIRE-FLAIRE, a fish. The sting ray or common trygon (*Trygon Pastinaca*, Yarr., Cuv.; *Raia Pastinaca*, Penn. Jeu. Don.)

FIRE-FLIES, a name common to two species of American flies which emit a beautiful phosphorescent light. *See* LAMPYRIS.

FIRE-SHIP, a vessel filled with combustible materials and fitted with grappling-irons, which, with the advantage of a favourable wind, hook on to the enemy's ships and set them on fire.

FIRE-STONE, an old name for pyrites. The fire-stone of the geologists is an are-

naceo-argillaceous deposit, of a greyish-green colour, composed of marl and grains of silicate of iron. In some places it is in the state of sand, in others it forms a stone sufficiently hard for building.

Fire-works. This name comprises squibs, rockets, serpents, &c., all of which are declared to be a common nuisance by 9 & 10 Will. III., and the makers or sellers of the same are liable to a fine of 5*l.*, and any one casting or firing a squib, &c., is subject to a penalty of 1*l.*

Firing. In *farriery*, cautery; the application to the skin of a hot iron, called a *firing-iron*.

Fir'kin, an old measure of capacity containing the fourth of the barrel.

Fir'lot, a Scotch measure of capacity. The barley firlot contains 31 standard pints; the wheat firlot, 2211 cubic inches.

Fir'mament, Latin *firmamentum*, from *firmus;* a term which has been used with great latitude as well by astronomers as by poets. Some old astronomers regarded the orb of the fixed stars as the firmament, but in scripture and common language it is used for the middle regions or expanse, appearing like an immense concave hemisphere. Many have considered the firmament a fluid matter, but those who first used the term must have considered it a solid. In *astrology*, the firmament is the eighth heaven.

Firman', Ar. *firmaun*; an order, mandate, permit, passport, &c., in India.

First Coat. In *architecture*, the *laying* the plaster on the laths, or the *rendering* on brick when only two coats are used. When three coats are used, it is called respectively *pricking up* and *roughing in*.

First Fruits. In *church government*, the *primitiæ;* the profits of every spiritual living for one year, given anciently to the pope and afterwards to the sovereign.

Fisc, Lat. *fiscus*, a basket; the treasury of a prince, state, &c., or that to which all things due to the public do fall.

Fiscal (*see* Fisc). 1. Revenue.——2. An officer who has charge of the fisc.——3. In *Scotland*, a public officer appointed to prosecute in petty criminal cases.

Fish. 1. (*See* Ichthyology).——2. A machine to hoist and draw up the flukes of a ship's anchor.——3. A long piece of timber concave on the one side and convex on the other, used to strengthen masts, &c., when sprung or damaged.

Fished-beam, a beam bellying on the underside.

Fishery, a place where fish are caught plentifully, as *salmon* among the lochs of Scotland, *herrings* among the Hebrides, *pilchards* on the coast of Cornwall, *cod* on the banks of Newfoundland, and *whales* on the coasts of Greenland.

Fish Gig, an instrument used to strike fish at sea. It is similar to an *eel-spear*.

Fish-room, a space between the afterhold and spirit-room of a ship.

Fis'sility, from *fissus;* that property of some bodies, as minerals, which renders them divisible in the direction of the grain or natural joints. Bodies of this nature are called *fissile*.

Fissi'para, Lat. *findo*, I divide, and *pario*, I engender; applied to those animals which propagate by spontaneous fission, or the detachment of a portion of the body, having an inherent power of growth.

Fis'siped, from *fissus* and *pes;* an animal whose toes are not connected by a membrane.

Fissiros'tres, from *fissus* and *rostrum;* a family of passerine birds of which the beak is short, broad, slightly hooked, unemarginated, and with an extended commissure, so that the opening of the mouth is very large. The family comprises the swallows and goat-suckers.

Fis'sus, cleft, cloven; applied to leaves and pods which are divided into segments.

Fis'tic-nut, the pistachio-nut, the fruit of a large tree, the *Pistacia vera*. It resembles a filbert.

Fis'tula (Latin), a pipe. A wind instrument originally a reed (a whistle). In *surgery*, a long and sinuous ulcer that has a narrow opening, and is callous within.

Fistula'na, a genus of molluscs: order *Acephala testacea;* family *Inclusa*. Brought recently only from the Indian Ocean; but form a fossil throughout Europe. The tube resembles a bottle.

Fistula'ria, a genus of Acanthopterygious fishes, the name of which is derived in particular from the tube (*fistula*) common to the whole family of *fistularidæ*.

Fistular'idæ, a family of Acanthopterygious fishes, characterised by a long *fistula* or tube in the fore-part of the cranium.

Fis'tuliform, from *fistula* and *forma*. In round hollow columns.

Five Points. The principal points of controversy between the Calvinists and Arminians, brought to a decision by the Synod of Dort. They were predestination, satisfaction, regeneration, grace, and final perseverance.

Fixed Air, the old name for carbonic acid, because found *fixed* in limestone.

Fixed Alkalies. Potash and soda, in contradistinction to ammonia, the *volatile alkali*.

Fixed Body, a body which bears a high heat without evaporation or volatilisation.

Fixed Engine. On *railways*, a stationary engine.

Fixed Oils, oils not readily volatilised; in distinction from *volatile* and *essential oils*.

Fixed Signs. An arbitrary denomination which some astronomers have given to the signs Taurus, Leo, Scorpio, and Aquarius, the seasons being considered most fixed when the sun is in these signs.

Fixed Stars, are those which constantly maintain the same relative position with regard to each other, in contradistinction to planet and comets, which are constantly changing their positions.

Fixity, the property by which bodies resist the action of heat, so as not to rise in vapour.

Fixtures. In *law*, a term generally applied to all articles of a personal nature affixed to land.

Flabel'liform, Lat. *flabelliformis*, fan-shaped. Applied to plants.

Flag. 1. In *botany*, several aquatic plants, which have long sword-like leaves, are called flags (*see* Acorns and Iris.)—— 2. In *naval* and *military affairs*, a general name for colours, standards, banners, ensigns, &c. The first flag in Great Britain is the royal standard; the second is the "anchor of hope," the third is the union-flag.

Flagel'lants, a fanatical sect who arose in Italy, A.D. 1260, who maintained that flagellation was of equal virtue with baptism and the sacrament. They accordingly walked in procession with bare shoulders, and lashed themselves till the blood flowed down their bodies.

Flagel'lum, Lat. dim. of *flagrum*, a whip; a small whip. A runner or twig which runs out long and slender, as that of the strawberry.

Flag'eolet (Fr.), a wooden musical wind instrument, played with a mouth-piece, and furnished with holes and keys for fingering.

Flag-officers, those who command the several squadrons of a fleet, as admirals, vice-admirals, and rear-admirals.

Flag-ship, a ship commanded by a flag-officer, who has a right to carry a flag, in contradistinction to the secondary ships under his command.

Flake-white, properly a subnitrate of bismuth (pearl-white), but the name is frequently given to pure white lead.

Fla'ky, Sw. *flake*, a layer. Having scales or laminæ.

Flame, Fr. and Germ. *flamme*, Lat. *flamma*, the combustion of a mixture of an inflammable gas, as hydrogen with air, naturally ascending in a stream from burning bodies, being specifically lighter than common air.

Fla'men (Lat.), a priest among the Romans. There were three so called: the *Flamen Dialis*, consecrated to Jupiter; the *Flamen Martialis*, sacred to Mars, and the *Flamen Quirinalis*, who superintended the rites of Quirinus or Romulus.

Flamin'go corrup. from Sp. and Port. *flamenco*, from *flamma*, flame. *Phœnicopterus ruber*, Lin., found in all parts of the eastern continent below 40°; and an American species, the *Phœnicopterus ruber* of Temminck. They take their name from the purple-red of the back, and rose-coloured wings. They feed on shell-fish.

Flanche, } A projecting piece, forming
Flange. } part of an iron girder or framework. The flanges of castings are commonly placed flat against one another, and holes are drilled through each, for the passage of bolts to secure them together.

Flank. 1. In *military tactics*, a term synonymous with the *side*, as distinguished from the *front* or *rear* of an army.——2 In *fortification*, that part of a bastion which reaches from the curtain to the face: it is a line drawn from the extremity of the face towards the inside of the works.—— 3. In *architecture*, the last side of a pavilion, by which it is joined to the main building. The *flank-walls* of a bridge, &c., are the wing or return walls.

Flashe, a description of sluice upon navigable rivers, erected for the purpose of raising the water over shoals, &c., while vessels are passing.

Flash'ings. In *architecture*, pieces of lead or other metal, let into the joints of a wall, so as to lap over the gutters or other conduit pieces, and prevent the splashing of rain injuring the interior works.

Flat. In *music*, a character ♭, of which the effect is to lower the note to which it is affixed a semitone minor.—In *architecture*, that part in the covering of a house, of lead or other metal, which is laid horizontal; also synonymous with *storey*, in speaking of the number of floors or storeys of a house.

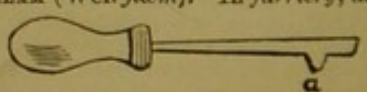
Flat'ten a Sail, to extend it fore and aft, whereby its effect is lateral only.

Flat'ting. In *gilding*, the giving of the work a light touch in places not furnished with size, in which there is sometimes a very little vermilion.——2. In *house-painting*, the mode of finishing without leaving a gloss on the surface, by using a greater proportion of turpentine and unboiled oil.

Fla'vous, Lat. *flavus*, yellow. Of a yellow colour.

Flax, Sax. *fleax*. The inner bark or *bast* of the *Linum usitatissimum*, which is spun into yarn for weaving linen webs; also the plant which produces it. The New Zealand flax (from the *Phormium tenax*), is said to exceed that cultivated in Europe in strength and whiteness of fibre.

Fleam (Wel. *flæm*). In *farriery*, an instrument used for bleeding horses and



cows. The cutting edge *a* is placed upon a vein, and driven in with a small wooden mallet.

Fleece, Order of the Golden, one of the most distinguished among European orders of knighthood.

Fleche. In *fortification*, a simple redan, usually constructed at the foot of a glacis.

Fleet, Sax. *flota*, *fliet*. A squadron of ships, more particularly ships of war. Also, a sea term used for shortening or taking up anything, after it has been stretched out.

Fle'mish School. In *painting*, the works of this school are distinguished by the most perfect knowledge of chiaro-scuro, high finishing, an admirable union of colours, and by a flowing, luxurious pencil.

Flesh-brush, a brush for rubbing the surface of the body, to excite the cutaneous circulation.

Fleur-de-lis, Fleur-de-leuce. In *heraldry*, a bearing representing the *lily*, called the queen of flowers. The arms of France are the fleur-de-lis *or*, in a field of *azure*.

Flexibil'ity, Lat. *flecto*, I bend. That property of bodies, in virtue of which, when a sufficient force is applied to them, they change their form and are bent: opposed to *stiffness* and to *brittleness*.

Flex'or. In *anatomy*, a name common to those muscles, the office of which is to bend the joints: the *flexors* are the antagonists of the *extensors*.

Flex'uous, Lat. *flexuosus*, full of turnings: applied to stems of plants, &c., which form angles alternately from right to left, or are *zigzag*.

Flex'ura. In *mammology*, the joint between the antibrachium and carpus, usually called the fore-knee in the horse, corresponding to the wrist in man.

Flex'ure, Lat. *flexura*, a bending. A term used to signify that a curve is both concave and convex with respect to a given right line. The point of bending is called the point of flexure.

Flint, Sax. *flint*. Siliceous earth nearly pure. (Silex 98, lime 0·5, alumina 0·25, oxide of iron 0·25, water 1). It occurs plentifully in the upper chalk, dispersed in parallel beds, but as yet no plausible theory has been advanced for its presence. —*Flint glass* or crystal is a species of glass, in the manufacture of which flint was formerly employed.

Flin'ty Slate. This differs from the common slate in containing more siliceous earth. When it ceases to have the slaty fracture it becomes hornstone, or the petrosilex of the French mineralogists.

Float. 1. A raft.——2. The water-gauge of a steam-boiler. This is usually a piece of whinstone partially suspended and partly floating upon the surface of the water. Its use is to regulate the supply of water in the boiler, by operating upon the valve at the top of the feed-pipe.

Float-boards, the boards fixed to undershoot water wheels, to receive the impulse of the falling stream, and to paddle-wheels, being the means whereby they act.

Floated Lath and Plaister. In *architecture*, plastering of three coats, of which the first is termed pricking up (*see* First Coat); the second floating or floated work, and the last *fine stuff*.

Float'ing. Among *plasterers*, the spreading of stucco or plaster on the surface of walls, called also *rendering* and *setting*, by means of a straight edge, called a float.

Float'ing Bridge. The *military* floating bridge is a sort of double bridge, the upper one projecting beyond the lower one, and capable of being moved forward by pulleys; used for transferring troops across moats. The *civil* floating bridge is a description of steam vessel, employed for ferrying passengers and goods across rivers, &c. It is a flat-bottomed vessel, with drawbridges at each end, by which carriages may be run on board by the horses. The leaves are slightly raised during the passage, and the bridge is guided by chains laid across the bottom of the river, and secured at each end by counterbalancing weights.

Float'ing Clough, a moveable machine for scouring out channels or inlets. It is constructed of timber, and upon being floated to the required spot is sunk, and the flaps connected with it, and which have scrapers attached, are then let down upon the banks. The force of the tide pushes it along, when it clears away all obstructions in its course. The re-action of the tide brings it back again.

Float'ing Collim'ator, Float'ing Intersec'tor. An instrument intended to supply the place of a level or plumb-line, in making astronomical observations aboard of ships. It consists of a rectangular box containing mercury, on which a mass of cast-iron is floated, and furnished with a small telescope having cross-wires.

Float'ing Light, a hollow vessel of tinned-iron plate, made in the form of a boat, with a reflector and lanthorn, which is lighted, and the apparatus lowered to the rescue of any one happening to fall overboard during the night.

Float'ing Scuds. In *architecture*, strips of plaster arranged and nicely adjusted for guiding the floating rule. *See* Floated Work.

Float'ing Meadows, meadow lands, the surface of which is flat, adjoining a river or other source of water, with which they can be flooded at pleasure.

Float'stone, a name common to the

white and grey porous varieties of rhombohedral quartz, which, in consequence of their porosity, float on the surface of water.

Floc'ci. In *botany*, the woolly filaments found mixed with the sporules of many *Gastromyci*. Applied also to the external filaments of *Byssaceæ*.

Floccila'tion, from *floccus*; picking of the bed-clothes. A symptom of great danger in acute diseases.

Floc'cus. In *mammology*, the tuft of long flaccid hairs which terminate the tail.

Floetz, Germ. *flötz*. A name given by Werner to certain rocks, because they are flat, horizontal, and parallel to each other. The floetz formations lie immediately over the transition rocks, and contain fossils. The term is not now technical.

Flood-gate or Sluice. A gate or sluice that may be opened or shut for the admission or exclusion of water: used in rivers, canals, docks, and reservoirs.

Flood-mark. The mark which the sea makes on the shore at high tide: the high-water mark.

Flooking. In *mining*, a shifting of a lode by a cross vein.

Floor, folded or folding. In *architecture*, one in which the floor-boards are so laid that their joints do not appear continuous throughout the length of the floor, but in bays or folds of three, four, or more boards each. *Straight-joint floor*, on the contrary, has its seams continuous throughout.

Floor-cloth. A useful substitute for carpet, consisting of canvas saturated with seven coats of oil, and painted with a great variety of patterns.

Floor-timbers (of a ship), are those timbers placed immediately across the keel, and upon which the bottom of the ship is framed.

Flo'ra, Lat. from *flos*, a flower. The plants peculiar to a country constitute its *flora*, as the animals do its *fauna*.

Flora'lia, a festival observed by the Romans, in honour of Flora, the goddess of flowers.

Flor'id, Lat. *floridus*, from *floreo*, to flower, embellished with flowers. The *florid Gothic* is an elaborate kind of Gothic architecture, filled with points, ramifications, mullions, &c. The term *florid* is also applied to a composition, either literary or musical, when too much embellished with figures and flowers of the literary and musical sorts.

Flor'in, a coin originally made in Florence. The name is given to different coins of gold or silver, and of different values in different countries. It is also used as a money of account.

Flos'cular, Flos'culous, Flos'culose. Lat. *flosculosus*, having little florets. A floscu-lose flower is one composed of florets, with funnel-shaped petals, as in burdock, thistle, and artichoke. Linnæus applies the word *tubulose*.

Flos'cule, Lat. *flosculus*, a floret. One of the flowers of a compound or floscular flower.

Flos Fer'ri (Lat.), flower of iron. A mineral substance, coralloidal arragonite, which occurs in little cylinders, sometimes branched like coral. It has a silky lustre, fibrous structure, and is often very white. It takes its name from being often found in cavities of veins of sparry iron ore, but contains no iron.

Floss, Lat. *flos*, a flower. 1. A downy substance, found in the husks of certain plants.——2. A fluid glass floating upon the iron of a puddling furnace, resulting from the vitrification of the oxides and earths which are present.

Floss Silk, the ravelled silk broken off in the filature of the cocoons. It is carded like cotton or wool, and spun into a soft coarse yarn or thread, for making bands, shawls, socks, &c.

Flot'sam. In *law*, a term for goods lost by shipwreck, but which are floating in the sea. *See* Jetsam and Lagan.

Flour'ish. In *music*, a prelude played with bold and irregular notes, without attention to rule.

Flow'er, Lat. *flos*, *floris*. The flower comprehends all the organs of a plant which are preparatory and necessary to the impregnation and perfection of the fruit and seed. These organs are the calyx, corolla, nectary, stamen, and pistil; but the essential parts are the anther and stigma, which are sufficient to form a flower, either together, in hermaphrodite flowers, or separate, in male and female flowers.

Flow'ers, an appellation given by the old chemists to substances obtained in a minutely crystalline form by sublimation. Thus there were flowers of benzoin, of sulphur, &c.

F. L. S., abbreviation of *Fraternitatis Linnænæ Socius*, Fellow of the Linnæan Society.

Flu'can, a name chiefly used by the Cornish miners for a fault or dam.

Flu'ent. In *fluxions*, the flowing quantity, or that which is continually increasing or decreasing.

Flu'id, Lat. *fluidus*, from *fluo*, to flow. A term applied, 1. *adjectively*, to express that state of matter in which its particles are freely moveable in all directions with respect to each other, as opposed to the *solid* state, in which the particles more firmly cohere, and require more or less force to separate them.——2. *substantively*, to designate a body in the *fluid* state. Fluids are divided into *liquids*, the particles of which, though moveable on each

other and easily separated, are held together by a feeble cohesion; and *elastic fluids, gases*, or *aëriform fluids*, between the particles of which there is a certain degree of repulsion, and which, when unconfined, tend to diffuse themselves through space. The property of fluid bodies, by which they yield to any force impressed, is called *fluidity*.

Fluke, from Germ. *pflug*, a plough. 1. The broad part of an anchor, which takes hold of the ground.——2. A fish, the plaice.

Fluobor'ic Acid, a gaseous acid obtained by heating in a retort 12 sulphuric acid with a mixture of 1 fused boracic acid and 2 fluor spar.

Flu'oric Acid. The substance described by Gay-Lussac, Margraff, and others, under this name, is now considered a compound of hydrogen and fluorine, and hence is called *hydrofluoric acid* (q. v.).

Flu'oride, a compound of fluorine and a metal, as *fluor spar*, which is a fluoride of calcium.

Flu'orine, an elementary body, which has not hitherto been obtained in sufficient quantity, in an insulated state, for examination. It forms the basis of hydrofluoric acid, and exists in nature as a component of a few minerals, of which *fluor spar* is the most common.

Flu'or Spar, a native fluoride of calcium, thus named from *fluo*, to flow, because used as a flux for metals. The coloured specimens are popularly known under the name of *Derbyshire spar*. It crystallises in the cubic system, with regular octahedral and tetrahedral cleavages. Sp. gr. 3·198.

Fluosilic'ic Acid, a binary compound of silicon and fluorine. It is a colourless gas; 100 cubic inches weigh 112 grs.

Flush. 1. A term in a game at cards, where they are all of a suit.——2. A joiner's term to denote the continuity of two or more parts to the same surface.

Flush and Bead. *See* Bead and Flush.

Flush Deck, a deck without a half-deck or forecastle.

Flus'tra, the sea-mat. A genus of zoophytes resembling the millepores, the cells being inhabited by polypi. The flustræ are observable in patches of white calcareous matter on every sea-weed and shell, appearing like delicate lace, and when taken fresh from the water present the appearance of fine net-work.

Flute. 1. A musical wind instrument, consisting of a tube about eighteen inches in length, furnished with lateral holes at the side, for the purpose of fingering. This is the English flute; but the German flute is formed of several joints or pieces screwed into each other, with holes, and several keys, to modify the tones to the various sharps and flats. In this sense the term is from *flo, flatus*, to blow.——2. In *architecture*, *see* Flutings.——3. In *navigation*, a small vessel or boat with flat ribs, to carry provisions for fleets or squadrons. In this sense the term is a different orthography of *float* or *flota*, Germ. *flöte*.

Fluted, grooved, channelled, furrowed.

Flu'tings, Flutes. In *architecture*, longitudinal cavities or channels cut in the shaft of a column or pilaster. Fluting is employed chiefly in the Ionic order, sometimes in the Composite and Corinthian, rarely in the Doric and Tuscan. Fluted columns are sometimes termed *reeded*.

Flux, Lat. *fluxus*, a flowing. Any flow or issue of matter. In *nosology*, a general name for diarrhœa, dysentery, and cholera. In *chemistry*, a name for any admixture to promote the fusion of earths or metallic ores by heat. *White flux* is the residuum of the deflagration of two parts nitre, and one part cream of tartar: it is a carbonate of potash. *Black flux* is obtained by deflagrating equal parts of nitre and tartar.

Flux'ion, Lat. *fluxio*, a flowing. A term used by the old chemists synonymously with *fusion*. In *mathematics*, the term *fluxion* denotes the *fluents*, or flowing quantities, increase or decrease; and *fluxions* denotes that branch of analysis wherein magnitudes of every kind are supposed to be generated by motion; a line by the motion of a point, a surface by the motion of a line, and a solid by the motion of a surface. The increments are also sometimes called *fluxions*, but more commonly *fluents*.

Fly or Fly-wheel. In *mechanics*, a heavy wheel employed for equalising the motion and increasing the effect of machines, revolving upon an axle, after the same principle as a counterbalancing weight. The general object is to conduct the motion over the dead points, or those parts where the crank has least effect, as in stationary steam engines.—The *fly of the mariner's compass* is that part on which the 32 points are described.

Fly-boat. 1. A large flat-bottomed Dutch-built vessel: burden from 400 to 600 tons: named also *flight*.——2. A long narrow boat used on canals, called otherwise a *swift-boat*.

Fly'ers. In *architecture*, stairs that do not wind, but go straight forward, the steps being all parallel.

Fly'ing-buttress. In *Gothic architecture*, a buttress built as an arch, springing from a solid mass of masonry, and abutting against the springing of another arch. Its office is to act as a counterpoise against the vaulting of the nave.

Fly'ing-fish, the *Exocœtus volitans*, Lin., which is able by the vibration of its large pectoral fins to rise above the water when pursued, and to maintain itself in the air for a few seconds.

Fly'ing-pin'ion, that part of a clock having a fly or fan, by which it beats the air, and thereby checks the velocity of the descent of the weight in the striking department.

Fly-or'chis, a plant, the *orchis mucifera*, supposed to bear some resemblance to a fly.

Focile. In *anatomy*, the ulna and the radius have been denominated by the barbarous appellations of *focile majus* and *minus*; the tibia and fibula have also been so called.

Fo'cus, Lat. *focus*, a fireplace or hearth. A point in which light, and consequently heat, is concentrated. In *optics*, the focus is a point where several rays are collected together in consequence of reflection or refraction. The *focus of a glass* is the point of convergence where the rays cross the axis after their refraction by the glass. The *focus of a parabola* is a point in the axis within the figure, and distant from the vertex by a fourth part of the parameter or latus rectum. The *foci of an ellipse* are two points, one towards each end of the longer axis, whence two right lines being drawn to any point in the circumference, shall be together equal to that of the longer axis. The *focus of a hyperbola* is a point in the principal axis (within the opposite hyperbola), from which, if any two lines are drawn, meeting in the curve of either of the opposite hyperbolas, the difference of these lines will be equal to the shortest transverse diameter.

Fod'der or Fother. 1. The name of a weight by which lead and some other metals are sold: it varies from 20 to 23 cwts. in different parts of the kingdom.——2. A name for dry food for cattle, horses, and sheep, as hay, straw, &c.; newly cut grass, &c., go by the name of *green* fodder; straw and dry hay go by the name of *dry* fodder.

Fog, Ital. *sfogo*, an exhalation. A dense watery vapour, exhaled from the earth, rivers, lakes, &c., floating in the atmosphere, usually close on the surface of the earth. It appears to differ from *mist*, which is the condensed moisture of the atmosphere forming rain in very small drops.

Fog-bank, an appearance, in hazy weather, which frequently resembles land at a distance, but which vanishes as you approach it.

Foil. 1. Fr. *feuille*, a leaf of metal, as *tin foil*. Among *jewellers*, a thin leaf of metal, as gold, silver, tin, &c., placed under bits of glass cut like gems, to give them the appearance of particular stones. The same artifice is employed to improve the appearance of inferior gems.——2. Wel. *fwyl*, an elastic piece of steel, or a small sword, without a point, or with a button or piece of cork on the point, used in fencing for exercise.

Fold. In *agriculture*, a temporary enclosure for keeping cattle or other animals together.—In *painting*, the lapping of one piece of drapery over another.

Fo'liage. In *architecture*, a group of leaves of plants, so arranged as to form an appropriate ornament, as in friezes, panels, and the Corinthian order.

Fo'liate, the name of a curve, whose equation is $x^3 + y^3 = axy$, having some resemblance to a leaf.

Fo'lio. 1. In *account books*, a page, or rather both the right and left-hand pages, these being expressed by the same figure. ——2. A *folio* book is one in which the leaves are formed by once doubling a sheet of paper, the sheet making thereby two leaves.

Fo'liole, Lat. *foliolum*, from *folium*, a leaf. A leaflet or little leaf.

Folk'land, copyhold land, or land held by the commonalty at the will of the lord.

Fol'kmote, Sax. *folcgemote*, conventus populi. A term used before the Norman conquest, to denote the annual assembly of the people, answering in some measure to the modern parliament.

Folkstone Marl, a stiff marl, better known by the provincial term *Galt*.

Fol'licle, Lat. *folliculus*, a little bag. In *anatomy*, a simple gland.—In *botany*, a one-valved pericarp or seed-vessel.

Fo'malhaut. In *astronomy*, a star of the first magnitude, in the constellation Aquarius.

Fo'mes (Lat.), fuel. A term in medical language for any porous substance capable of absorbing and retaining contagious effluvia. Wool and woollen cloth are among the most active *fomites*.

Font or Fount, a complete assortment of printing types of one size, including a due proportion of all the letters of the alphabet, large and small, points, accents, and whatever else is necessary for printing with letter.

Fontanel', Fr. *fontanelle*. An interstice in the infant cranium, between the frontal and parietal bones, is commonly called the *mould*, and scientifically the *anterior fontanel*; and a lesser vacancy, between the occipital and parietal bones, is termed the *posterior fontanel*. These interstices are subsequently filled up with osseous deposit.

Fools, Feast of. A festival anciently celebrated in every church and monastery in France, on New-Year's-Day, in which every absurdity and indecency was practised. It was equivalent to the Saturnalia of the Romans.

Foot, the lower extremity of the leg. Animals are distinguished with respect to the number of their feet, as *bipeds*, *quadrupeds*, and *multipeds*.—*Foot* is also the name of a measure of length consisting of 12 inches, supposed to have been taken

the length of a man's foot. A *square* is the same measure both in length and breadth; a *cubic foot* is the same measure in all the three dimensions, length, breadth, and thickness. In *poetry*, a *foot* is a certain number of syllables constituting part of a verse, as an iambus, dactyl or spondee. In *military language*, soldiers who serve on foot are called *foot* or infantry, as distinguished from cavalry.

Footing-beam, a name given to the tie-beam of a roof in some parts of the country.

Footing (of a wall); a projecting course of stone or brick, at the base of a wall or building, intended to give greater stability and support.

Footing Dormant. In *carpentry*, a name for the tie-beam of a roof.

Foot-pace, a flat part in a stair or hand-railing, between the first step and the landing place.

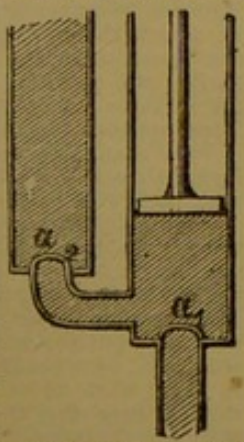
Footstalk. In *botany*, a partial stem supporting a leaf: a petiole.

Footwaling (of a ship), the ceiling or planking lining the inside of the ship below.

Fora'men (Lat.), a little opening, from *foro*, to pierce. A name in anatomy for various perforations in several parts of the body. In *botany*, the opening that exists in the integuments of every ovulum.

Force. In *mechanics*, is that which causes or tends to cause a change in the state of a body as to motion or rest. This is sometimes termed *active force*, in contradistinction to what merely *resists* or *retards* the motion of another, but is itself apparently *inactive*. The degree of resistance to any motion is measured by the *active force* required to overcome that resistance, and hence writers on mechanics make use of the terms *resisting forces* and *retarding forces*.

Force-pump or Forcing-pump, a pump differing from the *lifting* or *sucking pump* in having its piston solid or without a valve, and also in having a side-pipe through which the water is forced, instead of rising in a perpendicular direction, as in the others. *See* Pump.



Forcer. 1. The solid piston of a force-pump. — 2. A force-pump.

Forcible Entry and Detainer. In *law*, an offence committed by violently taking possession of lands and tenements with force, and without legal authority.

For'cing. In *horticulture*, a method of producing fruits, &c., before their mature time or season.

Fore, a nautical term for near the stem, as "fore and aft," i.e. from stem to stern.

Fore'castle, a short deck in the fore-part of a ship above the upper deck, usually terminated in ships of war with a breast-work.

Fore-close. In *law*, to exclude or bar the equity of redemption on mortgages, and thereby to cut off the power of the mortgager to redeem the mortgaged property.

Fo're-foot, a piece of timber at the fore extremity of the keel.

Fore'hand. In the *manége*, the part of a horse which is before the rider.

Fore'mast, the mast of a ship or other vessel which is placed in the forecastle, and carries the foresail and foretop-sail yards.

Fore'shore, that sloping part of a shore comprehended between the high and low-water marks.

Foreshort'ening. In *painting*, the art of conveying to the mind the impression of the entire length of an object when it is represented as viewed in an oblique or receding position, in which case the actual vision of it is in line on the receding side.

Fore-staff, a rude instrument formerly used at sea for taking altitudes.

Forestal'ling, the buying or contracting for any cattle, provision, or merchandise on the way to market, or dissuading persons from buying their goods there, or persuading them to raise the price, or spreading any false rumour with intent to enhance the value of an article.

Fore'stay. In a *ship's rigging*, a large strong rope reaching from the foremast head towards the bowsprit end, to support the mast.

Foretackle (of a ship). The tackle on the foremast.

Fore'top (of a ship). The platform erected at the head of the foremast.

Foretop-mast, the mast erected at the head of the foremast, and at the head of which stands the *foretop-gallant-mast*.

For'feiture, Lat. *forfisfactura*, expulsion. The punishment of an illegal act, according to which the owner of property is deprived of all interest therein, and the property delivered to the injured party by way of recompense.

Forge (Eng. and Fr.). The name either of the furnace where wrought iron is hammered and fashioned with the aid of heat, or the great work-shop where iron is made malleable. The former is a *smith's forge*, the latter a *shingling mill*.

Forget-me-not, a small herbaceous plant, the *Myosotis palustris*, which bears

a beautiful blue flower, the emblem of fidelity in matters of love. It holds a conspicuous place in bouquets.

Forlorn'-hope. In *military affairs*, a detachment of men (volunteers) appointed to lead in an assault, or to perform any service attended with imminent peril, thus named from the small hope they have of surviving.

Form. 1. In *physiology*, the essential and distinguishing modification of the matter of which a body is composed. This is *essential form*.——2. In *general physics*, the exterior appearance or surface of a body, or the disposition of its parts as to length, breadth, and thickness.——3. In *printing*, pages or columns of type properly arranged, enclosed and locked in an iron frame called a *chase*, ready to be put to press; there are two forms for each sheet.——4. In *ethics*, the manner of being or doing a thing according to certain rules, thus we have a *form* of government.——5. In *law*, the rules requisite to be observed in legal proceedings are called forms.

For'ma Pau'peris. In *law*, when a person has just cause of a suit, and swears that he is not worth five pounds sterling, he is allowed to plead *in formâ pauperis*, i.e., without paying any fee, counsel and attorneys being assigned to him.

Forma'tions. In *geology*, regular alternations of strata over each other. The term is designed to convey the idea, that the strata, composing the earth's crust, have been formed at different and distant periods; hence those strata, supposed to have been formed during one geological period, constitute a *formation*. Thus the strata of shale, sand-stone, and iron-stone, which accompany coal-beds, are called the *coal* formation.

For'medon. In *law*, a writ of right which lies for him who has right to lands or tenements by virtue of an entail.

Form'ica, the *ant*. An extensive genus of hymenopterous insects of the heterogynous family.

For'mic Acid, a peculiar acid, thus named from its having been first found in the red ant (*formica rufa*). It is now formed artificially by distilling a mixture of 10 tartaric acid, 14 black oxide of manganese, and 15 concentrate sulphuric acid, with 20 or 30 of water: the colourless liquid which comes over is formic acid. It consists of 2 vols. carb. oxide, and 1 vol. vapour of water.

For'mula, Lat. dim. of *forma*. A prescribed form.——1. In *theology*, a profession of faith.——2. In *pharmacy*, a prescription for the preparation of medicines.——3. In *algebra*, a theorem or general rule.——4. *Chemical formulæ* are symbols representing the different substances, simple and compound.

For'nix (Latin), an arch or vault. The *fornix of the brain* is the part beneath the corpus callosum. It is so called, from its somewhat resembling the arches of ancient vaults. The *fornix of a shell* is the excavated part under the umbo.

For'te. In *music*, an Italian term, being a direction to sing with strength of voice.

Forte Piano. In *music*, an Italian compound, signifying the art of enforcing or enfeebling sounds in imitative melody, as is done in speech, which it imitates.

Fortifica'tion, from *fort*. That species of architecture called military, used for defence against the attack of an enemy, showing how to fortify a place with ramparts, parapets, moats, and other bulwarks.

Fortis'simo, the Italian superlative of *forte* (q. v.), implying "very loud."

For'tret or For'tin, a sconce or small fort.

Fo'rum. In *Roman antiquity*, any public place, as a market, court of law, or place where causes were judicially tried, and orations delivered to the people.

Foss, } Lat. *fossa*. A ditch, applied in
Fosse, } fortification to the moat lying between the scarp and counterscarp, and in anatomy to any little furrow or sinus.

Fos'sa (Lat.). In *geology*, depressions on the external surface. *Fossa ovalis*, a depression in the right auricle of the heart.

Fos'sil, Lat. *fossilis*, from *fodio*, to dig; dug out of the earth. The term is now commonly used substantively to express the remains of animal or vegetable substances found buried in the strata of the earth's crust.

Fos'sil-Co'pal, Highgate resin; a resinous substance found in perforating the bed of blue clay at Highgate, near London. It appears to be a true vegetable resin.

Fosso'res (*diggers*). A family of hymenopterous insects armed with a sting, and in which the individuals of both sexes are furnished with wings and live solitarily; and in which the legs are adapted for walking, and in some for digging They compose the genus *Sphex*, Lin.

Fosso'rial, Lat. *fodio*, to dig. In *zoology*, animals which dig their retreats and seek their food in the earth.

Foth'er. 1. A weight of lead, &c., containing 8 pigs (*see* Fodder.)——2. Among seamen, to *fother* is to endeavour to stop a leak in the bottom of a vessel while afloat, by letting down a sail by the corners, and putting chopped yarn, oakum, wool, &c., between it and the ship's sides, in order that these substances may be sucked into the cracks, and the leak stopped. This is *fothering*.

Fou'gade, a French term for a little mine under some work or fortification, to destroy it by explosion.

Fou'gass, Lat. *focata*. In *fortification*, a small mine six or eight feet under ground.

Found. In *architecture*, the trench or excavation made to receive the foundation stones of a wall.

Foun'der. In *farriery*, a painful species of lameness occasioned by inflammation within the horse's hoof; hence called also *foot-founder*.

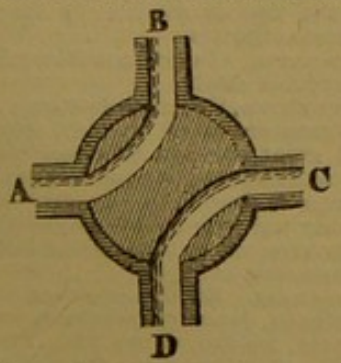
Foun'dry, the place or works where founding of metals is carried on.

Foun'tain, from *font*. Properly a spring or stream of water rising up through the superficial strata of the earth. The word accords in sense with *well*, but that term is now restricted to an artificial pit dug to receive and contain water either by drainage of the surface, or from the interior strata. There are also *artificial fountains* of various forms, but all acting on the principle of a pressure either from a head of water or arising from the elasticity of the air. When fountains are formed by the pressure of a head of water, or any other fluid of the same kind, with the fountain or jet, then will this spout up nearly to the same height as that head, allowing a little for the resistance of the air, with that of the adjutage or tube, &c., in the fluid rushing through; but when the fountain is produced by any other force than the pressure of a column of the same fluid as itself, it will rise nearly to the altitude of the fluid, whose pressure is equal to the given force that produces the fountain.

Fourteenth. In *music*, the octave or replicate of the seventh; a distance comprehending thirteen diatonic intervals.

Fourth. In *music*, a distance comprehending three diatonic intervals, or two tones and a half.

Four-way Cock, } a description of
Four-way Valve, } valve much used in steam-engines for passing the steam to the cylinder. A is the communication with



the steam-pipe, B the passage to the upper end of the cylinder, C to the lower end, and D the passage to the condenser. By turning the centre a quarter of a revolution the action is reversed, and the steam, instead of entering by the cylinder at the upper end, will enter at the lower end through C.

Fox, a name common to several species of the genus *Canis*, Lin. The common fox, found from Sweden to Egypt, is the *C. vulpes*, Lin.; the tri-coloured fox of America is the *C. cinereo-argenteus*, Schreb.; the little fox of the prairies of North America is the *C. velox*, Harl.; the silver and black fox of North America is the *C. argentatus*, Cuv. The African foxes are the *Megalotis* of Illiger. These are remarkable for the size of their ears. *Fox* is also applied to a particular kind of strand made of rope-yarn.

Foxtail Wedging. In *carpentry*, a peculiar mode of mortising, in which the end of the tenon is notched beyond the mortise, and is split, and a wedge inserted, which being driven forcibly in, enlarges the tenon, and renders the joint firm and immovable.

Frac'tion, from *frango*, to break. A part of a whole: appropriately, a part of an integer, as $\frac{3}{4}$. Here the figure below the line, called the *denominator*, shows the number of parts into which the integer is divided, and the figure above the line, called the *numerator*, shows the number of these parts taken. Fractions are called *vulgar* or common when the denominator is written, and *decimal*, when the denominator is 10, or a multiple thereof, and not expressed (*see* Decimal). A fraction is moreover called *simple* when it is expressed by a single numerator and denominator, as $\frac{3}{8}$, and compound when two fractions are connected by the word *of*, as $\frac{2}{3}$ of $\frac{1}{2}$. When the numerator is less than the denominator, the fraction is *proper*, but it is said to be *improper* when the numerator is the greater of the two *terms*. Thus $\frac{3}{4}$ is a proper fraction; but $\frac{8}{7}$ is an improper one.

Frac'ture, Lat. *fractura*. A breach in any body, especially when caused by violence. *Surgeons* call the disruption of a bone a *fracture*, and term it *simple* when the bone only is divided, and *compound* when the bone is broken with laceration of the integuments. *Mineralogists* understand by *fracture* the manner in which a mineral breaks, and by which its texture is displayed. They, therefore, speak of compact, fibrous, foliated, striated, conchoidal, &c., fractures. Fracture is one of the specific characters of minerals.

Fræ'num (Latin), a bridle. A name given by anatomists to several ligaments, from their office in retaining and curbing the motions of the parts they are fitted to.

Fragmen'tary, composed of fragments; applied to rocks.

Fraise or Frieze. In *fortification*, a kind of palisade or stake, placed horizontally in the exterior face of such ram-

parts as have only half revetments, for the purpose of preventing the assailants from ascending.

Frambesa, Lat. *frambœsia*, from Fr. *framboise*, a raspberry. The yaws, a disease endemial to the Antilles and some parts of Africa. It appears with excrescences like mulberries growing out of the skin, which discharge an ichorous fluid.

Frame. In *carpentry*, &c., a name given to the woodwork of windows enclosing glass, and the outward work of doors or window shutters enclosing panels, to the timber work supporting floors, roofs, ceilings; to the intersecting pieces of timber forming partitions, &c. In *ship-building*, the *frames* consist of pairs of timbers, composed of pieces of different lengths, joining the floor timbers and carried upwards, those frames whose planes are perpendicular to the keel, are called *square frames;* at the head and stern these frames are inclined towards the extremities, and are called *cant frames*. The divisions of the ship in which are the square and cant frames are called the *square* and *cant bodies*.

Franc, an ancient coin of France. The value of the gold franc was something more than that of the gold crown, and the silver franc was one third of its value. The present franc is a silver coin, worth 9·69 pence sterling, or 9¾*d*. nearly.

Franch'ise, from Fr. *franc*, free. A particular privilege or right granted by a sovereign to an individual, or number of individuals. A franchise is any particular political privilege, giving a power to do something, and may be vested either in bodies politic, in borough towns, or in individuals, as the electoral franchise.

Francis'cans, a name of the Grey-friars. A religious order of St. Francis, by whom they were founded, about A.D. 1200.

Fran'gible, from *frango*, to break. A term relating to the degree of force necessary to separate one part of a body from another by percussion: applied to minerals.

Frank Aleu. In *law*, an absolute right to real estate. In Lower Canada, and also in Guernsey and Jersey, acknowledging no superior, and consequently not a *tenure*.

Frank-almoigne, free alms (Norm. *almoignes*, alms). A tenure by which a religious corporation holds lands to them and their successors for ever, on condition of praying for the soul of the deceased.

Frank-chase, a liberty of *free chase*, or of keeping royal game therein, protected even from the owner of the land himself, and with liberty of hunting them thereon.

Frank-fee, in *law*, is the same as holding lands, &c. in *fee-simple*.

Frank-ferm, anciently signified lands changed in the nature of the fee by feoffment, and out of the knight's service for other certain yearly services.

Frank-fold, is where the lord has the liberty of folding his tenant's sheep within his manor.

Frankfort Black, a substance procured by calcining vine-branches and other refuse lees of the vinegar-vats of Germany, previously well washed.

Frank-free, Frank-pledge, Freeborg. } Germ. *bürge*, pledge. An ancient usage of two kinds. 1. That by which every lord was made responsible for the appearance of his own men or dependants, when accused before justice. ——2. Public frank-pledge is of obscure origin. The inferior class of freemen were enrolled in bodies called tythings, under the superintendence of a *tything-man*: the tything thus organised was bound for the appearance of any one of its members.

Frank'incense, a name common to two resinous juices. 1. That called *thus*, obtained from the *pinus abies*, or spruce-fir. 2. That obtained from the *juniperus lycia*, a species of juniper-tree common in Turkey and the East Indies. This last is more commonly called *frankincense*. It is used as a perfume.

Frank'ing, a term used by the makers of window sashes, and applied to the mode of forming the joint, where the cross-pieces of the frame intersect each other.

Franks. A general appellation, conferred by the Turks and other Asiatics on the inhabitants of Europe.

Fra'trage, from *frater*, a brother. In *law*, (1.) A partition among co-heirs coming to the same inheritance. (2.) The part of an inheritance which comes to the youngest brothers.

Fraxi'nus, the ash-tree. A genus of about forty species. *Polygamia—Diœcia*. Name from *fragor*, on account, as some say, of the noise which its seeds make when the tree is shaken by the wind. Temperate climates.

Free-bench. In *law*, a widow's dower in a copyhold estate.

Freebooters, Germ. *freibeuters*. A set of adventurers of all nations, who displayed great courage in executing the most difficult plundering enterprises. The term is applied to any one who regards the universe as his property, and appropriates, either furtively or forcibly, the possessions of others.

Free-chase. *See* Frank-chase.

Free'hold, lands or tenements held in fee-simple, fee-tail, or for life. *Freehold in deed* is real possession. *Freehold in law* is the right of a person to lands, &c., but does not imply possession. The term *freehold* is sometimes taken in opposition to *villenage*.

Free'man. In *old law*, one free from ser-

rtitude, as distinguished from villain or bondsman. The name is now used to designate one who enjoys the freedom of a city or borough town.

Freema'sonry. A well-known institution, the origin of which has given rise to much needless speculation.

Free'thinker. A term applied to those who reject the ordinary modes of thinking in matters of religion.

Freez'ing Mixture, a mixture which, by absorption of heat in liquefying, produces great cold, as a mixture of snow and salt, which in the proportion of two snow, and one salt, sinks the thermometer to 5°.

French Chalk, talc in a completely indurated form. It is a magnesian mineral, much employed to remove greasy stains.

French-horn, a musical wind instrument, made of copper, and possessing a range of three octaves. It is bent two or three times round, and becomes gradually wider towards the end, which in some horns is ten inches over.

Fres'co (Italian), shade, coolness. *Painting in fresco* is done by drawing with colours diluted with water, on a wall newly plastered, with the plaster of which they are so incorporated, as to perish only with the stucco itself. It is called *in fresco*, by the Italians, because it is frequently done on walls, alcoves, &c. in the *open air*, or because of the coolness or duskiness of the colours.

Fret. 1. In *music*, the stop of an instrument, which regulates the vibration of the strings, *e.g.* the short piece of wire fixed on the finger-board of a guitar.—— 2. In *heraldry*, a bearing composed of bars crossed and interlaced.——3. In *architecture*, a kind of ornamental work, formed by rectangular channelled work, used on flat members.

Fric'tion, from *frico*, to rub. A general name for the attrition of bodies. The term is applied, in *mechanics*, to denote the resistance offered by the rubbing of the parts of a machine or engine against each other, upon the application of the force necessary to put the same into action. By reason of friction, a great part of the effective power of machinery is lost, and the several parts worn, and rendered defective. It arises from roughness, or imperfection of the opposing surfaces, the interposition of dust, moisture, &c. between them; from the conjoint action of gravity and cohesion, &c. It is modified by the amount of rubbing surfaces in contact.

Fric'tion Roller, a description of wheel much used in connection with inclined planes and fixed engines, to receive the rope, and thereby to reduce the friction. *See* Sheave.

Frien'dly Societies. Voluntary associations of subscribers, for the purpose of forming a fund for the assistance of members in sickness, or on other occasions of distress.

Frieze, Fr. from *friser*, to curl. Properly the nap on woollen cloth; hence a kind of coarse woollen cloth or stuff with a nap on one side. The term *frieze* is applied in architecture to denote a large flat member of the entablature, comprised between the architrave and the cornice, supposed to have originated from the projecting ends of the transverse beams, resting on and fixed to the architrave.

Frieze'-pan'el, the upper panel of a door of six panels.

Frieze Rail, the rail next to the toprail of a door of six panels.

Fri'ga or Freya. *See* Odin.

Frig'ate, Fr. *frégate*, Span. and Port. *fragata*. A ship of war larger than a sloop or brig, and less than a ship of the line, usually having two decks, and carrying from 30 to 44 guns.

Frig'ate Birds. They constitute the genus *Tachypetes*, Vieillot. They differ from the cormorants in their forked tail and short feet, the membranes of which are deeply emarginated. The species is well known, the *Pelicanus aquilas*, Lin. Its wings when expanded measure from 10 to 12 feet.

Frigate-built, having a quarterdeck and forecastle raised above the main deck.

Frigato'on, a Venetian vessel with a square stern, without a foremast, having only a main and mizenmast.

Frigid Zones. In *geography*, the two zones comprehended between the poles and the polar circles. They are the north frigid zone at the north pole, and the south frigid zone at the south pole.

Frigida'rium, Lat. *frigidus*, cold. In *ancient architecture*, the apartment in which the cold bath stood.

Fringe (of mosses), a simple or double row of separate or connected teeth, which border the orifice of the capsule in almost all the genera of mosses, and are originally covered by the lid and veil.

Fringil'la, a *finch*. A genus of passerine birds. Family *Conirostres*. This genus according to Linnæus comprises the weavers (*Ploceus*), the sparrows (*Pyrgita*), the finches (*Fringilla*), the goldfinches (*Carduelis*), the linnets (*Linaria*), the whidahs (*Vidua*), the grosbeaks (*Coccothraustes*), the bullfinches (*Pyrrhula*), and the *Pitylus*, according to the arrangement of Cuvier.

Frit, } The materials of glass after
Fritt. } undergoing calcination, but before fusion.

Frith or Firth, an arm of the sea, the opening of a river into the sea, Lat. *fretum*, a narrow passable channel.

Frithgild. In *archæology*, a guildhall, also a company or fraternity.

Frithsoken. In *law*, a liberty of having frankpledge or surety of defence.

Frog. 1. In *zoology* (*see* Rana and Hyla.)——2. In *farriery*, the hard frog-like protuberance in the middle of the lower part of a horse's hoof, pointed towards the forepart, and expanded towards the heel like a wedge.

Frond, Lat. *frons*, the leaf or bough of a tree; now applied by botanists to the cryptogamic plants only, to signify that the stem, root, and leaf, are all in one, as in the ferns, fuci, &c.

Frondes'cence, from *frondesco*. A term in botany for the precise time of the year and month in which a plant flowers.

Fron'tate, from *frons*, *-dis*. An epithet for leaves which continually become broader, and at last perhaps terminate in a right line: opposed to *cuspate*.

Front'is, Os, the *frontal bone*, or bone forming the forehead.

Fron'tispiece. 1. In *architecture*, the ornamental front of a building.——2. An ornamental engraving fronting the title-page of a book.

Fron'ton. In *architecture*, a French term used to denote an ornament over a door or pediment.

F. R. S., an abbrev. of *Fraternitatis Regiæ Socius*, Fellow of the Royal Society.

Frus'tum. In *geometry*, a Latin word for a part of a regular solid next the base, left by cutting off the top or segment by a plane parallel to the base, as the frustum of a cone, of a pyramid, of a conoid, &c. The frustum of a sphere is any part comprised between two parallel sections.

Fuch'sia, a genus of arborescent plants. *Octandria—Monogynia*. Warm climates, as Chili and Mexico.

Fu'cus, the name of an extensive genus of cryptogamic plants. Order *Algæ*. The gulph weed, red dulce, sea girdle, and hangers, daber locks, corsican worm-weed, sea lentil, dulce or dills, sea oak or sea wrack, &c., are all species, as indeed are most of those plants called sea-weed, some of which are eaten raw, as a salad, others are used medicinally, some afford soda, others contain iodine, and one species when burned affords the vegetable Æthiops of the shops. Name *fucus*, from φῦκος, means simply a sea-weed, but the term was also applied by the Romans to certain dyes, &c.

Fue'ros. The term by which in Spain the peculiar privileges of certain provinces are distinguished.

Fu'ga, } In *music*, a movement in
Fu'gue. } which the leading part or first treble is followed by the second, the second treble by the tenor, the tenor by the bass, in close succession.

Fu'gleman or Flugelman, Germ. *flügel*, wing. An officer who takes his place in front of a regiment, as a guide to the soldiers in the movement of the drill.

Ful'cra, Lat. plu. of *fulcrum*, a prop; props or supports. A term used by Linnæus to denote not only those organs of vegetation properly called *props*, but also various appendages to the herbage, none of which are universal or essential, and no plant is furnished with them all. The greater fulcra are the roots, trunk, and branches; the lesser are the petioles, tendrils, suckers and runners. The *fulcra of a flower* are the peduncle, scape and receptacle.

Fulcrum (Lat.), a support; a term in mechanics for the prop which supports a lever.

Ful'gorite, Lat. *fulguritus*, anything struck by lightning. A term used to designate a mineral with marks of fusion, supposed to be from the action of lightning.

Fulgur'ation, from *fulgeo*, to shine. A term used by assayers to denote the sudden brightening of the melted gold or silver in the cupel, when the last film of vitreous lead and copper leaves their surface.

Fu'lica. 1. The *lantern-carriers* or *fire-flies*, a genus of hemipterous insects.——2. The *coots*, a genus of birds. Order *Grallatoriæ*, family *Macrodactyli*, Cuv. The genus according to Linnæus comprehends the *Gallinula*, Briss. and Lath., the *Porphyrio*, Briss., and the *Fulica*, Briss., which comprises the true coots, of which there is only one species in Europe, the *F. atra*, Germ., found wherever there is a pond.

Ful'ler's Earth. A clay of a greenish and somewhat spotted colour, very soft, and feels unctuous to the touch. Thus named from its being used by fullers to take the grease out of cloth before applying soap. It contains 63 silex, 25 alumina, and 12 water.

Ful'ling, the business of scouring, cleansing, and pressing woollen cloths, &c., to render them closer and stronger; called also *milling*, because these cloths are in point of fact scoured by a water-mill.

Ful'minates, *fulminating powders*. There are several species, such as fulminating gold, silver, mercury, &c., but the only kind at all interesting is the fulminate of mercury, now extensively used as priming to the caps of percussion locks.

Fulmi'nic Acid, the explosive constituent of the fulminates. It has exactly the same constitution as cyanic acid, yet the compounds of the latter do not detonate and afford in their decomposition by an oxygen acid, ammonia with carbonic acid: while those of the former afford

ammonia and prussic acid. All attempts to insulate the fulminic acid have hitherto proved ineffectual.

Fu'ming. The *fuming liquor of Boyle* is hydro-sulphuret of ammonia; that of *Cadet* is chloride of arsenic: and, that of *Libavius* is bichloride of tin.

Func'tion. In *mathematics*, a quantity is said to be a function of another quantity, when its value depends on that quantity and known quantities only. In *physiology*, a function is any action by which vital phenomena are produced, as the action of the heart, the digestion of aliment, or the sense of touch.

Fundamental bass. In *music*, the lowest note or root of a chord.

Funds, stock or capital, lat. *fundus*, foundation. The term is taken in the sense of a sum of money appropriated as the foundation of some undertaking with a view to profit, and by means of which expenses and credit are supported. The money lent to government and known experimentally as the *National debt*, is collectively called *funds*, as constituting the stock of that debtor, as being a public funded debt due by government: hence called the *public funds;* and the *funds* are said to rise or fall when a given amount of that debt sells for more or less in the market. The *sinking fund* is a sum of money appropriated to the purchase of the public stocks by government, with a view to pay off the National debt.

Fun'gi, Lat.-pl. of *fungus;* mushrooms, toadstools, &c.; an order of the class *Cryptogamia*.

Fun'gus (*Latin*), a mushroom. In *surgery*, any morbid excrescence of a softer texture than that which is natural to the part where it grows.

Funic'ular machine, Lat. *funis*, rope. In *mechanics*, if a body fixed to two or more ropes is sustained by powers which act by means of those ropes, the whole system is termed the funicular machine.

Funnel, Lat. *infundibulum*. In *architecture*, the upper part of a chimney.

Funnel-shaped. In *botany*, applied to the general form of a calyx or other part.

Fur, the short, fine soft hair of certain animals, growing thick on the skin and distinguished from *hair*, which is longer and coarser. In *commerce*, the skins of animals with fur are called *furs*, the inner side being converted into a soft leather by a peculiar process called *peltry*.

Fur'cate, Lat. *furcatus*, forked, or fork-like: applied to parts of plants.

Furling, in *nautical language*, the wrapping up and binding of any sail close to the yard.

Fur'long, a measure of length, the eighth part of a mile, or forty poles.

Fur'nace, Lat. *fornax*, a vessel or building (according to size) for the purpose of containing combustible and fusible matters, whether of coal, wood or metal; and so constructed that great heat may be produced and concentrated. Furnaces are as various in their construction as are the forms of operation to which they are subservient, but they may all be reduced to three sorts, *evaporating furnaces*, for the reduction of substances to vapour by means of heat; *reverberatory furnaces*, where the flame is prevented from rising; and *forge furnaces*, in which the current of air is determined by bellows.

Fur'niture. In *printing*, the materials used to extend pages of type to their proper length, and to set them at a just distance from each other when imposed, so as to print off properly on the sheet. In *architecture* (Fr. *fournir*, to furnish), the brass-work of locks, doors, shutters, &c.

Fu'ro, *the ferret*, a species of mustela or weasel.

Fur'ring, Fr. *fourrer*, to thrust in. The small slips nailed to joists, &c., to bring their surfaces to one plane, and thus to render the braiding nailed upon them regular.

Fusar'ole, } In *architecture*, a small
Fusur'ole, } member in the form of a collar, with somewhat long beads under the echinus or quarter-round, of pillars of the Doric, Ionic and Composite orders.

Fuse, (Fr. from Lat. *fusus*, a spindle). 1. In *clockwork*, the conical part round which is wound the chain or cord of a watch or clock, thus constructed to equalise the power of the main-spring.——2. In *gunnery*, the tube fixed into a bomb or grenade-shell. It is usually a wooden pipe filled with combustible matter to fire the contents of the shell.——3. A description of small neat musket was till recently called a *fusee*, but the word *fusil* is now adopted.

Fusible Metal, a compound of 8 parts of bismuth, 5 parts of lead, and 3 parts of tin. It melts at 212° F. *Rose's fusible metal* is 2 parts bismuth, 1 of tin, and 1 of zinc. It melts at 200° F.

Fu'siform, Lat. *fusiformis*, spindle-shaped. Applied to parts of plants, as roots, &c.

Fusil. 1. A description of musket. *See* Fusee, No. 3.——2. In *heraldry*, is a bearing of a rhomboidal figure.

Fusilie'rs, are now termed *light infantry*. They were formerly armed with *fusils*, but their muskets are not now different from those of other soldiers.

Fust, Fut. In *architecture*, the shaft of a column; also the trunk of a pilaster.

Fus'tian, Fr. *Futaine*, a description of cotton stuff ribbed on one side. In *criticism*, applied to compositions possessing a forced elevation of style or an exaggerated use of metaphor.

Fus'tic, Ger. *fustick*. The wood of a species of mulberry (*morus tinctoria*), a large tree which grows in most parts of South America, West Indies, &c. It is the *old fustic* of the English dyer, as the *rhus cotinus*, a small European shrub, is their *young fustic*. This last is also called fustic and zante.

Fut'tocks. In *ship-building*, a term corrupted from *foot-hooks*, meaning the lower timbers raised over the keel that hold the ship together.

Fut'tock Plates. Flat iron bars, connecting the lower dead-eye of the topmast rigging at one end, with the futtock shroud at the other.

Fut'tock-shrouds, *foot-hook shrouds*. The small shrouds in a ship's rigging, passing from the mainmast, foremast, and mizenmast shrouds, to those of the topmasts.

G.

G, the seventh letter of the English alphabet, as a numeral, formerly denoted 400, and with a dash over it, 40,000; as a mark in music, it designates the treble cleff; and from its being placed at the head, or marking the first second in Guido's scale, the whole scale took the name of *gamut*.

Gabel', Fr. *Gabelle*. A term which when formerly mentioned absolutely signified a French tax on salt, but afterwards it came to signify any impost or duty. In old records it means rent, custom, or duty due to the lord.

Ga'bions. In *fortification*, wicker baskets which are filled with earth to form temporary defences, &c.

Ga'ble, Scot. *Gaval*. The upright triangular end of a house from the cornice or eaves to the top of the house.

Gad. Among *miners*, a small punch of iron with a wooden handle, used to break up ore.

Gaff. In *ships*, a sort of boom or spar, used to extend the upper edge of the mizzen.

Gage (Fr. and Eng.), a name given to a variety of instruments used to measure the degree of rarefaction in the receiver of an air-pump; quantity of rain which falls in a given time; force of steam in a steam-boiler, height of tides, force of wind, &c. &c. In *plastering*, the word signifies the quantity of Paris plaster used with the common plaster to accelerate its setting. In *architecture*, it is applied to the length of a tile or slate below the lap.

Gai'llarde (It.), a lively dance peculiar to Italy.

Gain. In *carpentry*, the bevelled shoulder of a binding joist.

Galac'tin, a vegetable substance obtained from the sap of the *galacto-dendron utile*, or cow-tree of South America, where it is used as a substitute for cream.

Galac'tile, milk-stone; γαλα, milk, and λιθος, stone. A mineral which resembles steatite; but which when triturated in water gives a milk-like solution.

Galactom'eter, from γαλα, milk, and μετρον, measure. An instrument for ascertaining the quality of milk by the quantity of cream it produces. It is merely a long graduated glass tube standing upon a sole. The hydrometer is, however, the most convenient galactometer. *See* Milk.

Galactoph'orus, the milk-bearer; γαλα, milk, and φερω, to bear. An instrument used to facilitate lactation when the nipple is not sufficiently developed.

Gala'go, the name given by Geoffroy to a sub-genus of the Lemur tribe of mammalia. The species are all from Africa. Their regimen is insectivorous and their habits nocturnal.

Galan'gal. In *botany*, the smaller galangal is the *Maranta galanga*. The English galangal is the *Cyperus longus*. The greater galangal is the *Kæmpferia galanga*. ——2. In *pharmacy*, the roots of the greater and smaller galangal, brought from China and the East Indies.

Gal'axy. In *astronomy*, the milky-way; γαλα, milk; the *via lactea*, of the Latins. A long luminous tract forming nearly a great circle of the celestial sphere, inclined to the ecliptic at an angle of 60°. The ancients had many singular ideas as to the cause of this phenomenon, but the telescope proves that it is caused by a vast assemblage of stars, too distant to be distinguished by the naked eye.

Gal'banum, Heb. *Chalbanah*. A gum-resin which exudes from incisions made in the stem of the *Bubon galbanum*, an umbelliferous plant which grows abundantly in Africa and some parts of Asia.

Gal'bula, the *Jacamars*, a genus of birds. Order *Scansoriæ*, Cuv. These birds are closely allied to the king-fishers. They live solitarily in wet forests, feed on insects, and build on low branches.

Gal'ea, a helmet, from γαλη, a cat, because helmets were originally made of cats' skins! Applied to, 1. In *botany*, the upper arched lip of a ringent and personate corol.——2. *In anatomy*, the amnion. ——3. In *surgery*, a bandage for the head. ——4. In *pathology*, headache extending all over the head. —— 5. In *geology*, a genus of echini found fossil; they are distinguished by a large base from which the shell rises in a vaulted, helmet-like form.

Galeas', Fr. *galeasse*. A description of heavy, low-built vessel worked with both sails and oars.

GALE'NA, from γαλειν, to shine. A native sulphuret of lead, called also *lead-glance*. Its colour is bluish-grey; it occurs regularly crystallised, frequently in cubes and cubo-octahedrons.

GALENA-PSEUDO, *false galena*. A dark-coloured variety of sulphuret of zinc.

GA'LENISTS. In *ecclesiastical history*, a sub-division of the sect of Waterlandians in the 17th century. In *medicine*, the followers of Galen.

GALEOPITH'ECUS, a genus of Cheiropterous mammalia: order *Carnaria*, Cuv. One species only is well ascertained, the *Flying Lemur* of the Molucca islands, Straits of Sunda, &c.

GALERU'CA, a genus of Coleopterous insects: family *Cyclica*. This genus is divided by Cuvier into two sections; those which have the power of leaping he places in the section *Anisopoda*, and those which are destitute of this power, form the section *Isopoda*.

GAL'IPOT, a name of a white, semi-solid, resinous substance, found on fir-trees, especially the maritime pine. It incrusts the wounds of fir-trees during winter.

GA'LIUM, an extensive genus of small plants. *Tetrandria—Monogynia*. Name from γαλα, milk; because one species, the *G. verum*, or cheese-rennet, has the property of coagulating milk. There are 12 British species besides the cheese-rennet; and all the exotic species inhabit temperate climates.

GALL. 1. In *physiology*, *see* BILE and OX-GALL.——2. In the *Chemical arts*. *See* GALL-NUTS and GLASS-GALL.

GALL'ATES, salts formed by the combination of gallic acid with salifiable bases. The principal is the gallate of iron, which constitutes the basis of black dye, ink, &c.

GALL-BLADDER, an oblong membranous receptacle, situated under the liver. Its use is to retain the bile or gall.

GAL'LEON, a description of man-of-war ship formerly used by the Spaniards and Portuguese. More recently the name was used to designate those large vessels employed by the Spaniards in their commerce with South America. The galleons were usually four deckers.

GAL'LERY, Fr. *galerie*. 1. In *architecture*, a long narrow room commonly in the wings of a building, and used as an ambulatory. Palladio gives the proper length of a gallery at from eight to ten times its breadth. In modern palaces and mansions, the gallery, like the portico of the ancients, is appropriated to the reception of pictures and sculptures. The name gallery is also given to long porticoes with ranges of columns on one side.——2. In *fortification*, a covered walk across a ditch in a besieged town, made of strong planks and covered with earth. It was formerly used for carrying a mine to the foot of a rampart.——3. In *mining*, a narrow passage or branch of the mine, carried on underground to a work designed to be blown up.——4. In a *ship*, a balcony projecting from the stern of a ship of war or of a large merchantman. At the stern, it is called the *stern-gallery*, at the quarters, the *quarter-gallery*.

GAL'LEY. 1. A low flat-built vessel with one deck, and navigated with sails and oars: used in the Mediterranean.——2. An open boat used on the Thames by custom-house officers, &c.——3. The cook-room or kitchen of a ship of war; answering to the caboose of a merchantman.——4. An oblong reverberatory furnace, with a row of retorts whose necks protrude through lateral openings.——5. In *printing*, a frame into which the compositor empties his stick as often as it is filled.——6. *Galley-slave*, a person condemned to work at the oar on board of a galley, being chained to the deck. In France, the *galleys* resemble the *hulks* of Great Britain.

GALL-FLY, the insect which punctures the oak-leaves, and occasions the gall-nuts. *See* CYNIPS.

GAL'LIC ACID, a peculiar acid obtained from gall-nuts and other astringent vegetable substances: it is well known as an ingredient of black dye and ink.

GAL'LICISM. In *grammar*, this word denotes a mode of speech or phrase in English formed after the French idiom.

GALLINA'CEÆ, an order of birds in the arrangement of Cuvier. Name from *gallina*, a hen, *gallus*, a cock; the hoccos, peacocks, turkeys, guinea-fowls, pheasants, &c., being species.

GALLI'NÆ, an order of birds, which in the arrangement of Linnæus answers to the *Gallinaceæ* of Cuvier.

GAL'LIOT, a Dutch vessel, carrying a main and mizen-mast, and a large gaff-main-sail. It is a sort of brigantine.

GALLIPOLI OIL, an inferior description of olive oil, imported from the sea-port so named, in the province of Otranto, Italy.

GALLIUM, a new elementary metal resembling zinc, giving a bright violet ray in the spectrum, discovered by M. Lecocq in 1875 in a blende from the Mine of Pierrefitte, France.

GALL'NUTS or GALLS, excrescenses found upon the leaves and leaf-stalks of a species of oak, the *Quercus infectoria*, which grows in the Levant. Others of inferior quality are found upon the *Quercus cerris*, common in the South of Europe, and the common oak, the *Q robur*. They are produced by the puncture of the female of the gall-fly (*Cynips gallæ tinctoriæ*), made in order to deposit her eggs, round which the juice of the tree exudes and dries in concentric portions. When the insect gets fully formed, it eats through the nut and flies off. Besides a yel-

low extractive matter, galls contain tannin or tannic acid, and gallic acid. Those from Aleppo are the best.

GAL'LON, a measure of capacity, both for liquid and dry articles, containing 4 quarts or 8 pints. The imperial gallon is the standard measure of capacity, and should contain 10 lbs. avoir. of distilled water, weighed in air at 62° Fah., the barometer being at 30 inches. It is therefore equal to 277.274 cubic inches. The old English wine gallon contained 231 cubic inches, and the ale gallon 282 cubic inches. The gallon of dry measure contained 268.8 cubic inches.

GALLO'ON, a narrow kind of lace used to edge or border cloths: formerly made of gold, silver, or silk.

GALLOPA'DE. In the *manége*, a sort of curvetting gallop. It is the name also of a sprightly kind of dance.

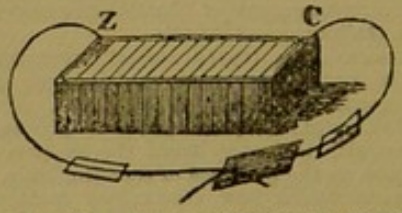
GAL'LOPER. In *artillery*, a carriage which bears a gun of a pound and a half ball.

GAL'LOWS BITS (of a *ship*), a frame of timber, forming a support for the spare topmasts, yards, and booms.

GALL'STONE, a name common to all calcareous concretions found in the gall-bladder.

GALT or GAULT, a provincial name for a stiff marl, varying in colour from a light grey to a dark blue: sometimes called the Folkstone marl. It is a member of the cretaceous group of strata, and is rich in fossils.

GALVAN'IC TROUGH, } An apparatus em-
GALVAN'IC BATTERY. } ployed in accumulating galvanism. It consists of a number of pairs of metallic plates, usually fitted into a trough made to contain the exciting fluid. There are two wires sol-

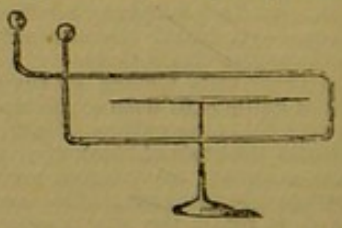


dered to the extreme plates, one of which is copper and the other zinc, called the *poles* of the battery. Sometimes several single troughs are connected together, when a very powerful apparatus is required.

GAL'VANISED IRON, a fantastic name lately given in France to iron tinned by a peculiar patent process, whereby it is rendered less liable to be acted upon by moisture.

GAL'VANISM, a modern and highly interesting branch of science, thus named after Prof. Galvani, of Bologna, who first called attention to some of its phenomena. Making some electrical experiments, while near the machine were some frogs that had been flayed, he observed that the limbs became convulsed every time a spark was drawn from the apparatus. He ascribed these movements to an electric fluid or power innate in the living frame, or capable of being evolved by it, and which he denominated *animal electricity*. The power of the electric eel furnished plausible analogies. But Volta advanced some powerful arguments against the hypothesis of Galvani, and showed that the muscular commotions, and many other phenomena afterwards noticed, were ascribed to arrangements not previously thought of by the scientific world. He found that when two pieces of different metals were placed in contact with different parts of an animal, and were brought into connexion by means of a metallic arc, convulsions ensued every time, and that this effect was strongest, when the metals were silver and zinc. This gave the idea of the *pile battery*, and to which the epithets *galvanic* and *voltaic* are indifferently applied: and indeed so decided were the experiments and reasonings of Volta, that the name of the science itself was nearly being changed from *galvanism* to *voltaism*. The name current electricity is now sometimes used, on the hypothesis that galvanism is electricity developed by chemical affinity!

GALVANOM'ETER, an apparatus contrived to measure the force of a galvanic current. It consists usually of a magnetic needle freely supported upon a point, within the



rectangle of a copper wire, placed in connexion with the poles of a galvanic circuit by the mercury cups at the extremities: the needle is deflected from the magnetic meridian, and forms an angle with it, proportioned to the strength of the current. Dr Ritchie's torsion galvanometer is much more delicate than this, but the principle is the same.

GAMBO'GE, a concrete vegetable juice, or gum-resin, which exudes from several trees, but especially the *Garcinia Cambogiodes*, a forest tree which grows upon the banks of the river Kamboja in Siam. It is used extensively as a yellow pigment, and also in medicine in doses from 2 to 6 grains.

GAM'ELION, the eighth month of the Athenian year, containing 29 days, and answering to the latter part of our January and beginning of February.

GAM'MONING. Among *seamen*, seven or eight turns of a rope, passing over the bowsprit and through a large hole in the stem or knee of the head alternately, and serving to bind the inner quarter and bowsprit close down to the ship's stern, in order the better to enable it to support the stays of the foremast.

GAM'UT or GAMM-UT, the table or scale of musical notes laid down by Guido, named thus from the Greek Γ, *gamma*, which marked the note at the top of the scale, and the monosyllable *ut*.

GANG. In *nautical language*, a select number of a ship's crew appointed on some particular service.

GANG-BOARD, a plank or board with a number of cleats or steps nailed to it for the convenience of stepping into or out of boats, &c., at shore.

GANG-LADDER, a name used in canal-making, &c., for the same purpose as a horse-block.

GANG'LION, γαγγλιον, a knot. In *physiology*, a knot-like enlargement in the course of a nerve.—In *surgery*, an encysted tumour formed in the sheath of a tendon, and containing a fluid resembling white of egg.

GANGUE, Germ. *gang*, a vein. The mineral substance which either incloses or usually accompanies any metallic ore in the vein. It is otherwise called the matrix of the ore.

GANG'-WAY, a temporary stair of planks with cleats nailed upon them. The *gang-way* of a ship is, (1.) The part of the side by which passengers enter and depart. (2.) A narrow passage in the hold of a laden ship, left vacant to enter by to inspect the cargo, to examine leaks, &c. &c.

GANT'LET, } Fr. *gantelet*, from *gant*, a
GAUNT'LET, } glove. A large iron glove with fingers formed of small plates, formerly worn by cavaliers armed at all points. To *throw the gantlet* means to challenge; and to *take up the gantlet* means acceptance of the challenge.

GANT'LOPE, } Teut. *gang*, a passage,
GAUNT'LOPE, } *loopen*, to run. A sort of punishment, sometimes inflicted upon soldiers and seamen, for some crime which renders the individual particularly obnoxious to the men. It is executed thus: the men are arranged in two rows, face to face, each armed with a switch or piece of twisted and knotted cord called a *knittle*; between the rows the offender, stripped to the waist, is compelled to pass a certain number of times, every man giving him a stroke as he passes. This is called *running the gantlet*, the word *gantlet* being put for *gant-lope*.

GAR'BOARD-STREAK, the first streak or range of planks laid upon a ship's bottom next the keel, throughout the whole length of the floor.

GARCIN'IA, a genus of trees. *Dodecandria—Monogynia*. Named in honour of Dr. Garcin. The Mangosteen-tree of Java and the Molucca islands is a species. Its fruit is reckoned the most delicious and salubrious of oriental fruits. It is about the size of the orange, but fleshy and almost transparent. It is also a species of this genus which yields the tree gamboge.

GAR'DANT or GUARDANT. In *heraldry*, applied to a beast when represented full-faced, or looking at the spectator. *Regardant*, looking backwards.

GAR'LAND. In *ships*, a sort of net used by sailors instead of a locker or cupboard; also a collar of rope wound about the head of a mainmast to keep the shrouds from galling.

GAR'LIC. In *botany*, a name common to the species of Allium, but especially applied to the *A. sativum*, much employed for culinary and medicinal purposes.

GAR'NET. 1. A mineral genus of eleven species, all crystals more or less regular in their forms. The precious garnet, or garnet properly so called, occurs in dodecahedrons, in mica-slates, among the primary rocks in various parts of the world. It is of a beautiful red colour, like the seed of the *pomegranate*: whence the name. This appears to have been the carbuncle of the ancients. Common garnets sometimes possess all the forms of the precious garnet, except that brown and green are the usual colours. The garnet consists of silica, 40; alumina, 20; oxide of iron, 38; oxide of manganese, 2.——2. In *ships*, a description of tackle fixed to the mainstay, and used to hoist in and out cargo.

GAR'NISH. In *law books*, to give notice, to warn. The term is Norm., *garnisher*, to summon.

GAR'NISHEE. In *law*, one in whose hands money or property is attached, so called because he is served with a *garnishment* or warning not to pay the money, but to appear and answer to the plaintiff creditor's suit.

GAR'NISHMENT. In *law*, warning given to a person for his appearance, &c.

GARROTTE', the; a mode of capital punishment by strangling, practised in Spain.

GAR'TER. The highest order of knighthood in these realms, called the Most Noble Order of the Garter. It was instituted by Edward III. The knights are 32 in number, and rank in personal dignity after the peerage. The *Garter king at arms* is the chief of the three kings at arms.

GAS, Sax. *gast*, Ger. *geist*, Dut. *geest*, air or spirit. A name adopted in modern chemistry to denote all permanent aeri-

form fluids, except common air, which is composed of two *gases*. Gas retains its elasticity at all temperatures, and in this it is distinguished from *vapour*. *See* ELASTIC FLUIDS.

GAS'-BURNERS, are either simple beaks perforated with a small hole (*common jet*), or a circle with a series of holes (*argand*), or two holes drilled obliquely to make the flame-cross (*swallow-tail*), or with a slit constituting a sheet of flame (*bat's-wing.*)

GAS'-HOLDER, } a vessel for containing
GASO'METER, } and preserving gas. The gas-holder of the chemist assumes various forms. That used at gas-works is a large reservoir (sometimes so large as to contain 60,000 cubic feet of gas), made of iron-plate, suspended in water, and counterbalanced by weights, and is mostly provided with some contrivance for measuring the quantity of gas it contains.

GAS'KET, a plaited cord fastened to the sail-yard of a ship, and used to furl or tie the sail to the yard.

GAS'TEROPODA, } a class of molluscs,
GAS'TEROPODS, } named from γαστηρ, the belly, and πους, a foot, because they have a foot or organ of locomotion, situated on the abdominal surface. Cuvier enumerates nine orders of Gasteropods, some of which are entirely naked, as, for example, the slug; others have an interior shell; but most of them are furnished with one that is large enough to receive and shelter them.

GAS'TRIC, appertaining to the *gaster* or stomach, as the *gastric juice*, a fluid secreted by the stomach; it is the principal agent in the process of digestion. It is, when healthy, of a saltish taste, inodorous, and limpid like water. The food is changed by it into a uniform soft paste.

GASTROCNE'MIUS, γαστηρ and χαινω, to gape. The calf of the leg.

GAS'TROCOLIC, from *gaster* and *colon*. An epithet for the great omentum, because it passes from the gaster or stomach to the arch of the colon.

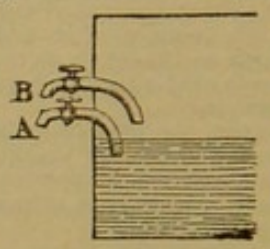
GASTRO-ENTERITIS, from γαστηρ, the stomach, and εντερον, the intestine. Inflammation of the stomach and intestines.

GAS'TROMANCY, Gr., from γαστηρ, and μαντεια, prophecy. Divination by means of words emitted from the belly.

GASTROT'OMY, from γαστηρ, the belly, and τεμνω, to cut. The operation of cutting into the abdomen of the living subject.

GAS'-WATER, water through which the common illuminating gas has passed; it contains hydro-sulphuret and hydro-bisulphuret of lime.

GAUGE'-COCKS, two cocks, usually connected with steam-boilers, for the purpose of ascertaining the height of the water The pipe from the one reaches a little beyond the water-line, and that from the other stands as much above it. On opening the cocks, if the water be at the proper height, water should flow out at A, and steam at B; should steam issue at both, the water is too low, and if both give water, the boiler contains too much water.



GAUGE-OF-WAY. On *railways*, the width in the clear between the top flanges of the rails.

GAUGE-POINT. In *gauging*, the diameter of a cylinder of one inch of height, and of which the content is equal to a unit of a given measure.

GAUGING The measuring of the capacities of vessels, chiefly casks, vats, and the like; and determining the amount of liquid contained in them.

GAUGING-ROD, or DIAGONAL-ROD, an instrument used in gauging.

GAUT, a term used in India to denote a passage or road through a chain of hills, from the coast to the upland country.

GAUZE, a very thin transparent textile manufacture, sometimes woven with silk, and sometimes only of thread, either plain or figured. A fabric of fine wire, for sieves and safety-lamps, is called *wire-gauze*.

GAVE'LET, an ancient and special *cessavit* in Kent, in England, where the custom of gavel-kind continues, by which the tenant, if he withdraws his rent and services due to his lord, forfeits his lands and tenements.

GA'VEL-KIND, a tenure, in England, by which land descends from the father to all his sons in equal portions, and the land of a brother, dying without issue, descends equally to his brothers. This species of tenure prevailed in England before the Norman conquest, perhaps generally, but particularly in Kent, where it still exists.

GA'VIAL, a subdivision of the genus *Crocodilus*. Teeth of fossil gavials have been found in the Tilgate strata.

GAVOT, Fr. *gavotte*. A sort of dance, the air of which has two brisk and lively strains in common time.

GAY-LUS'SITE, a white mineral, of a vitreous fracture, crystallised in oblique rhomboidal prisms. Named in honour of Gay-Lussac. It is a hydrated soda-carbonate of lime, in atomic proportions.

GAZEL', Fr. *gazelle*, from the Arabic. An animal of the antelope genus, found in Africa and India. It is peculiarly remarkable for the beauty and brilliancy of its eyes.

Gazette', a kind of official newspaper. The term *gazetta* is said to have been the name of a Venetian coin, in value somewhat less than the English halfpenny, the first price of a newspaper. The first gazette in England was published at Oxford, in 1665 On the removal of the Court to London, the title was changed to *London Gazette*. It is now the official newspaper, and published on Tuesdays and Fridays.

Ga'zons. In *fortification*, sods or pieces of fresh earth, covered with grass, about a foot long, and half as broad, cut in the form of a wedge, to line the parapet. The term *gazon* is French for sod.

Gea'ring, from Sax. *gearwian*, to prepare. In *mechanics*, a series of toothed wheels for conducting motions in machinery generally. There are two sorts in common use: *spur-gear*, and *bevelled-gear*. The former consists of teeth arranged round either the concave or convex surface of the rim of a wheel, in the direction of radii from the centre: in the bevelled gear, the teeth are placed upon the exterior periphery of a conical wheel, and gradually diminish in the direction of the apex of the cone.

Gec'ko, the name given by Daudin to the *Ascalabotes* of Cuvier. The geckos are saurians, but are flattened, and are not so long and graceful as the true saurians. They are disseminated throughout the warm portions of both continents, and are everywhere objects of hatred. *Gecko* is the name given to a species in India, in imitation of its cry, just as another is termed *Tockail* at Siam, and a third *Geitje* at the Cape; ασκαλαβώτης, is the Greek name of the Geckottes.

Geckot'ida or Geckotii, a family of reptiles, composed of nocturnal lizards, which are so similar that they may be left in one genus, the *Gecko*. The Geckottes are now, however, divided according to the arrangement of the toes into Platydactyli, Hemidactyli, Thecadactyli and Ptyodactyli.

Gehen'na, a scriptural term signifying hell.

Gel'atine, Lat. *gelatina*, gelly or jelly. An animal product, soluble in water, but not in alcohol; capable of assuming a well-known elastic or tremulous consistence on cooling, and liquifiable again by raising its temperature. In this it is distinguished from albumen. It may be extracted from most parts of animals by boiling, and it is found in some vegetables, as ripe currants and other berries, mixed with an acid. Glue and isinglass, freed from all impurities, are examples.

Gel'der-Rose, a name common to two plants, the one a species of *Viburnum*, and the other a species of *Spiræa*.

Gem, Lat. *gemma*, a bud. This is the common name for all precious stones sought after as objects of decoration. They form the chief part of the Crown jewels of kings, not only for their beauty, but because they are scarce, and therefore comprise great value in little bulk! The diamond ruby, sapphire, emerald, topaz, hyacinth, and chrysoberyl, are reckoned first class gems; crystalline quartz, amethyst, blood-stone, lapis lazuli, jasper, agate, sardonyx, &c., belong to the second class. The superior varieties of precious stones are termed *oriental* by jewellers, and the inferior *occidental*. Imitations are called *artificial gems* or *pastes*. These consist simply of glass coloured by metallic oxides, capable of producing the colour of the true gem. Fashion makes the difference of value.

Gem'ara, the second part of the Talmud or commentary on the Jewish laws.

Gem-engraving is called *Lithoglyptics*.

Gem'ini, Lat. pl. of *geminus*, double. Twins. This is the name of the third sign of the zodiac, representing Castor and Pollux, and marked ♊. The sun enters Gemini on the 21st of May.

Gem'ma, the Latin word for *Gem*; used in botany to designate a bud on the stem of a plant. Buds are various in their forms, but, in general, consist of scales closely enveloping each other and enfolding the embryo plant or branch. Shrubs in general, and trees of hot climates, have no gemmæ.

Gemma'ceous, Lat. *gemmaceus*, from *gemma*, a bud. A term applied by botanists to a flower-stalk which grows out of a leaf-bud, as is seen in the *Berberis vulgaris*.

Gemmip'arous, from *gemma*, a bud or shoot, and *pario*, to bring forth. An epithet applied to plants and animals which can be propagated by shoots. The water polypi are mostly gemmiparous.

Gem'ote. In old *law*, the curiæ centuriæ or court of the hundred.

Gendar'mes or Gens D'Armes, an appellation given in France to a select body of troops destined to watch over the interior public safety. This body was broken up at the Revolution, and the name was transferred to a band employed in the protection of the streets.

Gen'der, Fr. *genre*, from Lat. *genus*. In *grammar*, a difference in words to express distinction of sex. Words expressing males are said to be of the *masculine gender*; those expressing females, of the *feminine gender*, and in some languages, as English, words expressing things having no sex are said to be of the *neuter gender*.

Genealog'ical Tree, the genealogy or lineage of a family drawn out under the form of a tree, with its roots, stem, and branches.

GEN'ERAL. In *military affairs*, (1.) The rank of *general* is of several degrees, as *major-general*, *lieutenant-general*, and *general*, according to seniority, when promotions are made; and the commander-in-chief of an army is called, by way of eminence, *the general*; (2.) The term *general* is also used for a particular beat of the drum: it is the first which gives notice for the infantry to be in readiness to march.

GEN'ERAL ISSUE. In *law*, that plea which denies at once the whole declaration or indictment, without offering any special matter by which to evade it. This is the ordinary plea in criminal cases.

GENERALIZA'TION. In *logic*, the act of comprehending under a common name several objects agreeing in some abstract point.

GEN'ERANT, a term used by mathematicians for that which is generated, or supposed to be generated, by the motion of a point, line, or surface. *See* FLUXIONS.

GEN'ERATING LINE OR FIGURE. In *mathematics*, that line or figure, by the motion of which another figure or solid is supposed to be described or *generated*. *See* FLUXIONS.

GENERA'TION. In *mathematics*, denotes the formation or description of any geometrical figure or magnitude, by the motion of another magnitude or quantity of a dimension one degree less. *See* GENERANT and GENERATING.

GENERA'TOR. In *music*, the principal sound or sounds by which others are produced. Thus the lowest C for the treble of the piano-forte, besides its octave, strikes an attentive ear with its twelfth above, or G in alt., and with its seventeenth above, or E in alt. Hence C is called their *generator*, the G and E its products or harmonies.

GENER'IC, appertaining to a genus. The *generic names* of animals and plants are followed by other names usually denoting some peculiar quality or circumstance; these appended names are called *specific*.

GEN'ESIS. Γενεσις, generation. 1. In *scripture*, the name given to the first book of Moses, containing the history of the creation, &c. In the original Hebrew it has no title.——2. In *mathematics*, the formation of a line, plane, or solid, by the flux of a point, line, or surface, called the *describent*.

GENET'TA, the *Genets*. A sub-genus of CARNARIAN mammalia. The common genet is found from the south of France to the Cape of Good Hope. Its skin forms an important article of trade. The name *genet* is also used to designate a small-sized Spanish horse.

GENE'VA, a corruption of Fr. *genièvre*, a juniper berry. Gin: a spirit obtained by distillation from grain, rectified, with the addition of juniper berries. The best is made in Holland, and may be bought in bond for 2*s*. 3*d*. to 2*s*. 6*d*. the imperial gallon, upon which there is a duty of 22*s*. 6*d*.!

GENIC'ULATE, Lat. *geniculatus*, knee-jointed: applied to culms bent like the knee, and to peduncles bent at the joints.

GENII, a race of beings created from fire, between man and angels, and having a body, which they can metamorphose at pleasure.

GENIS'TA, the *Broom*. A genus of permanent plants. *Diadelphia — Decandria*. Name from *genu*, the knee, in allusion to the angular inflections of its twigs. There are about 45 species, four of which are common in Britain.

GEN'ITIVE, Lat. *genitivus*. An epithet in grammar for a case in the declension of nouns, expressing primarily the thing from which something also proceeds. The genitive case is the second of the Latin and Greek nouns, and answers to the possessive of the English.

GENS. In *ancient history*, a subdivision of the Roman people next to the curia or tribe.

GEN'TIAN. In *pharmacy*, the roots of the *Gentiana lutea*, a perennial plant common on the Alps and Pyrenees, named also *felwort*. Named from Gentius, king of Illyria, who first used it.

GEN'TIANINE, an alkaline principle discovered in gentian (root of *G. lutea*), and supposed to be the active part of the root.

GEN'TILE, Lat. *gens*, nation. A general term applied by the Jews and Christians to all heathen nations.

GEN'TLEMAN. In *law*, any man above the rank of a yeoman, or more strictly a man who without a title bears a coat of arms.

GENTLEMEN PENSIONERS. In *England*, a band of forty gentlemen, named esquires, whose office is to attend the king to and from the chapel royal.

GENTOO', a word employed by Europeans in the East Indies to designate the language and people of that country. It is a corruption of the Portuguese word *gentio*, which signifies *gentile* in the scriptural sense, but is not known to the natives.

GE'NUS, (Lat.) from γενος, a family, race or stock. 1. In *logic*, a universal which is predicated of many things as the material or common part of their essence ——2. In *natural history*, a subdivision of any class or order of natural beings, whether of the animal, vegetable, or mineral kingdoms, all agreeing in certain common characters: a collection of species. *See* CLASS. In *music*, any scale of music.

GEOCEN'TRIC, from γη, the earth, and

κεντρον, a centre: applied in *astronomy* to an orbit having the earth for its centre; having the same centre as the earth. The *geocentric latitude of a planet* is its distance from the ecliptic as seen from the earth; and its *geocentric place* is that wherein it appears to us from the earth. *See* HELIOCENTRIC.

GE'ODE, from γεώδης, earthy. A roundish piece of mineral matter, sometimes only an incrustation, generally more or less hollow; usually lined with crystals, but in some cases loose earthy matter. The geodes found in the green sandstone, near Sidmouth, are composed of opaque chert on the outside, and contain within mammillated concretions of beautiful chalcedony, and occasionally perfect though minute crystals of quartz.

GEOD'ESY, from γῆ, the earth, and δαίω, to divide. That part of geometry which relates to the mensuration of surfaces.

GEOG'NOSY, from γῆ, the earth, and γνῶσις, knowledge. A knowledge of the structure of the earth. Some have argued that this term ought to be substituted for the more common term *geology* (q. v.).

GEOG'RAPHY, from γῆ, the earth, and γράφη, description. The science which describes the surface of the earth, its kingdoms, states, and empires, rivers, &c. That branch which describes the natural divisions and physical characteristics of countries, is called *physical geography*; that which describes the political boundaries of kingdoms and their subdivisions, the social and political state of the people, the nature of their government, laws, and institutions, is called *political geography*.

GEOL'OGY, from γῆ, the earth, and λόγος, discourse. That branch of natural history which investigates the disposition of the materials composing the earth's crust, the relative situation of the different orders of rocks, and their connexion with each other, the changes they are undergoing and have undergone, and examines into the relations which existed between organised beings whose remains are buried in the earth, and the physical circumstances under which they lived, and finally, which explains, or endeavours to explain, the proximate causes which have operated the various changes in the organic and inorganic kingdoms of nature.

GE'OMANCY, γῆ, earth, μαντεία, prophecy. Divination by points or circles made on the earth.

GEOM'ETRÆ, a tribe of Lepidoptera, comprising those of the nocturnal family, in which the body is unusually slender, and the probocis small and membranous. Their peculiar mode of progression has caused them to be styled *geometræ* or *measurers*. When about to advance they first cling with their anterior or squamous feet, then elevate their body so as to form a ring, in order to approximate the posterior extremity to the anterior, or that which is fixed; they then cling with the last feet, disengage the first, and move the body forwards, when they recommence the same operation.

GEOMET'RICAL, something relating to geometry. *Geometrical construction* is the representation of a proposition by geometrical lines.—*Geometrical curves* are such as may have their relations expressed by a finite algebraic equation.—*Geometrical locus* is the line traced by a point, which varies its position according to a given law.—*Geometrical progression* is when the terms increase or decrease by equal ratios; or it is a series of quantities which are continually proportional, every successive term resulting from that which immediately precedes it by a constant multiplier. Thus 2, 4, 8, 16, 32, 64, &c., is a geometrical progression in which the ratio is 2; and 16, 8, 4, 2, 1, ½, ¼, &c., is one in which the ratio is ½.

GEOM'ETRY, from γῆ, the earth, and μέτρον, measure. Originally and properly the art of measuring the earth, that is, portions of its surface; but according to the present acceptation of the term, it may be defined the science of extension or of magnitudes considered simply, generally, and abstractly. It is called *elementary* when it treats of the properties and proportions of right lines and right lined figures. It is *theoretical* when its object is the demonstration of certain geometrical propositions; and *practical* when it relates to the performance of certain geometrical operations, such as the construction of figures.

GEORA'MA, from γῆ, the earth, and ὅραμα, view; an apparatus which exhibits a very complete view of the earth. It is a hollow sphere, say 40 feet diameter, formed by 36 bars of iron representing the parallels and meridians, and covered with cloth of a bluish colour to represent water. The mountains, forests, &c., are painted on paper and pasted on this cover. It is a Parisian invention.

GEOR'GIUM SIDUS. In *astronomy* (*see* URANUS).

GEOSAU'RUS, a fossil saurine of the oolite and lias formations.

GERANIA'CEÆ, geranium, or the crane's-bill, is the type. A natural order of herbaceous or shrubby Exogens.

GER'FALCON. In *ornithology*, the *Falco candicans*, Lin., a species most highly prized by falconers.

GERM or GERMEN, the rudiment of the young fruit and seed of vegetables, found at the bottom of the pistil, also the swol-

len base of the pistil which contains the germ, and becomes the seed-vessel.

Ger'man School. In *painting*, this school set a particular value on high finish, rather than on good arrangement, their colouring is better than their drawing, but their draperies are usually in bad taste.

Ger'man Silver, or *white copper*. An alloy of nickel, zinc, and copper, and sometimes lead.

Germina'tion, from *germino*, to sprout. The vital development of a seed when it first begins to grow.

Geroc'omia, } from γερας, old age, and
Geroc'omy, } κομεω, to care for. That department of hygeine which relates to the proper regime and treatment of old age.

Ge'rund, Lat. *gerundium*. A kind of verbal noun, in Latin, which governs cases like a verb.

Ger'usia, γερουσια, assembly of elders. In *ancient history*, the Senate of Sparta.

Gey'ser, the name given to certain boiling springs or fountains in Iceland. The water of the geyser holds a considerable quantity of silex in solution; it is thrown up in jets, and at the same time subterranean noises are heard like the firing of distant cannon, and the earth is slightly shaken. After playing for some time like an artificial fountain, throwing the water sometimes to the height of 100 feet, giving off clouds of vapour, there issues forth from the pipe a column of steam with amazing force and a thundering noise, which terminates the eruption. These intermittent hot springs occur in the south-western division of Iceland, where nearly a hundred of them are said to break out within a circle of two miles.

Ghaut, properly a pass through a mountain, but in the East Indies used to denote any extensive chain of hills.

Ghee, Sanscrit, *ghi*. A liquid butter made in the East Indies, chiefly from the milk of buffaloes. It is sold by measure.

Ghi'bellines. In *Italian history*, a party which maintained the supremacy of the German Emperors over the Italian States.

Ghost, Holy, Order of, the principal military order of France.

Gialloli'no, Naples yellow. A porous heavy mineral substance, of an earthy nature, and a pale yellow colour. It is used for painting in oil.

Giao'ur (Turk.), a dog. An epithet conferred by the Turks on Christians.

Gibbet or Jib. The slant beam of a crane on which the weight is supported, and on the end of which the chain pulley is fixed.

Gib'bous, } Lat. *gibbus*, bulged; swelled:
Gib'bose, } applied, 1. In *astronomy*, to the enlightened part of the moon in her passage from full to new, when the illuminated part appears convex.——2. In *botany*, to leaves, petals, &c., when irregularly swelled on one side or both.——3. To inequalities on the body, as a hunch on the back.

Gibbo'sity, from *gibbose*, crookedness.

Gibs. In *mechanics*, the pieces of iron employed to clasp together the pieces of wood or iron of a framing which is to be keyed, previous to inserting the keys *See* Key.

Gift. In *law*, a conveyance which passes either land or goods.

Gig Machi'nes, rotatory drums mounted with thistles or wire teeth for teazling cloth.

Gig'a or Jig (It.) In *music*, an air for dancing in triple time.

Gill. 1. The respiratory organ of fishes, from Scot. *gil* or *gul*, a fissure. The gills are technically styled *branchiæ* (q. v.).——2. A measure of capacity equal to the fourth part of a pint, from low Lat. *gilla*, *gillo*, or *gello*, a drinking-glass.——3. A pair of wheels and a frame on which timber is conveyed (*local*).——4. The plant ground-ivy.

Gim'bal, the brass ring by which a sea-compass is suspended in its box.

Gim'blet or Gimlet, an instrument used by carpenters, &c., for boring small holes. To *gimblet the anchor* is a nautical phrase, signifying to turn over the anchor by the stock, a motion resembling the turning of a gimblet in boring. The word *gimblet* is probably from the northern word *gwiber*, a serpent.

Gimp, silk twist, interlaced with a metallic wire.

Gin. 1. A distilled spirit: name contracted from *Geneva* (q. v.).——2. A name common to many machines: contracted from *engine*. The pile engine is sometimes called a *gin*; there are also *gins* for raising weights, drawing water, and separating the seeds from cotton: this last is commonly called a *cotton-gin*. There was also an old engine of torture called a *gin*.

Gin'ger, the roots of a plant, the *Zingiber officinale*, a native of the East Indies and China, but long since transferred to the West Indies. The best roots, deprived of their radicles and sordes, and dried in the sun, are called *white ginger*; the inferior roots scalded in boiling water before being dried, are termed *black ginger*.

Gin'ger-beer, is made by fermenting ginger, cream of tartar, and sugar, with yeast.

Gin'oing. In *mining*, the lining of a shaft with stones or bricks for its support; called also *steining* or *staining*, from Sax. *stan*, a stone.

Gin'glymoid, from γιγγλυμος, a hinge,

and εἶδος, like; resembling a hinge. Applied to that species of hinge-like joint which admits of flexion and extension.

Gin'glymus, from γιγγλυμός, a hinge. Articulation admitting flexion and extension.

Gin'ning, the operation by which the filaments of cotton are separated from the seeds by means of an apparatus called a cotton-gin.

Gin'seng, the root of a small plant (*Panax quinquefolium*), common in China and several parts of North America. It is highly valued in China for its medicinal virtues, but is little used in Europe.

Girat'fe, the specific name of the camelopard (*C. giraffa*, F. Cuv.), found in the deserts of Africa. *See* Camelopardalis.

Girasol' or Girasole, a mineral of a milk-white colour, named from *gyro*, to turn, and *sol*, the sun, in allusion to a remarkable property of reflecting a red colour when turned towards the sun or any bright light. It is a variety of opal. The finest specimens resemble translucid jelly.

Gird'er, the name given to both timber and iron beams, when resting upon walls or piers at each end, and employed for the purpose of supporting a superstructure, or any superincumbent weight, as a floor, wall, or the roadway of a bridge, &c. When a girder is employed to carry the superincumbent part of an external wall, it is styled a *bressummer* (brestsummer).

Gir'dle. In *architecture*, the circular band of a column. Also, a band of leather or other material, used in girding up the loins.

Giron'de, a republican party in the time of the French Revolution, termed Girondists, from the department whence the representatives were sent to the legislative assembly.

Girt-line, a rope to lift the rigging to the mast-head in rigging a ship.

Gi'ven. In *mathematics*, a term synonymous with *known*. If a magnitude is known, it is called a *given* magnitude, quantity, &c.

Gla'brous, Lat. *glaber*, smooth. Applied to parts of plants, and opposed to hirsute, hairy, or pubescent.

Gla'cier, Fr. from *glace*, ice. A field or immense mass of ice formed in deep but elevated valleys, or on the sides of the Alps and other mountains. The ice of glaciers is not transparent, being composed for the most part of snow, which, previous to freezing, had been imperfectly dissolved. They are little affected by the heat of summer, and are so numerous in Tyrol, Switzerland, Piedmont, and Savoy, as to form collectively a superficial extent of about 1500 square miles.

Gla cis (Fr.), a sloping bank. Used in fortification for the mass of earth which serves as a parapet to the covered way, sloping easily towards the champaign or field.

Gla'diate, from *gladius*, a sword; sword-shaped. Applied to parts of plants, &c.

Gladia'tor, from *gladius*, a sword; a sword-player; a prize-fighter. The gladiators of Rome were at first prisoners of war, slaves, or condemned criminals, who were made to fight in the arena for the entertainment of the people; but afterwards fought in the arena either for hire or from choice.

Glance, Ger. *glanz*, splendour. A word attached to the name of certain minerals which have a metallic or pseudo-metallic lustre, as glance-coal, lead-glance, antimony-glance, &c.

Gland, Lat. *glans*, a nut. 1. In *anatomy*, an organ composed of blood-vessels, nerves, and absorbents, and destined for the secretion or alteration of some particular fluid; according to the nature of which, glands are mucous, sebaceous, lymphatic, salivary, or lachrymal.——2. In *botany*, a small transparent vesicle, discharging a fluid, and situated on various parts of plants, as the stalk, calyx, leaves, &c.——3. In *mechanics* (*see* Collar).

Glan'ders, from *gland*. A disease of horses, evinced by the running of corrupt, slimy matter from the nose.

Glan'dular } Lat. *glandulosus*. Hav-
Glan'dulous, } ing the appearance, structure, or function of a gland. Applied also to leaves of plants having little glandiform elevations.

Glass is formed by the fusion of siliceous and alkaline matter. The glasses may be thus chemically distributed: (1.) *Soluble glass*, silicate of potash or soda. (2.) *Crown glass*, silicate of potash and lime. (3.) *Common window glass*, silicate of soda and lime. (4.) *Bottle glass*, silicate of soda, lime, alumina, and iron. (5.) *Flint glass*, silicate of potash and lead.

Glass'-blower. Glass while hot being perfectly ductile and plastic, it is blown into shapes by the breath of the workman (hence called a *glass-blower*), through an iron tube about three feet long, assisted by a very few trifling tools.

Glass'-gall, the neutral salt skimmed off the surface of melted crown glass: called also *sandiver*.

Glass Painting. The method of staining glass in such a way as to represent all the subjects of which the art is capable.

Glass'-wort, the *Salsola kali*, a plant which affords soda used in the manufacture of glass. The name is equally applicable to other species of the Salsola.

Glau'ber-salts, *Glauber's salt*. An old name for sulphate of soda, from the discoverer.

GLAUC'OMA, } from γλαυκος, glaucous.
GLAUC'OSIS, } A disease of the eye, in which the vitreous humour becomes opaque, and of a blue or sea-green colour. This name has also been given to cataract.

GLAU'COUS, Lat. *glaucus*, of a gray bluish green colour: applied to leaves, &c., of plants, which are covered with a fine sea-green mealiness that easily rubs off, as is seen on the back of the cabbage leaf.

GLAZE. In *potteries*, the vitreous incrustation on the surface of earthen-ware.

GLEBE, Lat. *gleba*, a clod. 1. The land belonging to a parish church.——2. A species of earth in which is contained some mineral ore.

GLEE. In *music*, a short composition sung in parts: originally used for convivial purposes.

GLEE-MAN, an itinerant minstrel was so called by the Saxons.

GLENE, γληνη. 1. The cavity or socket of the eye.——2. The cavity of a bone which receives another bone into it.

GLIA'DINE, from γλια, glue. The name given by Taddey, an Italian chemist, to one of the constituents of gluten (q. v.).

GLIM'MER, Germ. *glimmern*, to gleam. A general name given sometimes to micaceous minerals.

GLI'RES, plural of *glis*, a dormouse. The fourth order of mammalia in the Linnæan system, including such animals as have two fore teeth, a cutting one in each jaw, no tusks, and feet with claws; comprehending guinea pigs, rabbits, hares, squirrels, mice, beavers, &c.

GLOBE, a body whose surface is every where equidistant from the centre. This is the name usually given to an artificial sphere of metal, paper, or other matter, on whose convex surface is drawn a map of the earth or heavens with their several circles. That on which the parts of the earth are delineated is called a *terrestrial globe*; and that having the constellations, &c., marked on its surface is called a *celestial globe*.

GLOBO'SE, Lat. *globosus*, round; applied to roots which are round, and give off radicles in every direction.

GLOB'ULAR CHART. A delineation of the terrestrial surface, or any part of it, on a plane, according to globular projection.

GLO'BUS HYSTER'ICUS. The air ascending in the œsophagus, and prevented by spasm from reaching the mouth, is so called because it mostly attends hysteria, and gives the sensation of a ball ascending in the throat. It is a very common annoyance to persons of a nervous temperament.

GLO'MER. In *anatomy*, a conglomerate gland. Lat. *gloma*, a clue of thread.

GLOM'ERATE, Lat. *glomeratus*. Gathered into a mass of a globular form.

GLOM'ERIS, a myriapod, resembling a wood-louse, thus named because when alarmed, it rolls itself up into a spherical ball.

GLOM'ERULE, Lat. *glomerulus*. A term in *botany*, for a small tuft, mostly in the axilla of the peduncle.

GLO'RY, Lat. *gloria*. In *painting*, a circle, plain or radiated, surrounding the heads of saints, &c., especially of our Saviour.

GLOS'SO-PHARYN'GEAL NERVES, the ninth pair of nerves, arising from the processes of the cerebellum, and terminating, by numerous branches, in the muscles of the tongue and pharynx.

GLOTTIS, from γλωττα, the tongue. The superior opening of the larynx at the bottom of the tongue.

GLOW-WORM, a name common in some measure to several species of Lampyrides, but especially applied to the female of the *Lampyris noctiluca*, Lin., which emits a very vivid phosphorescent light. The luminous matter occupies the inferior part of the last two or three annuli, which differ in colour from the rest, and are usually yellowish or whitish.

GLUCI'NA, } from γλυκυς, sweet. One
GLUCI'NE, } of the primitive earths, first discovered by Vauquelin, in the beryl and emerald, and thus named because it forms sweetish salts with the acids.

GLUE, Fr. *glu*, inspissated animal gluten. A tenacious viscid matter, which is much employed as a cement for wood, &c. It is made from parings of hides, and other offals, by boiling them in water to a jelly.

GLUMA'CEOUS, glumose.

GLUME, Lat. *gluma*, husk. The peculiar calyx of grasses and grass-like plants of a chaffy nature, formed of little concave leaflets called *valves*.

GLU'TEN, Lat., from *gelo*, to congeal. The most nutritious part of wheaten flour. It exists also in most other kinds of grain, but in smaller quantity; it resembles animal more than vegetable substances, as it contains nitrogen, besides carbon, oxygen and hydrogen. It is a stiff and tenacious solid, possessing ductility and elasticity, so that it can be spread into a thin membranous sheet. It is readily procured by making wheaten flour into a paste, and removing the starch and saccharine matter, by washing it with water. It may be resolved, by means of alcohol, into two principles, *gliadine* and *zymome*; some name a third, *mucine*.

GLU'TEUS, from γλουτος, the name of some muscles, arteries, &c. of the buttocks

GLUT'TON. In *zoology*, a name common to all the species of the genus *Gulo*, Storr., but especially applied to the *Ursus gulo*,

Lin., an animal about the size of a badger, which inhabits the coldest regions of the north. It is both ferocious and voracious.

Gly'cerine, from γλυκυς, sweet, the sweet principle of oils. It is a transparent liquid, without colour or smell; of a syrupy consistence, and very sweet to the taste. Sp. gr. 1·27.

Glyc'onian, } A kind of verse in Greek
Glyc'onic. } and Latin poetry, consisting of three feet, a spondee, a choriamb, and a pyrrhic.

Glycyr'rhiza, the Liquorice. A genus of perennial plants. *Diadelphia—Decandria*. Name from γλυκυς, sweet, and ριζα, root. Temperate climates.

Glycyr'rhizine, the saccharine juice of the Liquorice.

Glyph, from γλυφις. A term in *sculpture* and *architecture* for any canal or cavity. *See* Diglyph and Triglyph.

Glyp'tic (γλυφω), in *sculpture*, denotes the art of carving on stone.

Glyp'todon, from γλυφω, I carve, and οδους, a tooth. An extinct gigantic race of quadrupeds, of the family of armadillos.

Glyp'totheca, from γλυφω, and θηκη, a deposit. A place for the preservation of sculptured works.

Gnapha'lium, the Everlasting, or Cudweed. An extensive genus of plants. *Syngenesia—Polysuperflua*. Name from γναφαλον, soft down or wool, in allusion to its downy surface. The Cotton-weed, Goldilocks, &c. are species. All warm and temperate parts of the world.

Gnathid'ia, from γναθος, a jaw. In *ornithology*, the lateral parts of the lower jaw, united to the posterior cranium, and meeting in an angle in front.

Gneiss, the name given by the German mineralogists to a schistose, primary rock, fundamentally the same as granite, but abounding in mica, to which it owes its slaty structure. It belongs to the metamorphic group, and is the most metalliferous of all the rocks. *See* Granite.

Gno'me, γνωμη. An imaginary being, supposed by the cabalists to inhabit the interior parts of the earth, and to whose care mines, quarries, &c. were committed.

Gno'mic Poets, γνωμη, sentence. Greek poets, whose works consist of short precepts and reflections.

Gno'mon, γνωμων, an index. 1. The style of a dial.——2. A style erected perpendicular to the horizon, to find the sun's altitude by.——3. The index of the hour-circle of a globe.——4. A geometrical figure, formed by the two complements with either of the parallelograms about the diameter.

Gnomon'ic Projection. The representation of a hemisphere on a plane, touching it at the vertex, the eye being at the centre of the sphere.

Gnos'tics, from γνωστικος, knowledge. A name given to an old sect of Christians, from their pretensions to be more enlightened than others.

Gnu, a species of antelope, common in Southern Africa. It is a lively and capricious animal.

God'bing. In *mining*, the refuse of the coal in coal-mines.

God'bold's Balsam, a nostrum consisting chiefly of simple oxymel.

God'frey's Cordial, a quack medicine made by infusing sassafras, seeds of carraway, coriander, and anise in water, and adding treacle and tincture of opium.

God'frey's Smelling Salts are prepared by re-subliming carbonate of ammonia with potash and some strong alcohol.

Godow'n, a name used in the East Indies for a warehouse. It is a corruption of the Malay word *jadong*.

Godroo'n (French), a kind of inverted fluting or beading.

Goggles, a clumsy mechanical contrivance for the cure of squinting. The goggles are two cylindrical tubes, with thin plates of ivory, or the like, placed on the ends, perforated for the transmission of light.

Gog and Magog. The names of two warriors mentioned in Scripture. Applied also to the pagan nations: also, the name of the huge warlike figures that adorn the Guildhall of London.

Gold, the heaviest metal except platinum, sp. gr. 19·3. It is found in beds of quartz, sandstone, &c., and also in the beds of many rivers, particularly in Peru, in minute and irregular grains, which are known by the name of *gold-dust*. It is soluble in aqua regia and chlorine-water. Alloyed with one-twelfth of copper it forms *mint-gold* (gold of coins), and with one-fourth of copper it forms *jeweller's-gold*. In malleability, pure gold surpasses all other metals.

Gold'beaters. In *entomology*, coleopterous insects remarkable for their beautiful golden green and cupreous colours. They form the genus Cetonia of Fabricius.

Gold'beaters' Skin, the intestinum rectum of an ox, which goldbeaters place between the leaves of the metal while they beat it, whereby the membrane is rendered very thin, and made fit to be applied to cuts and small wounds.

Golden Number. In *chronology*, a number showing what year of the metonic or lunar cycle any year is. It is the remainder arising from the division of the number of the given year increased by 1. When it happens that 0 remains, then 19 is the golden number.

Golden Rule. In *arithmetic*, a name for proportion, or the rule of three.

Goldfish, an elegant fish, the *Cyprinus auratus*, of the size of a pilchard, and thus named from its golden colour. It is a native of China, but is now kept throughout Europe in ponds, glass globes, and other vessels, by way of ornament.

Goldleaf, or Leafgold, gold beaten into a thin film or leaf, varying in thickness and fineness, according to the purposes for which it is intended. The metal is first beaten on a block of marble, with hammers of polished iron, to the thinness of paper; it is then cut into pieces of about an inch square, placed between skins, and beaten thinner; divided again into squares, and again beaten until it has acquired the necessary degree of thinness. The finished leaves are put up into books made of single leaves of soft paper, rubbed over with a little chalk, to prevent adhesion, when it is ready for the gilder.

Gold Thread, or Spun Gold, is a flattened silver gilt wire, wrapped or laid over a thread of yellow silk, by twisting with a wheel and iron bobbins.

Golf. A game with a ball and clubs, almost peculiar to Scotland.

Goli'ah, the name given by Lambert to a genus of coleopterous insects remarkable for their size and beauty. Some of the species inhabit Africa and the East Indies, and others the tropical parts of America.

Gom'arites. In *ecclesiastical history*, the Calvinistic divines of the Church of Holland, in the 17th century: so called after Gomar of Leyden.

Gompho'sis, γομφωσις, from γομφος, a nail. A species of immoveable connection of bones, in which one is fixed into another, like a nail in a board; e. g. the teeth in the alveoli of the jaws.

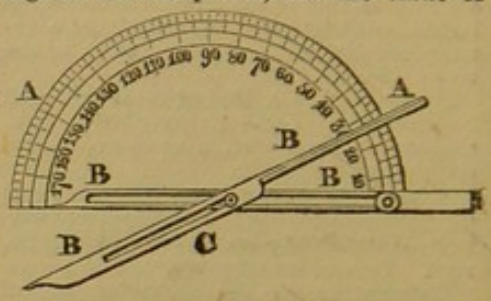
Gomu'ti, a species of palm, *Borassus gomutus*, growing in the Indian islands: called also *ejoo*. It is remarkable for a product which it yields resembling black horse hair, found at the insertion of the branches into the trunk, in a matted form. It is manufactured into cordage.

Gon'dola, a large barge, curiously ornamented, and navigated on the Venetian canals. It is usually rowed by two men, hence called *gondoliers*.

Gon'fanon, } In *heraldry*, the banner
Gon'falon. } of the Roman Catholic Church, carried in the pope's army.

Gong-gong, the *tam-tam* of the Chinese, a kind of cymbal made of a copper alloy (four copper and one tin).

Goniom'eter, from γωνια, an angle, and μετρον, measure. An instrument to measure angles, especially of crystals. The simplest goniometer consists of a graduated brass semicircle A A, and a pair of proportional compasses B B B B, moveable on the centre, and capable of being lengthened or shortened. The faces of the crystal are embraced by the exterior legs of the compasses, and the value of



the angle comprised between them may be read off upon the semicircle by the knife edge of the leg B C B. Dr. Wollaston's reflecting goniometer is, however, much more accurate and elegant than this, but is much more complex.

Googings, } certain clamps of iron
Goodings, } bolted on the stern-post of a ship, whereon to hang the rudder.

Goose'berries, the fruit of the gooseberry-bush (q. v.).

Goose'berry-bush, a name common to the *Ribes grossularia*, which produces the rough gooseberry; and the *Ribes Uva-crispa*, which produces the smooth gooseberry.

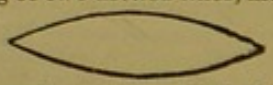
Goose-neck. In a *ship*, a piece of iron fixed on one end of the tiller, in which the lanniard of the whip-staff or wheel-rope comes, for steering the ship; also an iron hook on the inner end of a boom.

Goose-wings (*of a sail*), the clues or lower corners of the main or fore-sail, when the middle part is furled. A sail set on a boom on the lee side of a ship is also called a *goosewing*.

Gor'dian Knot. In *history*, was a knot made by Gordius, king of Phrygia, in the harness of his chariot, so intricate as to baffle every effort to untie it.

Gor'dius, the hair-worm. A genus of annelides of the abranchian order. The body resembles a thread; and the hair-tail worm (*G. aquaticus*, Lin.), found in stagnant marshes, &c., is several inches in length, and almost as fine as a hair.

Gore. 1. In *heraldry*, an abatement consisting of two arched lines, meeting in



an acute angle in the middle of the fess point: it denotes a coward.——2. A piece of cloth or the like approaching to a triangle, but having the oblique angles rounded off, and forming or intended to form a part.

Gorge (Fr.), the throat. In *architecture*, another name for the moulding

termed *cyma-recta*.—In *fortification*, the entrance of a bastion, ravelin, or other outwork.

Gorged. In *heraldry*, bearing of a crown, coronet, &c., about the *gorge* or neck.

Gor'get, Fr. *gorgette*, from *gorge*. 1. A piece of armour for defending the throat or neck.——2. An instrument, or rather two instruments, used in the operation of lithotomy: the *cutting gorget* is a sort of knife, and the *blunt gorget* is merely a sort of large directory for guiding the forceps in the operation.

Gorgone'ia (Gr.). In *architecture*, carvings of masks imitating the Gorgon's head.

Gorgo'nia, a genus of coralliferous polypi, characterised by having its axis enveloped by a bark so penetrated by calcareous granules as to dry upon the axis, and retain its colours, which are often very vivid and beautiful. The species live upon living animalcules.

Gos'samer, from *gossypium*. A fine filmy substance, like cobwebs, floating in the air in calm weather, especially in autumn. It is frequently seen on furze, and is supposed to be formed by a species of spider.

Gossyp'ium, the Cotton-plant; a genus of seven, or according to Willdenow, ten, species. *Monadelphia—Polyandria*. Name *gossypium* is the Latin word for cotton, the root of which is the oriental name *goottn*. Some of the species, as the American, are herbaceous, others are shrubby; and one is called a tree, but it hardly deserves the name, except that it grows upon a single stem. It is a native of India, China, Egypt, and the western coast of Africa. *See* Cotton.

Goth'ic. In *architecture*, this term is used to denote the pointed style, supposed to have been invented by the Goths. Some, however, refer the origin of this style to India and Persia; and certainly there are instances of the occurrence of pointed arches in very ancient Mahommedan structures. The pointed arch was introduced into England towards the close of the reign of Henry I., but the introduction of the Gothic style as a whole was very gradual; and accordingly instances are found where pointed arches are mixed in the same building with those of the Saxon and Norman. The true commencement of the English Gothic is referred to the reign of Richard I.

Gouge (Fr.), a round hollow chisel, used to cut holes, channels, or grooves, in wood or stone.

Gou'lard's Cerate, the compound cerate of lead.

Gou'lard's Extract, a saturated solution of acetate of lead.

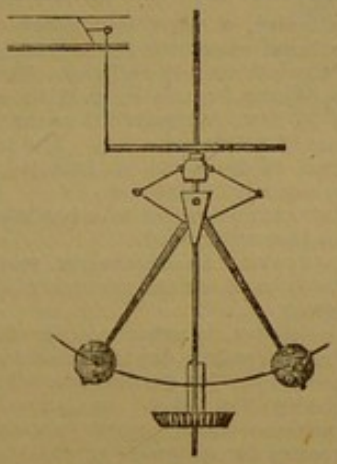
Gout, Fr. *goute*. A disease characterised by pain in the joints, especially of the feet and hands, and, more particularly still, of the great toe.

Gouty Concretions, called also *chalkstones* from their appearance, are composed of uric acid combined with ammonia.

Gowland's Lotion, an extract of bitter almonds, with admixture of corrosive sublimate, sugar, and alcohol.

Gov'ernment. In *politics*, (1.) The body of the laws of a state, whether monarchical, aristocratical, or democratic. (2.) The body of men who conduct the executive in any country.

Gov'ernor. In *mechanics*, a contrivance connected with some machines for regulating their motion. It consists of an



upright spindle, set in motion by the machine. The two balls, suspended by rods, partake of the motion, and fly out by means of the centrifugal force, in proportion as the motion is rapid. In consequence of this the upper portion of the contrivance is elevated or depressed by every change in the speed of the engine; and in the steam-engine this motion is transferred to the throttle-valve by means of a lever, and thus regulates the supply of steam to the cylinders. Thus, if the engine is going too fast, the governor shuts the throttle-valve in part, and if too slow, it falls down and allows more steam to pass.

Gov'ernor-general of India. He exercises some of the most important rights of sovereignty, as declaring war, making peace, framing treaties, and to a certain extent, making laws.

Grace. 1. In *music*, consists in giving due place to the decorative additions, and that easy, smooth, and natural expression of the passages which best conveys the beauties of the composition.——2. In the *fine arts*, equality arising from elegance of form and attitude combined.——3. At *meals*, the saying of a *grace* is a Jewish practice, and was sanctioned also by Jesus Christ.——4. Days of grace. In *commerce*,

are certain days allowed by merchants to the time set for the presentment of a bill.

Gra'ces, Lat. *gratiæ*. In *mythology*, the three sister goddesses, Euphrosyne, Aglaia, and Thalia; attendants on Venus.—In *music*, ornamental notes attached to the principal ones, as appogiaturas.

Grada'tion, Lat. *gradus*, a step. In *painting*, the blending of tints.—In *music*, a diatonic succession of chords.

Grad'atory, Lat. *gradus*. In *mammalogy*, applied to the extremities of a quadruped which are equal, or nearly so, and adapted for progression on land.—In *ornithology*, the *pedes gradiarii* are those in which the whole tibia is covered with feathers.

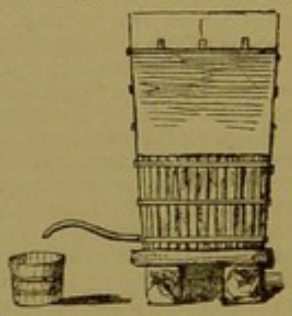
Gra'dient, a term indicative of the proportional ascent or descent of the several planes upon a railway. Thus an inclined plane 4 miles long, with a total fall of 36 feet, is described as having a gradient of 9 feet per mile. The term is also used to designate an inclined plane having a small inclination.

Grad'uate, a scholar who has taken his degrees in a university.

Grad'uated. In *ornithology*, when the quill feathers of the tail regularly increase in length.

Gradua'tion. In *astronomy*, the division of circular arcs into degrees, minutes, &c.

Gradua'tor. 1. An instrument for dividing any line, right or curved, into equal parts.——2. An apparatus invented in Germany for quickening the acid fermentation in the process of vinegar making. It is an oak tub about 6 feet high, and 3 feet wide at bottom, and furnished with a perforated inner cover, through which the vinous liquor descends in drops into the interior, which is filled with chips of beechwood, over which the liquor becomes diffused before it finally descends to the bottom to be run off. By this means a vastly large surface of the liquor is exposed to the action of the atmosphere, and the process of vinegar making much facilitated.



Graft'ing. In *horticulture*, the process of inserting a shoot or scion of one tree into the bark of another, called the *stock*, so as to make it yield fruit of the same nature with that of the tree from which the *graft* was taken. By this means different kinds of fruits, pears, apples, &c., are multiplied.

Grain, Lat. *granum*. A term denoting, 1. All seeds of grasses, but especially restricted to corn, as wheat, rye, barley, oats, &c.——2. A weight, the 24th part of a pennyweight troy.——3. The term *grain* is used in describing the grain-like appearance of the surface of solids, as stones, metals, &c., and also the fibrous texture of wood, &c. Hence *close-grained*, *cross-grained*, &c.——4. *Grains* is a name for the husks of malt after brewing, or of any grain after distillation.——5. *Grains of Paradise* (the amomum grana Paradisi), a species of Mellagatta pepper, imported from the coast of Guinea.

Grain'er, the lixivium obtained by infusing pigeon's dung in water, used for giving flexibility to skins in the process of tanning.

Grallato'riæ, } The waders. An order
Gral'læ, Lin. } of aquatic birds, known by the nudity of the lower parts of the legs, and most generally by the height of their tarsi; two circumstances which enable them to enter the water to a certain depth without wetting their feathers, to wade through it, and seize fish by means of their neck and bill, the length of which is usually proportioned to that of their legs. The ostrich, cassowary, bustard, heron, stork, wood-pelican, spoonbill, water-hen, and jacana are examples. Epithet *grallic*.

Gra'men, the Latin word for grass. The *gramina* form the fourth order in Linnæus's system, and comprehend nearly a twentieth of the vegetable kingdom.

Graminiv'orous, from *gramen* and *voro*, to devour. An epithet applied to animals which subsist wholly on vegetable food, to distinguish them from *carnivorous* animals, which subsist on flesh.

Gram'mar, γραμματικη τεχνη, from γραμμα, a letter. A system of general principles and particular rules for speaking or writing a language. Also a book, containing these principles and rules.

Gramma'rians, a term used by the classic ancients, to distinguish those who were learned in any art or faculty.

Gramme', a French weight, equal to 15·444 grains troy.

Grampus, Fr. *grampoise*, a contraction of *grand-poisson*, a fish. The *Delphinus orca*, Lin., which grows to the length of 25 feet, and is remarkable for its voracity.

Grand, Fr. In *fine arts*, applied to the highest degree of majesty and dignity in a work of art.

Grande'e, Span. *grande*. The highest title of Spanish nobility.

Grand Jury. In *law*, the jury which finds bills of indictment against offenders. These, when a *true bill* is found, are afterwards tried before a *petty jury*.

Grand Seignor. The title of the Turkish sultan.

GRANGE, Lat. *granium*. In *law*, a farm having the necessary barns, stables, and other house accommodation.

GRAN'ITE, Fr. *granit* or *granite*. A primary rock, composed of felspar, quartz, and mica, each crystallised and cohering, but without any base or cement. Thus named from its granular appearance. The colours of the felspar are white, red, grey, and green. The quartz is light grey, and the mica dark. Granite is a plutonic or igneous rock, and forms the basis of the stratified rocks.

GRAN'ITEL, } In *mineralogy*, a name
GRAN'ITELL. } given by Kirwan to a binary aggregate of any two of the following minerals: felspar, mica, shorl, quartz, garnet, steatite, hornblende, jade.

GRANIT'IC, composed of grains or crystals united without cement, as in granite and some sandstones. A *granitic aggregate* is a granular compound, consisting of two, three, or four simple minerals, among which only one of the essential ingredients of granite is present.

GRAN'ITINE, a granitic aggregate of three mineral constituents, one or more of which differ from those which compose granite.

GRAN'ITITE, } Prismatoidal garnet, the
GREN'ITITE. } staurotide of Haüy. A reddish-brown mineral, occurring in primitive rocks. Its form and infusibility distinguish it from the garnet.

GRANIV'OROUS. Animals which feed on grain.

GRANT. In *law*, a gift in writing, of such a thing as cannot be passed orally. The person *to* whom the grant is made is called the *grantee*, and he *by* whom it is made is the *grantor*.

GRAN'ULAR. In *mineralogy*, an epithet for minerals composed of crystalline grains, irregularly but intimately joined together without any agglutinating cement, as in granite and granular limestone.

GRAN'ULATED. 1. Having a structure resembling grains. —— 2. Formed into small grains, as *granulated* tin. —— 3. Beaded; having small roundish elevations placed in rows. Applied to roots of plants.

GRANULA'TION. 1. In *chemistry*, &c. the method of dividing metallic substances into grains or small particles, to facilitate their combination with other substances, &c. Thus tin, &c. is *granulated* by dropping it, while in a melted state, into water; hence called also *dropped* tin. —— 2. In *surgery*, the little grain-like fleshy bodies which form on the surfaces of ulcers and suppurating wounds, and serve both for filling up cavities, and bringing nearer together and uniting their sides, are called granulations.

GRAPE'SHOT, a quantity of small shot confined in a bag, forming a sort of cylinder, whose diameter is equal to that of the ball adapted to the piece of ordnance from which the bag is to be fired.

GRAPH'IC GRANITE, a variety of granite composed of felspar and quartz, so arranged as to produce an imperfect laminar structure. When cut at right angles to the alternations of the constituent minerals, broken lines, like Hebrew characters, present themselves: whence its name, from γραφω, to write.

GRAPH'ITE, from γραφω, to write. A substance better known by the names of black lead and plumbago. It is a carburet of iron (carbon 92, iron 8,) of a steel-gray colour, or nearly iron-black. Sp. gr. about 2.

GRAPHOM'ETER, from γραφω, to describe, and μετρον, measure. A mathematical instrument called also a *semi-circle*. Its use is to observe any angle, whose vertex is at the centre of the instrument in any plane, and to find how many degrees it contains.

GRAP'NEL, } a small anchor, fitted with
GRAP'LING, } four or five flukes or claws, used to hold boats or small vessels. A grappling-iron used to seize and hold one vessel to another in an engagement, and particularly requisite in fire-ships, is called a *fire-grappling*.

GRAU'WACKE, } The name given to a
GRAY'WACKE, } group of rocks forming
GREY'WACKE, } the lowest members of the secondary strata, from Germ. *grau*, grey, and *wacke* (q. v.). Grauwacke is a coarse slaty rock, containing granular fragments of other rocks. When these are very minute, the grauwacke passes into common slate; when they are numerous, and somewhat larger, it becomes sandstone or gritstone; when they are large, and rounded, it may be called ancient conglomerate: old redstone is a grauwacke coloured by accidental admixture of oxide of iron. The grauwacke system of rocks is highly metalliferous.

GRA'VEL, Fr. *gravelle*, *gravier*. 1. In *geology*, &c. a mass of small water-worn stones, larger than particles of sand, but often intermixed with them. —— 2. In *medicine*, small calculous concretions found in the kidneys and bladder.

GRA'VER, or BURIN, a tool used in engraving.

GRAVIM'ETER, a name given by Guyton to an instrument for measuring specific gravities. He adopts this name in preference to hydrometer and areometer, because these terms are grounded upon the supposition that the liquid is always the thing weighed.

GRAVING. In *nautical language*, *see* BREAMING and DOCK.

GRAVITA'TION. The name given in *physics* to the action which one body exercises on another by the power of gravity. *See* ATTRACTION.

Grav'ity. A term used in *physics* to denote the cause by which all bodies move towards each other, unless prevented by some other force; and which operates directly as the mass, and inversely as the square of the distance. Weight is the measure of gravity. *Specific gravity* of a body is the ratio of its weight to that of an equal volume of water assumed as a standard.

Grazioso (It.), in *music*, signifies elegantly and gracefully.

Grease. In *farriery*, an inflammation and swelling of the heels of a horse, with secretion of an oily matter.

Greave, Fr. *grève*. A piece of armour defending the shins.

Greaves, } The sediment of melted
Graves. } tallow.

Greek Fire, a formidable combustible composition, employed by the Constantinopolitan Greeks of the middle ages against the Mahometans. Its composition was kept a secret, and is not now certainly known, but it is supposed to have been a compound of asphaltum, sulphur, and nitre.

Greek Church. It comprises the great bulk of the Christian population of Russia, Greece, Moldavia, and Wallachia, all acknowledging the patriarch of Constantinople as their head.

Greek Orders. In *architecture*, these are the Doric, Ionic, and Corinthian, in contradistinction to the two Latin orders, the Tuscan and Composite.

Green-cloth, a court of justice, held in the counting-house of the Queen's household, composed of the lord steward and the officers under him. It has jurisdiction of the court-royal, which extends every way 200 yards from the gate of the palace. It takes its name from the green cloth spread over the board at which it is held.

Green-earth, a variety of talc of a pleasant green colour, which occurs in vesicular cavities in amygdaloid, in England and Scotland. It is the mountain green of artists in water colours, and when ground with oil, is employed as a paint.

Green Paints or Pigments. These are prepared by admixture of blues and yellows. *Brunswick green* is a mixture of carbonate of copper with chalk, lime, &c. *Frise green* is an ammono-sulphate of copper. *Mittis green* is an arseniate of copper. *Mountain green* is a hydrated carbonate of copper. *Sap green* is the inspissated uice of buckthorn berries. *Scheele's green* is arsenite of copper. *Verona green* is a variety of green earth.

Green Room. In *theatres*, the actors' retiring room, so called from being painted or decorated in green.

Green Vitriol, crystallised sulphate of iron; the crystals of which are green.

Grego'rian Telescope, the first and most common form of reflecting telescope, invented by Professor James Gregory.

Grego'rian Year, the Julian year corrected by the abatement of three bissextiles every 400 years, as allowance for the 11 minutes which the Julian year exceeds the solar year. This reformation was effected by Pope Gregory XIII., A.D. 1582, when 10 days were taken out of October to make the equinox fall on the 21st of March, as it did at the time of the general Council of Nice, A.D. 325. The Gregorian year still requires correction to the extent of 80 minutes every 400 years.

Grena'de. In *war*, a small bomb or shell of metal about 2½ inches diameter, filled with fine powder, and furnished with a fusee, which being lighted, the shell is thrown by the hand among the enemy: hence called most commonly *hand-grenade*, hence *grenadier*.

Grey'weathers. In *geology*, large boulders of siliceous sandstone, found in various localities.

Grif'fin, } Lat. *gryps*, *gryphus*. An
Grif'fon, } imaginary animal, said to have been generated between an eagle and a lion. It is represented on ancient medals with four legs, wings, and a beak, and is still borne in coat-armour.

Gril'lage, a term applied to the sleepers and cross-beams supporting a platform, upon which some erections are carried up, as piers, in marshy soils, whereby an equal bearing is given to the foundation.

Gripe. In *nautical language*, 1. The piece of timber called otherwise the *fore-foot*, faced against the lower piece of the stern from the foremost end of the keel, and joining with the knee of the head: used to defend the lower part from injury.——2. The compass of a ship's stern under water.——3. To *gripe* is to run to windward.——4. *Gripes* are an assemblage of dead-eyes, ropes, and hooks, fastened to ringbolts in the deck to secure the boats.

Grit or Gritstone, a coarse siliceous sandstone, sometimes called mill-stone grit, from the circumstance of some quarries of it being worked for mill-stones. It affords also good building stones.

Groat, a silver coin struck in the reign of Edward III., and so named from its being four times greater than the silver penny, the only silver coin previously in use. The term means money in amount equal to 4*d*.

Groats, decorticated oats.

Groo, some spirituous liquor, as rum or whisky, diluted with water.

Groin. 1. In *architecture* (*see* Groined Arch).——2. In *engineering*, a framework, usually of wood, constructed across a beach between high and low water-mark, for the purpose of retaining the shingle already accumulated, or to obtain more from the sea.

Groined Arch, an arch formed by the intersection of two semi-cylinders or arches: the point of juncture is called a *groin*. It is the most stable of all the arches.

Groined Ceiling, a ceiling formed of three or more curved surfaces, so that every two may form a groin, and all the groins terminating at one extremity in a common point.

Grom'met, a ring or small wreath formed by laying a strand of a rope three or four times round, used to fasten the upper edge of a sail to its stay.

Gronin'genists. In *ecclesiastical history*, a subdivision of Anabaptists.

Groove. In *architecture*, a sunken rectangular channel.

Gros, a French weight of 59·07 troy grains.

Gross. 1. The number of 12 dozen.——2. *Gross-weight* is the whole weight of goods, with the packing bags, boxes, &c., for which allowance of tare and tret is made.——3. *In gross* is a law term, signifying absolute or independent. Thus an *advowson in gross* is one separate from the manor.

Gross'beak, a bird, the *Loxia enucleator*, Lin. (*see* Corythus), which closely resembles the crossbill in its habits. It is found in the north of both continents, and takes its name from its peculiar beak. In North America it is called popularly the Virginia nightingale.

Gros'ular, an asparagus-green variety of dodecahedral garnet found in Siberia, embedded in a pale greenish claystone along with Vesuvian.

Grotto, Fr. *grotte;* an artificial cavern or cave. The term is sometimes also used for a natural cave of small size.

Ground. 1. In *painting*, the surface upon which the figures and other objects are represented, and which retains the original colour.——2. In *etching*, the composition spread upon the surface of the plate to be etched, to prevent the acid from attacking any parts, except where the ground is opened by the etching-needle.

Ground-joints. In *carpentry*, joints supporting the floor immediately above the ground.

Grounds, a name given by joiners to narrow pieces of wood built into the foundations of walls, at the surbases of rooms, to secure architraves and support the walls over apertures.

Gro'undsill, the lowest horizontal timber of a wall.

Ground Tackle. In *nautical language*, a general name for all ropes and furniture belonging to anchors.

Group. 1. In *painting* and *sculpture*, is an assemblage of figures of men, beasts, fruits, or the like, which have some apparent relation to each other.——2. In *music*, one of the diminutions of long notes, which in working form a sort of group, knot, or bush.

Grouped Columns, are when three, four, or more columns are put together on the same pedestal: when two are placed together, they are *coupled*.

Grou'ping. In *painting* and *sculpture*, the art of composing or combining the objects of a picture or piece of sculpture.

Grout, a mortar used in brick and stone work, called also *grouting*. It is composed of quick lime and fine sand, and is employed so thin as to be poured into the upper beds and internal joints of the work.

Growing. In *nautical language*, implies the direction of the cable from the ship towards the anchors.

Gruina'les, from *grus*, a crane. A natural order of plants, of which the geranium or crane's-bill is the type.

Grus, the *crane*. A genus of birds. Order *Grallatoriæ:* family *Cultrirostres*. The cranes are distinguished from the herons and storks by their straight but slightly cleft beak. The trumpeters of South America and the crowned cranes of Africa belong to the genus.

Gryllo-Talpa, the mole-cricket (*Gryllus vulgaris*, Lin.), separated from the genus *Gryllus*, Lin., by Latreille. This insect is very well known to gardeners, &c., for the mischief it effects upon the roots of plants.

Gryl'lus. The name given by Linnæus to an extensive genus of saltatorian orthoptera, comprising the various insects commonly termed grasshoppers, crickets, katy-dids, &c., but now variously subdivided

Guai'ac, a resin which exudes from the trunk of the *Guaiacum officinale*, a tree common in the West India islands and the warmer parts of America.

Guai'acum, a genus of trees of two species. *Decandria — Monogynia*. Name from Span. *Guayaco*, which is formed from the Indian *Hoaxacum*. This genus affords the resinous substance called *guaiac*, and the wood called *lignum vitæ*. Jamaica, Hayti, New Spain, &c.

Gua'no, a substance found upon the coasts of Peru, in the islands of Chinchi, &c., forming deposits of 50 or 60 feet thick, and of considerable extent. It appears to be accumulations of the excrements of innumerable flocks of birds, especially herons, and is found an excellent manure for Indian corn, &c.

Guar'dant. In *heraldry*, having the face turned towards the spectator.

Guar'dian. In *law*, one appointed by will or otherwise to take charge of the estate and education of a minor, or other person not of sufficient discretion to manage his own concerns, and who is called

the *ward*. In *ecclesiastics, guardian of spiritualities*.—The trustee of the spiritual administration of a see during a vacancy. *Guardian of the temporalities*, the trustee of the goods and profits of the same.

Gud'geon. 1. In *mechanics*, the extremity of a horizontal shaft or axle when it turns in a collar.——2. In *ichthyology*, a small fish.——3. Gudgeons in a *ship*, are the eyes driven into the stern-post to hang the rudder on.

Guebres, infidels. The sectaries of the Persian religion who worship fire.

Guelf, order of. An Hanoverian order of knighthood.

Guelfs and Ghib'ellines. In *Italian history*, two political parties in the middle ages, whose feuds long distracted Italy.

Guerilla, Span. *little war*. The plan of harassing the French armies by the constant attacks of independent bands.

Guide. In *music*, the leading part in a canon or fugue.

Guild, Sax. *geld, gield, gild* or *gyld*. A society or company associated for some purpose, particularly for carrying on commerce. The *merchant-guilds* of our Saxon ancestors answer to our modern corporations. They were licensed by the king and governed by their own laws.

Guild-hall, the great court of judicature in London.

Guillochе (Fr). In *architecture*, an ornament composed of continuous curved fillets.

Guillotine', a machine for beheading, introduced into France during the Revolution. It is similar to the *maiden*, formerly used in Scotland, and the *mannara*, used in Italy for beheading criminals of noble birth. It was proposed (not invented) by Guillotin to the French Convention, as being a less barbarous mode of decapitation than the axe previously used: hence the name.

Guin'ea, an English gold coin first struck in the reign of Charles II., and current till lately for 1*l*. 1*s*. It took its name from being made of the gold brought from Guinea on the coast of Africa.

Guin'ea-worm, the *Filaria medinensis*, Gm., which is very common in hot countries, and often insinuates itself under the skin of man, causing intense pain. It is often of great length, but is seldom thicker than the barrel of a pigeon's quill.

Guitar', Span. *guitarra*. A musical stringed instrument larger than a violin, and played with the fingers.

Gules. In *heraldry*, a corruption of the French word *gueules*, which in this sense means red. It is marked in engraving by vertical straight lines.

Gullies, a term sometimes applied to iron tram-plates or rails.

Gu'lo. In *zoology*, the generic name of the *gluttons*, placed by Linnæus among the *bears*. The ferrets of South America and the Wolverine of North America are placed along with the common glutton (*Urso gulo*, Lin.) by Cuvier, as are also the grison and taira.

Gum, Lat. *gummi*. The mucilage of vegetables, usually transparent when dry, tasteless and adhesive; soluble in water, and insoluble in alcohol and oil; coagulates by the action of weak acids, and in watery solution capable of acid fermentation. The common gums are those of the plum, the peach, and cherry trees. *Gum-arabic* flows from the acacia of Egypt, Arabia, &c. *Gum-senegal* is a variety of gum-arabic. *Gum-tragacanth* or *adragant* is produced by a species of astragalus common in oriental countries. The name *gum* was formerly applied indifferently to all concrete vegetable juices, hence the names gum-copal, gum-sandarach, and other gums designated generally by the name of gum-resins. Caoutchouc also has been named *gum-elastic* and *elastic gum*.

Gum'-resin, a vegetable juice consisting of gum and resin combined. Gum-resins rarely flow spontaneously from plants, but are mostly extracted by incision. They are mostly opaque and brittle, and partly soluble in water, and partly in alcohol. The principal gum-resins are aloes, gum-ammoniac, assafœtida, bdellium, euphorbium, galbanum, gamboge, guaiac, myrrh, olibanum, opoponax, sarcocolla, scammony, and styrax.

Gun'boat, a boat or small vessel fitted to carry one or two guns at the bow.

Gun'-metal, an alloy of copper and tin.

Gun'ner, the first of the three warrant officers in a king's ship. He has charge of the ordnance and ammunition.

Gun'nery, a military art denoting the management of guns and mortars.

Gun'ny, Bengalese, *goni*. A strong coarse sackcloth made in Bengal from the fibre of two species of plants. Also a weight: of cinnamon, 84 lbs.; of saltpetre, 140 lbs.

Gunpowder, is a mixture of nitre, sulphur, and charcoal.

Gunpowder-plot. The celebrated conspiracy of certain disappointed Roman Catholics to blow up king James I. and parliament by gunpowder, detected on the 4th Nov. 1605.

Gun'-room, an apartment in a ship occupied by the gunner, &c. as a mess-room.

Gunter's Chain, the chain in common use for measuring land, so called from E. Gunter, its inventor. The length is 66 feet, divided into 100 links of 7·92 inches each, so that 1000 square chains make an acre.

Gun'ter's Line, a logarithmic line,

usually graduated upon scales, sectors, &c., also called the *line of numbers*, and *line of lines*.

GUNTER'S QUADRANT, an instrument used to find the hour of the day, the sun's azimuth, &c. It is a sort of stereographic projection on the plane of the equinoctial, the eye being supposed one of the poles, so that the tropic, ecliptic, and horizon, form the arcs of circles.

GUNTER'S SCALE, a large plane scale having various lines upon it, both logarithmic and natural, relating to trigonometry, navigation, &c. It is chiefly used by seamen, and called by them *the Gunter*.

GUN'WALE, the uppermost wale of a ship, or that piece of timber which reaches on either side of the ship from the half-deck to the forecastle, being the uppermost bevel which finishes the upper works of the hull.

GUR'RY, a native fortification in India, generally consisting of a wall flanked with towers.

GUS'TO GRAN'DO. In *painting*, an Italian phrase equivalent to the *beau ideal* of the French, and the *great style* of the English.

GUT'TA (Lat.), a drop. The *gutta rosacea* is a red or pimpled face. The *gutta serena* is a disease of the eyes, otherwise called Amaurosis (q. v.). The drops of a Doric frieze are called *guttæ*.

GUTTER-LEDGER, a cross bar laid along the middle of a large hatchway, to support the covers.

GUY, Sp. *guia*, a guide. A rope used to keep a heavy body steady while hoisting or lowering.

GY'BING. In *navigation*, the shifting of a boom-sail from one side of the mast to the other.

GYMN'ASIUM, γυμνασιον, from γυμνος, naked. A name first given by the Spartans to the public building where the young men exercised themselves, naked, in running, leaping, wrestling, throwing the discus, &c. Gymnasia were afterwards very common in Greece, and were imitated and improved at Rome. Since that time athletic exercise has assumed the form of a science, under the name of *gymnastics*. The *gymnasiarch* was the officer who provided the oil and other necessaries for the gymnasium.

GYMNE'TRUS, a genus of fish of the Tenioid family. The Arctic ocean produces two species, called in Norway the *king of the herrings*, one of which, about 10 feet long, being usually found preceding or accompanying shoals of that fish.

GYMNOCAR'PI, from γυμνος, and καρπος. Fungi of fleshy texture, bearing their seeds in an open receptacle.

GYMNODON'TES, a family of fishes: order *Plectognathi*. Name from γυμνος, naked, and οδους, a tooth, the jaws, instead of teeth, being furnished with an ivory substance internally divided into laminæ, whose *ensemble* resembles the beak of the parrot, and which in fact consists of two teeth united. The Diodon, Triodon, and Tetraodon are genera.

GYMNOS'OPHIST, from γυμνος, naked, and σοφιστης, a philosopher; a naked philosopher. The gymnosophists are a class of Indian devotees, thus denominated from their going barefooted and with little clothing. They affect to place the chief happiness of man in a contempt of the pleasures of sense.

GYMNOSPER'MIA, from γυμνος, naked, and σπερμα, seed. An order of plants of the class *Didynamia*, embracing such as have added to the didynamial character four naked seeds.

GYMNO'TUS, the *electrical eel* (q. v.). A genus of anguilliform fish. The name *gymnotus* is a contraction of *gymnonotus* (bare-back), applied by Artidi to these fishes.

GYNÆ'CIUM (Gr.). In *ancient architecture*, the portion of a Grecian house set apart for the female part of the family.

GYNÆCO'CRACY, γυνη, and κρατεω, to govern. A state in which women are allowed to govern.

GYNAN'DRIA, from γυνη, a female, and ανηρ, a male. The name of the 20th class of plants in the sexual system of Linnæus, comprehending those which produce hermaphrodite flowers, the stamina of which grow upon the pistil so that the male and female organs are united, and do not stand apart as in other hermaphrodite flowers. Epithet *gynandrian*.

GY'NOPHERE, γυνη, and φερω, to bear. In *botany*, the stalk upon which some ovaria are seated.

GYP'SIES, corrupted from "Egyptians." A nation of vagrants, whose principal occupations are fortune-telling and thievery.

GYP'SINUM METALLUM, the lapis specularis, used by the ancients for windows, as glass is in modern times.

GYP'SUM, from γυψος, lime. A native sulphate of lime, from which plaster of Paris is obtained by calcination and slaking with water. It contains 21 per cent. of water. *See* ALABASTER, SELENITE, and ANHYDRITE.

GYRI, γυρος, circle. In *mammalogy*, the annular series of scales in the tails of certain quadrupeds.

GYRI'NUS, the *whirler* or *water-flea*. A genus of coleopterous insects belonging to the hydrocantharous tribe. Name from γυρεω, to turn round, which characterises the motion of the insect on the surface of the water.

GYROCAR'PUS, a genus of plants which

produce a winged fruit, which when thrown into the air, whirls round in a peculiar manner: whence the name from γυρόω, to turn round, and καρπος, fruit.

GYROG'ONITE, from γυρος, curvus, and γένος, genus. Fossil seed-vessels of the Chara hispida, found in fresh-water deposits, and at one time regarded as microscopic shells

GY'ROMANCY, divination by drawing a circle and walking round it.

H.

H, the eighth letter of the English alphabet, formerly stood as a numeral for 200, and with a dash over it for 200,000.—In *music*, *h* is the seventh degree in the diatonic scale and the twelfth in the chromatic.

HAAM, a measure. *See* AAM.

HAAR'KIES (Ger.), capillary pyrites in very delicate acicular crystals.

HA'BEAS CORPUS (Lat.), "have the body." A writ of various uses, and of different importance; but the most celebrated is the *habeas corpus ad subjiciendum*, which a man who is, or supposes himself to be, aggrieved by unjust imprisonment, may have out of the Queen's Bench, directed to the person detaining him, and commanding him to produce the prisoner, and bring the prosecution to open trial, instead of prolonging his imprisonment. This writ is founded upon common law, and not only protects the citizen from unlawful imprisonment at the suggestion of the civil officers of the crown, but also against groundless arrests at the suit of individuals. It is secured by many statutes, particularly that of 31 Charles II., which is by distinction called the *Habeas Corpus Act*.

HABE'RE FA'CIAS POSSESSIONEM. In *law*, a writ, which lies where one has recovered a term of years, in action of ejectment, to put him into possession.—*Habere facias seisinam*, a writ to give seisin of a freehold estate recovered by ejectment or other action.

HABER'GEON, Ger. *hals*, the neck, and *bergen*, to defend. An ancient piece of defensive armour, descending from the neck to the middle, and formed of little iron rings or meshes linked together.

HAB'ITAT, contr. of *habitation*. A term used by naturalists to denote the natural abode or locality of an animal, or the nature of the situation in which a plant grows.

HACK'ING. In *building*, an objectionable mode practised by workmen when stones of a proper size are scarce, of completing a course of a wall. It consists of dividing the course into two, and building with stones of half size.

HACK'LE, an instrument for combing flax or hemp, to separate the broken parts of stalks from the fibre.

HADE. In *mining*, the dip or deviation from the vertical, of any mineral vein; also the steep descent of a shaft.

HADJ (Arab.), the Mahommedan pilgrimage to Mecca and Medina; whence *Hadji*, a pilgrim, and *Hedjaz*, the holy land.

HÆM'ATITES, from αἷμα, blood. A species of iron ore, called bloodstone from its colour, or perhaps from its being used as a medicine in cases of hæmorrhages, fluxes, &c.

HÆMATOCE'LE, from αἷμα, blood, and κηλη, a tumour. A swelling of the scrotum or spermatic cord, proceeding from or caused by blood.

HÆM'ATOID, from αἷμα, blood, and εἶδος, like. An epithet of a peculiar form of malignant tumour.

HÆMATOL'OGY, from αἷμα, blood, and λογος, discourse. The doctrine of the blood.

HÆMATO'SINE, from αἷμα, blood. The colouring matter of the blood.

HÆMATOXY'LINE, the colouring principle of logwood (*hæmatoxylon*).

HÆMATOXY'LON, HÆMATOXY'LUM, the logwood-tree. A genus. *Decandria — Monogynia*. Name from αἷμα, blood, and ξυλον, wood, on account of its red colour. One species, South America.

HÆMOP'TOE, HÆMOP'TYSIS, from αἷμα, blood, and πτυω, to spit. A spitting of blood with cough.

HÆM'ORRHAGE, from αἷμα, blood, and ῥήσσω, to break out. A flux of blood by rupture of some vessel.

HÆM'ORRHOIDS, from αἷμα, blood, and ῥεω, to flow. A peculiar disease, the bloody piles.

HÆRESIMA'CHÆ, from αἵρεσις, and μαχομαι, I fight. Persons who have written against heresy.

HAGIOG'RAPHA, from ἁγιος, holy, and γραφω, to write; sacred writings. The Jews divided the books of the scriptures into three parts: (1.) The *Law*, contained in the five books of Moses; (2). The Prophets, or *Nevim*; (3). The *Cetuvim* or *writings*, by way of eminence, and called by the Greeks *Hagiographa*, now adopted into the English. This class comprehends the Psalms, Proverbs, &c.

HAIL, HAILSTONES, Sax. *hægel*. Irregular masses of frozen vapour more concentrated than snow, descending from the atmosphere like frozen rain. Hail is supposed to be formed in the higher regions, where the cold is greatest, but become larger in descending through

the humid layers of the air, whose vapour is suddenly condensed by the contact of a frozen body, and clusters round the spherules, forming masses often of very large size and weight.

HAIDIN'GERITE, a mineral sulphuret of antimony, iron, and zinc.

HAIR PENCILS, are small brushes used in painting. The name is restricted to those made of the fine hairs of the mineever, marten, badger, polecat, &c., and mounted in quills or white iron tubes.

HAIR'SBREADTH, a measure of length; the forty-eighth part of an inch.

HAKE, a fish. The *Merlucius vulgaris*, Cuv., Yarr., or *Gadus merlucius*, Penn., very common on the west coast of England, and in the Bay of Galway.

HAL'BERD, } a military weapon. It is a
HAL'BERT, } sort of spear with a cross piece of steel having a cutting edge at one extremity, and a sharp bent point at the other, with a shaft about 6 feet long, formerly carried by sergeants of foot and artillery.

HAL'CYON DAYS. A name anciently given to the seven days that precede and follow the winter solstice, when the weather was very calm. The expression now signifies days of peace and tranquillity.

HALF-BREADTH PLAN. In *naval architecture*, the horizontal or floor plane of a ship. The base is the section made by the horizontal surface of the water and the outside surface of the ship, called the *upper* or *load-water line*.

HALF-MARK, a noble, or 6*s* 8*d*.

HALF-MOON. In *fortification*, an outwork having two faces, and a gorge in the form of a half-moon.

HALF-PIKE. Among *seamen*, the boarding-pike, thus named from its shortness.

HALF-TIDE DOCK, a basin connecting two or more docks, and communicating with the entrance basin.

HAL'IBUT, a fish; the *Hippoglossus vulgaris*, Cuv. Yarr., a native of the south seas, where specimens weighing 500 lbs. have been taken. It is frequently met with on the east coast of Scotland, and, in July and August, specimens are caught in the Forth of 18 inches long, and are sold under the name of halibut turbot, and often under the name of turbot.

HALICORE, the maid of the sea, called also siren, sea-cow, &c. A genus of herbivorous cetacea of one species, the *H. dugong*, Ill. It inhabits the Indian Ocean.

HALI'OTIS, the sea-ear. A genus of univalve sea-shell inhabited by a limax. Name from ἁλς, the sea, and ους, an ear. (order, *Scutibranchiata*), on account of its shape being flat, having a small spire and a large aperture. Fossil specimens are rare.

HALITHE'A, a genus of Articulata: order *Dorsibranchiata*; separated from the genus *Aphrodita*, Lin., by M. Savigny. A species found on the coasts of France, the *A. aculatæ*, Lin., is, in respect of colours, one of the most splendid of all animals.

HALL, Sax. *heal*. In *architecture*, a large room for the transaction of public business; the entrance of a dwelling-house; an unendowed college. Also, among dissenters in Scotland, the annual courses of lectures for the instruction of students in divinity.

HAL'LIARDS, from *hale* or *haul*, and *yards*. Ropes or tackle usually employed in hoisting and lowering sails on their respective masts.

HALLUCINA'TION, from *hallucinor*, to err. A depraved imagination amounting to a disease.

HALO, (Lat.) from ἁλως, a circle. A circle appearing about the body of the sun, moon, or other heavenly body, called also *corona* or crown. Halos are caused by vapour in the air.

HALOGE'NE, from ἁλς, sea-salt, and γενναω, to generate. A term employed by Berzelius to denote substances which form saline compounds with metals; it comprehends chlorine, bromine, iodine, fluorine and cyanogen.

HA'LOID, from ἁλς, sea-salt, and εἶδος, like. A compound of a saline nature, consisting of a metal and a halogenous body. The *haloids* or *haloid-salts* comprehend the whole series of metallic chlorides, iodides, bromides, fluorides, and cyanurets, which are all analogous in constitution to sea-salt (*chloride of sodium*).

HALTERES, ἁλτῆρες. The poisers or balancers of insects, so named from their supposed use in adjusting the centre of gravity when the insect is flying. Halteres are only found in dipterous insects; they are cylindrical filaments, two in number, one on each side of the thorax, answering to the second pair of wings in insects which have four wings.

HAMADRY'ADES, certain fabulous deities of antiquity, feigned to live and die with the trees to which they were attached; hence the name from ἁμα, together, and δρυς, a tree.

HAMLET, Sax. *ham*, a small village. In *law*, a portion of a village or parish.

HAMMER BEAM, a beam in a gothic roof, not extending to the opposite side.

HAM'MOCK, a sailor's bed.

HA'MOSE, } Lat. *hamosus*, hooked: ap-
HA'MOUS, } plied to seeds, &c., of plants.

HAM'ULE, Lat. *hamulus*, a little hook: applied in anatomy to any hook-like process.

HAN'APER, Norm. *hanap*, a hamper. An office in Chancery, under the direction of a master, whose clerk receives the fees due to the crown for charters, patents, commissions, and writs. The hanaper was used in ancient days by the kings

of England for holding and carrying with them their money, as they travelled from place to place. It was a kind of basket or *fiscus*, and hence came to be considered the king's treasury.

HANCH'ES. In *architecture*, the ends of elliptical arches, which are arcs of smaller circles than the scheme or middle part of the arch.

HAND, a measure of four inches, used in taking the height of horses.

HAND'BREADTH, a measure of three inches; a palm.

HAND'CUFFS, an instrument for preventing a malefactor from using his hands. It consists of iron rings for the wrists, with a connecting chain, or simply a short iron bar.

HAN'DLING. In *painting*, management of the pencil by touch.

HAND'SPIKE, a wooden bar used by the hand as a lever for various purposes, as in raising weights, turning a windlass, &c.

HANG'ING-STILE (of a door), that on which the hinges are fixed.

HANK. In *spinning*, two or more skeins of yarn, silk, or cotton, tied together.

HANKS, wooden rings fixed upon the stays to confine the staysails thereto at different distances.

HANSEATIC LEAGUE, from *hansa*, an old gothic word signifying a society or an association. An association of the principal cities of the north of Germany for the mutual safety and the better carrying on of their traffic from one kingdom to another. The cities of the League were called *Hanse Towns*, a name not yet forgotten, though the league is.

HARD, a term used to signify a ford or passable place in a river or fen, consisting of a hard bottom of gravel.

HARD-A-LEE, an order on ship-board to put the helm close to the lee side of the ship, to tack her head to the wind.

HARD-A-PORT, an order on board a ship to put the helm close to the larboard side.

HARD-A-STARBOARD, an order on board a ship to put the helm close to the starboard side of a ship

HARD-A-WEATHER, an order on board a ship to put the helm close to the weather or windward side of a ship.

HARD'NESS. In *physics*, that quality of bodies by which they resist the action of external force, tending to alter the relative positions of their particles. The relative hardness of bodies (as minerals), is measured by the power they possess of cutting or scratching other substances

HARD'WARE, a term which includes every kind of goods manufactured from metals, comprising iron, steel, brass, and copper articles of all descriptions.

HARD WA'TERS, such as hold earthy salts in solution, which decompose common soap, and form with it insoluble earthy soaps.

HARE'-LIP, a peculiar malformation of the lip, consisting in a longitudinal fissure like the upper lip of a hare. Children are frequently born with this malformation.

HA'REM, Arabic, *hârama*, to seclude. The seraglio or place where oriental princes, &c., confine their women.

HAR'ICOT, Fr. from αρακος. A kind of ragout of meat and roots.

HAR'IOT, } In *law*, a due belonging to a
HER'IOT. } lord at the death of his tenant, consisting of the best beast, &c., in his possession at the time of his demise.

HAR'LEQUIN (Fr.), a buffoon dressed in party-coloured clothes, and forming the principal character in the English pantomime. The character was originally introduced into Italian comedy.

HARMAT'TAN, a prevailing and peculiarly dry wind, on the coast of Africa, between Cape Verd and Cape Lopez. It blows from the interior, and is particularly destructive of vegetation, but is not pestilential.

HARMON'ICA, a musical instrument, in which the sounds are produced from glasses blown as nearly as possible in the form of hemispheres, but all of different diameters.

HARMON'ICAL. In *mathematics* (*see* MEAN and PROPORTION).

HARMON'ICS. 1. The science of musical sounds.——2. All the derivative sounds, which, on the principle of resonance, accompany every single sound and render it perceptible, are termed *harmonics*. The shorter vibrations produce acute sounds, and are called *acute harmonics;* the low sounds which accompany every perfect consonance of two sounds are termed *grave harmonics*. In this manner all the aliquot parts of a string produce harmony.

HAR'MONITES, a sect of enthusiasts, founded by Rapp in Wurtemburg, about 1780, who were forced afterwards to emigrate to America.

HAR'MONY, Lat. *harmonia*, from ἁρμενα, from αρω, to adapt. 1. In *music*, the agreeable result or union of several sounds heard at the same time.—*Natural harmony* consists of the harmonic triad or common chord.—*Artificial harmony* is a mixture of concords and discords.—*Figured harmony* is when one or more of the parts move during the continuance of a chord, through certain notes which do not form any of the constituent parts of that chord.—*Perfect harmony* implies the use of untempered concords only. *Tempered harmony* is when the notes are varied by temperament.——2. In designs, plans, paintings, &c., *harmony* denotes a just and agreeable relation among the parts in their distribution and proportions.

HARMO'STES (Gr.). In *ancient history*, a Spartan magistrate appointed to superintend a conquered state.

HAR'MUS, ἅρμος. In *ancient architecture*, a tile for covering a joint made by other tiles.

HARP, Sax. *harpa*. A musical instrument of the stringed kind, of a triangular form, held upright when played, and touched with the fingers.

HAR'PA, a genus of Gasteropods: order *Pectinibranchiata*, family *Buccinoida*, Cuv. This beautiful genus of shells is named from the regular longitudinal ribs, which mark the external surface in some measure like a harp. The species are marine, and are found both fossil and recent.

HAR'PIES, certain rapacious and filthy animals of the bird kind, mentioned by the ancient poets. The ἅρπυιαι were three in number, the Aello, Ocypete, and Celeno, sent by Juno to plunder the table of Phineus.

HARP'INGS. In *ships*, the foreparts of the wales which encompass the bow, and are fastened to the stem. Their use is to strengthen the ship where she sustains the greatest stress in plunging into the sea. The *cat-harpings* are the ropes which serve to brace the shrouds of the lower masts behind their respective masts.

HARPO'ON or HARPING-IRON, an iron instrument formed at one end like a barbed arrow, and having a rope attached to the other, for the purpose of spearing whales.

HARP'SICHORD, a musical stringed instrument, consisting of a case framed of mahogany or the like, and having a sounding-board over which the wires are distended, supported by four bridges. It is played by the fingers, by means of keys disposed in front, and having on their inclosed extremities little upright oblong slips of wood called *jacks*, furnished with crowquill plectrums, which rise when the key is pressed and strike the wires.

HAR'RIER. 1. In *ornithology* (*see* CIRCUS).—2. A small hound with a nice sense of smell, used in hunting hares.

HAR'ROW, an instrument of agriculture formed of pieces of timber crossing each other, and set with iron teeth. It is dragged over ploughed land to break it, and cover seed when sown.

HARTS'HORN, an old name for liquid ammonia, because formerly obtained by distilling the horns of male deer: called also *spirit of hartshorn*.

HAR'VEST MOON, a remarkable phenomenon relating to the rising of the moon in the harvest season. It consists in her rising for several nights in succession immediately after sunset, with little perceptible difference as to time, and is owing to the oblique ascension of the signs (Pisces and Aries), through which the moon is then passing.

HAS'TATE, Lat. *hastatus*, spear or halbert-shaped. Applied to a triangular leaf hollowed out at the base and sides, but with spreading lobes.

HASTA'TI (Lat.). A division of the Roman infantry, which was armed with spears.

HATCH, from Sax. *hæca*, a railing, gate, &c. The frame of cross-bars laid over the opening of a ship's deck is termed a *hatch* or *hatch-bars*. The same name is also given to the opening in a ship's deck, or the passage from one deck to another, but this is more properly the *hatchway*. Cornish miners call the openings to mines *hatches*, and the same name is given to flood or lock-gates on rivers and canals.

HATCH'EL, a machine for dressing flax. *See* HACKLE.

HATCH'ETINE, a variety of bitumen, known also as mineral adipocere, found in the iron ore of Merthyr Tydfil in South Wales. Colour yellowish white, texture flaky, hardness of soft tallow.

HATCH'MENT, corrupted from *achievement*. An armorial escutcheon placed over a door, &c., at a funeral.

HATCH'WAY, the name given to the passage from one deck of a ship to another, through the *hatches*. The name is generally applied to the passage through any trap or falling door.

HAT'TEMISTS, an ecclesiastical sect in Holland: so denominated after Van Hattem, a minister of Zealand.

HAU'BERK, It. *usbergo*. A piece of armour of the 12th century.

HAUT'BOY, Fr. *hautbois*, from *haut*, high, and *bois*, wood. A wind instrument somewhat resembling a flute, but widening towards the bottom, and sounded through a reed. It is the natural treble to the bassoon.

HAÜYNE, dodecahedral zeolite or lapis lazuli, named thus after Haüy.

HAWKE. Among *plasterers*, the board with a handle on its underside, used by the workmen to hold the plaster.

HAWSE. In *nautical language*, denotes the situation of the cables before the ship's stern, when she is moored with two anchors from the starboard and larboard bows. The ship is said to have a *foul hawse* when the cables cross each other. Disengaging the cables is *clearing hawse*. Veering out a little cable to expose a new surface to the friction in the hawse-hole, is termed *freshening hawse*. *Athwart hawse* implies across the bows of a vessel at anchor.

HAW'SER, a large rope or small cable.

HAY'BOTE, for *hedge-bote*. An allowance of wood, &c., to a tenant for repairing fences.

HAY'WARD, Fr. *haie*, hedge. An officer

formerly appointed to take care of the cattle of a manor, and preserve the hedges from them.

HEAD. The *head of a ship* is an ornamental figure, erected on a continuation of the stem, and is emblematic of the ship's name. A *head of water* is a regular height of water intended for the supply of mills, fountains, and the like.

HEAD'BOROUGH. Sax. *borg*, pledge. The chief of the ten pledges in frank-pledge.

HEADERS. In *building*, stones extending over the thickness of a wall, or bricks laid lengthways across the thickness.

HEADING. 1. In *mining*, &c. *See* DRIFT. ——2. In *building*, a course consisting of headers or stones, bricks or the like, laid lengthways across the thickness of the wall, called *heading-courses*.

HEADING-STONE. *See* KEYSTONE.

HEADLAND. In *geography*, nearly synonymous with cape or promontory. In *agriculture*, a border at the sides of a field, to afford space for turning the plough.

HEAD'WAY, a name for the clear height of an arch, &c.

HEAD'WORK, a name for ornaments on the keystones of arches.

HEALDS, the harness for guiding the warp threads in a loom; more commonly *heddles*.

HEART, Germ. *herz*. The human heart is a hollow muscular organ, of a coniform shape; the broad part is the *base*, the smaller end is the *apex*.

HEART'-BOUND. In *building*, is where two stones forming the breadth of the wall, have one stone of the same breadth placed over them.

HEART WHEEL, a mechanical contrivance, common in cotton mills, for converting a circular motion into an alternate rectilinear motion.

HEART WOOD. In *botany*, duramen, the central part of the trunk of a tree.

HEAT, as a sensation, is the effect produced on the sentient organs of animals by the passage of caloric; as a cause of sensation, it is regarded as a subtle fluid contained in greater or less degree in all bodies (*see* CALORIC.) Heat is *latent* when combined with matter so as not to be perceptible and *sensible*, or *free* when it is evolved and perceptible.

HEATH'ER, a name in Scotland for heath.

HEAVE. In *navigation*, to employ a force to move great weights; as *to heave up* the anchor by the capstan; *to heave down* the ship, or pull her over on one side to get at a leak; *to heave taught*, or turn the capstan till the rope becomes tight; *to heave to* or bring the ship's head to the wind.

HEAV'EN, the expanse which appears to surround the earth like an immense vault, and in which the sun, moon, and stars are seen, and thence called *heavenly bodies*. The ancient astronomers enumerated as many heavens as they observed motions. Thus each planet had its heaven, and an eighth heaven was laid out for the fixed stars.

HEAV'Y SPAR, a name for sulphate of baryta or baro-selenite, of which there are several varieties, as compact and fibrous heavy spar; straight and curved lamellar heavy spar; earthy, hepatic and prismatic heavy spar. It takes its name from its high specific gravity, which ranges from 4·3 to 4·5. It occurs in veins plentifully throughout Europe.

HECATOM'PEDON, from ἑκατον, a hundred, and πους, a foot. A temple of a hundred feet in height.

HECATON'STYLON, from ἑκατον, a hundred, and στυλος, a column. A temple having a hundred columns. The name was chiefly applied to a celebrated gallery at Rome.

HECK'LE, an instrument for dissevering the filaments of flax. *See* HACKLE.

HEC'TARE, a French land measure containing a hundred *ares:* whence the name.

HEC'TIC, Lat. *hecticus*, habitual, from ἑξις, habit. The term is used to denote a slow continual fever, marked by preternatural, though remitting heat, often symptomatic of phthisis. Hectic fever is one of the many diseases which the art of medicine has hitherto laboured in vain to strike at by a direct mode of cure. The real cause of it is commonly involved in impenetrable obscurity.

HEC'TOGRAM, a French weight equal to 100 grams.

HEC'TOLITRE, a French measure of capacity for liquids, equal to 100 litres.

HECTOM'ETRE, a French measure equal to 100 metres.

HED'ERA, the *ivy*. A genus of permanent plants. *Pentandria — Monogynia*. Name from *hæreo* to stick, on account of its adhering to walls, &c. Three species. Europe.

HEDERA'CEÆ, a natural order of plants, consisting of the ivy (*hedera*), and a few allied genera.

HEDGE-HOG. 1. In *zoology*. *See* ERINACEUS.——2. The name given to a machine for removing mud, silt, &c., from rivers and streams. It consists of a roller with spikes on its circumference, and being dragged along acts upon the bottom.

HEDYS'ARUM, a very extensive genus of papilionaceous plants. *Diadelphia—Decandria*. Name from ἡδυς, sweet. The manna plant (*H. alkadi*) being a species. All parts of the world. The cock's-head is the only British type.

HEEL (of a rafter), the end or foot which rests upon the wall-plate. Also the aft end of a ship's keel. *To heel over*, to incline to one side.

HE'GIRA, Arab. from *hajara*, to flee. The epoch or account of time used by Mohammedans, who begin from the day that Mahomed escaped from Mecca, 16th July, A.D. 622. The years of the hegira are lunar ones of 354 days: to reduce them, therefore, to our calendar, we must multiply the year of the hegira by 354, divide the product by 365·25, and add 622; the result is the Julian year.

HEIGHT (of an arch) is measured by a line drawn from the middle of the chord or span line to the intrados.

HEIGHTEN. In *painting*, to make prominent by means of touches of light on brilliant colours.

HEIR, Norm. *heir*, from Lat. *hæres*. The person who succeeds another by descent in lands, tenements, and hereditaments. An *heir-apparent* is one who, on the death of his ancestor, is heir-at-law. An *heir-presumptive* is he who, if his ancestor should die immediately, would, under present circumstances, be heir, but whose right may be defeated by some nearer heir being born.

HEIR-LOOMS. In *law*, such personal chattels as descend by special custom to the heir along with the inheritance of his ancestors. They are generally such as can be taken away without dismembering the freehold, as household furniture, &c.

HEL'AMYS, the *jumping-rat* (ἑλος and μυς), called more commonly the *jumping hare*; a genus Rodentia, of one species (*H. caffer*, F. Cuv.), an animal resembling a hare in size and colour, but having a long tail, and inhabiting deep burrows. Cape Good Hope.

HELI'ACAL, from ἡλιος, the sun. An epithet applied to stars to express their emerging out of, or their immerging into, the lustre of the sun's rays. Thus a star or planet is said to rise heliacally when, after it has been in conjunction with the sun, and consequently invisible, it gets to such a distance from him as to be seen in the morning before the sun's rising. A star sets heliacally when it goes down in the sun's rays, and is thus invisible.

HEL'ICAL, spiral; from ἑλιξ, a wreath. Appertaining to the helix of the ear.

HELIÆ'A (Gr.). In *ancient history*, the chief of the ten courts, among which the 6000 Athenian jurymen were distributed.

HE'LICOID, ἑλιξ, a spiral. In *geometry*, a curve line generated by supposing the axis of a parabola bent into the circumference of a circle, and that the curve is bent correspondingly, every point in it preserving its ordinate distance from the bent axis. The *bent curve* thus formed is a helicoid.

HE'LIOCAM'INUS, ἡλιος, sun, and καμινος furnace. In *ancient architecture*, an arched apartment heated by the sun.

HELIOCEN'TRIC, from ἡλιος, the sun, and κεντρον, the centre, relating to the centre of the sun. The *heliocentric place of a planet* is the place of the ecliptic in which the planet would appear to a spectator at the centre of the sun. The *heliocentric latitude of a planet* is the inclination of a line drawn, between the centre of the sun and the centre of a planet, to the plane of the ecliptic.

HELIOM'ETER, from ἡλιος, the sun, and μετρον, measure. An instrument called also an *astrometer*, invented by Bouguer, for measuring, with great accuracy, the diameter of the sun, moon, and planets. It is merely a sort of telescope, furnished with two object-glasses of equal focal distance, placed so that the same eye-glass serves for both: hence two images of an object are formed in the focus of the eye-glass, the distance of which depending upon that of the two object-glasses from one another, may be measured, by means of a micrometer, with the utmost accuracy.

HE'LIOSCOPE, from ἡλιος, the sun, and σκοπεω, to view. A sort of telescope fitted for viewing the sun without pain or injury to the eyes; as when made with coloured glasses.

HELIOS'TATE, from ἡλιος, the sun, and στατος, settled. An instrument for directing the sunbeam steadily to one spot

HE'LIOTROPE, from ἡλιος, the sun, and τρεπω, to turn. 1. The name of an old instrument or machine for showing when the sun arrived at the tropics.——2. A name of a sub-species of rhomboidal quartz, of a deep-green colour, variegated with blood-red and yellowish spots: hence called *blood-stone*.——3. A plant, the turnsole.

HELIOTRO'PIUM, the turnsole. A genus of plants, *Pentandria—Monogynia*. Name from ἡλιος, the sun, and τρεπω, to turn, because its leaves constantly present themselves to the sun. Temperate and warm climates.

HELISPHER'ICAL, spiral; from ἑλιξ, and *sphere*. The *helispherical line* is the rhomb line in navigation, so called, because on the globe it winds round the pole spirally, always approaching it, but never terminating in it.

HEL'IX, a spiral line; from ἑλιξ, a wreath. Something that is spiral, as the little volute under the flowers of the Corinthian capital. The name is applied in *anatomy* to the whole extent of the auricle or external border of the ear; and in *conchology*, to the snail-shell inhabited by a limax.

HEL'LEBORUS, the hellebore. A genus of hardy perennial plants. *Polyandria—Polygynia*. Name ἑλλεβορος, from ἀιρεω,

to kill, and βορα, food, because it is poisonous. The Christmas-rose and Bear's-foot are species; the last, called also stinking hellebore, is indigenous in Britain.

HELLEN'IC. Applied to the common Greek dialect that prevailed after the time of Alexander.

HELLENIS'TIC, Ἑλληνιστης, a Grecian Jew. The *Hellenistic language* was the Greek spoken by the Jews who lived in Egypt, and other countries where the Greek language prevailed.

HELM, Sax. *helma*. The instrument by which a ship is steered, consisting of a rudder, a tiller, and, in large vessels, a wheel.

HEL'MET, a piece of defensive armour for the head, a morion. The modern helmet is worn by horsemen, to defend the head against the broadsword.

HELMINTHOL'OGY, from ἑλμινς, a worm, and λογος, a discourse. That branch of zoology which treats of worms.

HEL'MSMAN, the man who steers. A good helmsman keeps the ship to her course by timely corrections when required; a bad helmsman keeps her perpetually yawing from side to side.

HELO'SIS, an eversion of the eyelids, from ἑιλω, to turn.

HE'LOTS, εἱλωται. In *ancient history*, the slaves of the Spartans.

HELVER. In *mining*, the handle of a tool.

HEM. In *architecture*, the spiral projecting part of the Ionic capital.

HEM'ACRYMES (Gr.), from ἀἱμα, blood, and κρυμος, cold. Animals with cold blood.

HEM'ATHERMS, from ἀἱμα, and θερμη, heat. Animals with warm blood.

HEMERALO'PIA, from ἡμερα, the day, and ωψ, the eye. A defect in the sight, which consists in being able to see in broad daylight, but not in the evening, arising from a torpid state of the retina.

HEM'EROBAP'TISTS, ἡμερα, day, βαπτιζω, to baptise. An ancient sect among the Jews, who washed themselves every day.

HEMEROCAL'LIS, the day-lily. A genus of perennial plants. *Hexandria—Monogynia*. Name from ἡμερα, a day, and καλος, beautiful, because the flowers open in the day, and shut at night. Temperate climates.

HEMICRA'NIA, from ἡμισυς, half, and κρανιον, the head. A pain which affects one side of the head only.

HEM'ICYCLE, a half-cycle, from ἡμι τυς. half, and κυκλος, a circle. *See* SEMICIRCLE.

HEMIG'AMOUS, from ἡμισυς, and γαμος, marriage. A term employed in botany, when of two florets on the same spikelet one is neuter, and the other unisexual.

HEMI'LYTRA, ἡμισυς, half, and ἑλυτρον, sheath. The superior wings of tetrapterous insects.

HEMIOLOG'AMOUS, from ἡμισυς, ὁλος, entire, and γαμος. When, in grasses, one of two florets is neuter, and the other hermaphrodite.

HE'MIOPY, from ἡμισυς, half, and οττομαι, to see. A defect of vision, wherein a person sees only half an object.

HE'MIPLEGY, from ἡμισυς, half, and πλησσω, to strike. A species of paralysis, in which only one side of the body is affected.

HEMIP'TERA, } from ἡμισυς, half, and
HEMIP'TERS, } πτερον, a wing. An order of insects comprising the Geocorisæ and Hydrocorisæ, and so named because their wing-covers are half membranaceous, and half coriaceous. The cockroach, locust, lantern-fly, and grasshopper are examples.

HEM'ISPHERE, from ἡμισυς, half, and σφαιριον, a sphere. The half of a sphere or globe, when it is supposed to be cut through its centre, in the plane of one of its great circles. Thus the equator divides the earth into the northern and southern hemispheres; and the equinoctial line divides the celestial sphere in a similar manner. The horizon also divides the earth into two parts, the upper and lower hemispheres.

HEM'ITONE. ἡμιτονος. A half-tone, now called a *semitone*.

HEM'ITROPE, from ἡμισυς, half, and τρεπω, to turn, half-turned. A *hemitrope crystal* has one segment turned through half the circumference of a circle.

HEMP. 1. In *manufactures*, the fibrous rind of the *Cannabis sativa*, which is spun into yarn, for making ropes, canvass, &c. It is stronger, and coarser in the fibre than flax.——2. In *botany*, *see* CANNABIS and EUPATORIUM.

HENDEC'AGON, from ἑνδεκα, eleven, and γωνια, a corner. A figure having eleven equal sides and as many equal angles.

HEN'DECASYL'LABIC, a verse of eleven syllables.

HENRIC'IANS, the followers of an Italian monk, named Henry, who preached zealously against the corruptions of the Romish Church.

HE'PAR, ἡπαρ, the liver. This term was used by the old chemists to denote a compound of sulphur with a metal, which had a liver-brown colour. Thus the sulphuret of potassium was termed liver of sulphur.

HEP'ATALGY, from ἡπαρ, the liver, and αλγος, pain. Pain in the liver.

HEPAT'IC, from ἧπαρ, belonging to the liver. Applied to designate the liver colour, and also as an anatomical epithet for parts connected with the liver. Sulphuretted hydrogen gas has also been termed *hepatic air*, from its being given off when some sulphurets are thrown into water.

HEPATISA'TION, from ἧπαρ, the liver, the conversion of any texture into a substance resembling liver. The term is generally applied to the lungs.

HEP'ATITE, from ἧπαρ, fetid heavy spar. A variety of sulphate of barytes, which when rubbed emits a sulphurous smell, resembling that of sulphuretted hydrogen (*hepatic air*).

HEPATI'TIS, from ἧπαρ. An inflammation of the liver.

HEPTA CAPSULAR, from ἑπτα, seven, and capsula, a cell; seven-celled. A term in botany.

HEP'TACHORD, from ἑπτα, seven and chord; a system of seven sounds. The term is applied in ancient poetry to verses sung or played on seven chords, or different notes, as on the harp when it had but seven strings. The harp also has been called a heptachord by poets.

HEP'TAGON, from ἑπτα, seven, and γωνια, an angle. A figure having seven equal sides, and as many equal angles.

HEPTAG'ONAL NUMBERS, polygonal numbers, wherein the difference of the terms of the corresponding arithmetical progression is five.

HEP'TAHEXAHE'DRAL, from ἑπτα, seven, and hexahedral. Presenting seven ranges of faces, one above another, each range consisting of six faces.

HEPTAN'DRIA, from ἑπτα, seven, and ανηρ, a man. A class of plants characterised in the sexual system of Linnæus by hermaphrodite flowers, with seven distinct stamens.

HEP'TARCHY, from ἑπτα, seven, and αρχη, rule. A sevenfold government; also a country divided into seven governments, as the *Saxon Heptarchy*, which comprehended the whole of England when subject to seven independent princes. These kingdoms were Kent, the South Saxons (Sussex), West Saxons, East Saxons (Essex), the East Angles, Mercia and Northumberland.

HERAC'LEONITES, an early sect of heretics who rejected all the ancient prophecies, and regarded themselves as superior to the Apostles: so called from Heracleon.

HER'ALD, Ger. *herold*. An officer at arms, whose business it is to denounce war, to proclaim peace, or be otherwise employed by the sovereign in martial messages or other business. The heralds, six in number, are the judges and examiners of coats of arms, and the preservers of genealogies, and they marshal all solemnities and ceremonies at coronations, royal marriages, installations, funeral processions, &c. Their names are Richmond, Lancaster, Chester, Windsor, Somerset and York, and they are all equal in degree, and have precedence only according to the seniority of their creation.

HER'ALDRY, the art, practice, or science of recording genealogies, blazoning and explaining in proper terms all that belongs to arms; of marshalling or disposing with regularity divers arms on an escutcheon or field. It also teaches whatever relates to the marshalling of solemn processions, and other public ceremonies at coronations, installation of knights, creations of peers, nuptials, christenings of princes, funerals, &c.

HERB, Lat. *herba*. That sort of plant which rises with stalks and leaves from the root, and bears its fruit only once, and then with its root wholly perishes. There are two kinds: *annuals* which perish the same year, and *biennials* which have their leaves the first year, and their flowers and fruits the second, and then die away. Perennial plants which have a new stem springing up every year, are also termed *herbaceous*, and indeed the term is extended to that part of any plant which arises from the root, and is terminated by the fructification.

HERBA'CEOUS, Lat. *herbaceus*. An epithet for all plants which have succulent stems and die down to the root every year. *See* HERB.

HERBÆ, *herbs*. The fourth tribe into which Linnæus divides the vegetable kingdom.

HERBA'RIUM, an *herbary*. A collection of dried specimens of plants: *hortus siccus*, or dry garden.

HER'CULES. 1. A fabulous hero of antiquity, the son of Amphitryon and Alcmena, whose exploits are celebrated by the poets.——2. The name of a constellation of the northern hemisphere, known also by the names of *Cerberus* and the *Apple Branch*. It contains 113 stars, of which the most brilliant is *Ras Algothi*, of the third magnitude.——3. The name of a stamping-machine used in the dockyards, similar to the pile engine.

HEREDIT'AMENTS. In *law*, such things as are immoveable, and which a man may leave to his heirs by way of inheritance, or which not being otherwise devised, naturally descend.

HERED'ITARY. 1. In *law*, an appellation given to whatever belongs to a family by right of succession.——2. Diseases which are propagated from parents to their offspring, as scrofula, gout, mania, &c., are termed *hereditary diseases*, as belonging to the family.

HER'ESY, Lat. *hæresis*. An opinion of

private men, different from that of the orthodox church. In primitive usage the term meant merely *sect* or *party*, and was used as we now do *denomination* or *persuasion*, without implying reproach.

HE'RETOG, } the name given by our
HE'RETOCH, } Saxon ancestors to a military commander, elected by the people in folkmote. The root is *togen*, to lead.

HER'IOT, from Sax. *here*, army, and *gear*, tribute. In *law*, a fine paid to the lord of the fee at the death of his tenant, originally consisting of military furniture, as horses, arms, &c., but latterly of goods and chattels.

HER'ISON, } Fr. for hedgehog, from
HER'ISSON, } *herisser*, to bristle. A beam revolving on a pivot, and armed with projecting spikes, fixed before a gate or passage to prevent the entrance of suspected or improper persons.

HER'ITABLE RIGHTS. In *Scottish law*, rights to land, and property connected with land, which pass to the heir.

HERMAPH'RODITE, from Ἑρμης, Mercury, and Ἀφροδιτη, Venus. 1. A term loosely applied to a *lusus naturæ*, partaking of the nature of both sexes.——2. Hermaphrodite plants are such as have both stamens and pistils on the same flower.

HERMENEU'TICS, from ἑρμηνευς, an interpreter, from Ἑρμης, Mercury. The art of expounding an author's words. The term is chiefly used with reference to theological subjects.

HERMET'IC, appertaining to chemistry, of which Hermes Trismegistus is the reputed inventor. The *hermetic philosophy* pretends to explain all the phenomena of nature from the three chemical principles, salt, sulphur, and mercury; and the *hermetic medicine* explained the causes of diseases, and the operations of medicine on the system of an alkali and acid.—*Hermetic seal*. This term denotes the perfect stoppage of the orifice of a glass vessel or tube while in a state of fusion. Thus thermometers, &c., are hermetically sealed; and the process is often necessary in chemical operations.

HER'MITS, or ER'EMITES, from ἠρεμος, desert. Persons who secluded themselves for devotional purposes in desert places.

HERMODAC'TYL. A root much celebrated among the ancients for the cure of gout; supposed to have been that of a species of colchicum, and to take its name from the river *Hermus*, upon whose banks it grows, and δακτυλος, a date, which it resembles.

HER'NIA (Lat.), from ἑρνος, a branch, a rupture. Surgeons understand by the term *hernia*, a tumour formed by the protrusion of some of the viscera of the abdomen out of that cavity into a sort of sac, composed of a portion of peritoneum, which is pushed before them; but there are cases which will not be comprehended in this definition, either because the parts are not protruded, or have no hernial sac.

HERNIA'RIA, the rupture-wort. A genus of perennial plants. *Pentandria—Digynia*. Name from *hernia*, which it is supposed to cure. Britain, &c.

HER'PES, ἑρπης, from ἑρπω, to creep. Tetter, a cutaneous disease, characterised by tendency to spread or creep in assemblages of little vesicles, itching very much, from one part to another. There are several species, as shingles, ringworm, &c. Epithet *herpetic*.

HERPETOL'OGY, from ἑρπετος, a reptile, and λογος, discourse. That branch of natural history which treats of reptiles, their habits, structure, &c.

HER'RING. In *icthyology*, the *Clupea harengus*, Lin. Named thus from Sax. *here*, or *hure*, an army, because always found in vast shoals.

HER'RNHUT, Ger. *herr*, lord, *hut*, protection. An establishment in Upper Lusatia, comprising 120 houses (1841) and 1500 inhabitants, founded by a few Moravians in 1722.

HER'SCHEL. In *astronomy*, a name frequently given to the planet Uranus, discovered by Sir William Herschel, in 1781.

HERSE, Fr. *herse*. In *fortification*, a harrow or portcullis, fastened to a moulinet, and suspended by a cord, and rendered formidable to assailants by projecting iron spikes. It is let down to guard the passage of the gateway on an enemy's approach.

HER'THA. In *German mythology*, the chief divinity of the ancient German and Scandinavian nations.

HES'PER, Lat. *Hesperus*, the evening star. An appellation given to Venus when it follows or sets after the sun.

HESPER'IDÆ. The name given by Linnæus to a natural order of plants, mostly having rigid evergreen leaves, and odorous and polyandrous flowers, as the myrtle and clove, which may be supposed the types of such plants as grew in the fabled gardens of the Hesperides.

HESPERID'IUM. In *botany*, a many-celled, few-seeded, superior, indehiscent fruit, covered by a spongy rind.

HES'YCHASTS, fanatics who lived in the fifteeenth century, upon Mount Athos.

HETÆ'RIA, ἑταιρος, a companion. Applied by classic writers to signify an association of any kind.

HETE'ROCEPH'ALOUS (Gr.), various headed, i. e. when, in the same individual, the heads of some flowers are male, and others female.

HETE'ROCHRO'MOUS, variously coloured. When, in a flower-head, the colours of the florets are different.

HETEROCLI'TAL, from ἑτερος, different, and κλινω, to incline, reversed. Applied to shells whose spires turn in a contrary direction to the usual way: sinistral.

HET'EROCLITE, from ἑτερος, different, and κλιτος, inclined, something anomalous. The term is used by grammarians, &c. to designate words which deviate from the ordinary forms of inflection, particularly nouns which are irregular in declension.

HET'ERODOX, from ἑτερος, different, and δοξα, opinion, different from the established opinion. Not orthodox, but contrary to the faith and doctrines of the Established Church.

HETEROG'AMOUS (Gr.), unequally married. In *grasses*, when the arrangement of the sexes is different in different spikelets from the same root. In *composite plants*, when the florets are of different sexes in the head.

HETEROGE'NEOUS, from ἑτερος, different, and γενος, kind. Dissimilar in nature, not homogeneous. Thus, *heterogeneous nouns* have different genders in the singular and plural: *heterogeneous words* are such as have different radical signs, &c.

HETEROG'YNA, from ἑτερος, different, and γυνη, a female. The name of a family of hymenopterous insects, comprising those of which the females differ from the males, the one sex being winged, and the other apterous, or of which the males and females are winged, and the neuters apterous, &c. *See* FORMICA.

HETEROM'EROUS (Gr.), unequal legged, i.e. when one leg has a different structure from another.

HETEROP'ATHY, from ἑτερος, different, and παθος, affection. That mode of treating diseases, in which a morbid state of a part is removed by inducing a different morbid state.

HETEROP'ODA, from ἑτερος, different, and πους, a foot. An order of Mollusca, distinguished by their foot, which, instead of forming a horizontal disc, is compressed into a vertical muscular lamina, which they use as a fin. Forskahl comprises them all in his genus *Pterotrachea*.

HETEROS'CII, HETEROS'CIANS, from ἑτερος, different, and σκια, shadow. A topographical designation for those inhabitants of the earth whose shadows at noon project always the same way with regard to themselves, or always contrary ways with respect to each other. Such are all who live within the tropics and the polar circles. The shadows of those who live north of the tropic of Cancer fall northward; those of the inhabitants south of the tropic of Capricorn fall southward: whereas the shadows of those who dwell between the tropics, fall sometimes to the north and sometimes to the south.

HETEROT'ROPAL, Gr. from ἑτερος, different, and τρεπω, I turn. When the former embryo of a seed lies across the latter, neither pointing to its base nor apex.

HEX'ACHORD, from ἑξ, six, and χορδη, a chord. 1. A term, in *ancient music*, for an imperfect chord, or a sixth.——2. Also an instrument of six chorus.

HEXAE'DRON, HEXAHE'DRON, from ἑξ, six, and ἑδρα, a base. A solid figure of six equal sides: a cube.

HEX'AGON, from ἑξ, six, and γωνια, an angle. A geometrical figure of six equal sides, and as many equal angles.

HEXAGYN'IA, from ἑξ, six, and γυνη, a female. An order of plants in the sexual system of Linnæus, having six pistils.

HEXAM'ETER, from ἑξ, six, and μετρον, measure A poetic verse having six feet.

HEXAN'DRIA, from ἑξ, six, and ανηρ, a male. A class of plants in the Linnæan sexual system, having hermaphrodite flowers furnished with six stamens of equal length.

HEXAN'GULAR, six-angled. Having six equal angles.

HEX'APED, HEX'APOD, from ἑξ, six, and πους, a foot. An animal with six feet.

HEXAPET'ALOUS, Lat. *hexapetalus*, six-petalled A corolla consisting of six petals.

HEXAPHYL'LOUS, Lat. *hexaphyllus*, six-leaved.

HEX'APLA, ἑξ, six, and απλοω, I open. The combination of six versions of the Old Testament, by Origen,

HEX'ASTYLE, from ἑξ, six, and στυλος, a column. A building with six columns in front.

HIATEL'LA, a genus of Mollusca, family *Inclusa*, order *Acephala testacea*, Cuv. The name is a diminutive of *hiatus*, an aperture; the shell having an aperture near the middle of its edges, to allow the passage of the foot. The species are found in sand, among zoophytes, &c.

HIA'TUS (Latin), an aperture, chasm, or gap. Applied to verses where one word ends with a vowel, and the next word begins with one, and thereby occasions the mouth to be more opened, and the sound to be harsh. The term is also used in speaking of MSS., to denote their defects, or parts which have been defaced.

HIBER'NACLE, Lat. *hibernacula*, winter-quarters. The bulb or bud of a plant, in which the embryo is inclosed by a scaly covering, and protected from injury during the winter, is called the *hibernacle* of the plant. The term is also used to designate the winter-lodge of a wild animal.

Hic'cup or Hic'cough, a spasmodic affection of the stomach, œsophagus, and muscles subservient to deglutition; singultus.

Hidal'go, a Spanish nobleman of the lower class.

Hide. 1. In *old law*, a certain portion of land. The quantity is not exactly known. Some suppose it to have been as much as could be tilled by one plough; others as much as was necessary to support a family; others again make the hide 60, and some as much as 100 acres. ——2. The skin of an animal, either raw or dressed; generally applied to the undressed skins of the larger domestic animals.

Hide'bound, a disease common to animals and vegetables. Cattle are hidebound when the skin becomes dried, and adheres firmly to the subjacent tissue, and trees are hidebound when the bark becomes so tight as to impede the growth.

Hi'era-pic'ra, holy-bitter; ἱερος, holy, and πικρος, bitter. A pharmaceutical powder, containing socotorine aloes and white canella.

Hi'erarchy, from ἱερος, holy, and αρχη, ruler. Holy government, rank, or subordination among holy beings. The term is chiefly used to designate the government established in a national church, determining the rank, offices, &c., of the clergy.

Hierofal'co, the generic name of the gerfalcon (*Falco candicans*, Lin.). A bird belonging to the accipitrine order and diurnal family. It is one fourth larger than the common falcon, and is the most highly esteemed by falconers (*see* Falco.) Name from ἱερος, sacred, and falco, which originated in the superstitious notions of the Egyptians respecting certain birds of prey. The English name *gerfalcon* is a corruption of *hierofalco*.

Hieroglyph'ics, from ἱερος, sacred, and γλυφω, to carve. 1. Mystical characters or symbols in use among the ancient Egyptians, both in their writings and inscriptions, as signs of sacred and supernatural things. The hieroglyphics were figures of animals, parts of the human body, mechanical instruments, &c., which contained a meaning known only to the initiated.——2. Pictures intended to express historical facts.

Hierogram'matic, from ἱερος, sacred, and γραμμα, a letter. An epithet for that species of writing practised by the priesthood, particularly of ancient Egypt.

Hieromne'mon, from ἱερος, sacred, and μνήμων, memory. A magistrate in ancient Greece who presided over the sacred rites and solemnities.

Hiero'nymites or Jero'nymites, a religious order in Spain, named after its patron, St. Jerome.

Hierophan'tes, ἱεροφαντης. Priests whose duty it was to teach the mysteries and duties of religion.

Hieroph'ylax, ἱεροφυλαξ. An officer in the Greek Church, who was guardian or keeper of the holy utensils, vestments, &c. The hierophylax answers to our vestry-keeper.

High Church. Applied to the opinions of parties who seek to exalt the ecclesiastical power.

High Pressure. *See* Steam and Steam Engine.

High Priest, the head of the Jewish priesthood. Moses conferred this dignity on his brother Aaron, in whose family it descended without interruption.

Hilary Term, the term of Courts, &c., which begins on 23rd January.

Hilum (Latin.) The eye of a seed; the pile, point, or scar by which the seed is attached to its seed-vessel.

Himan'topus, a sub-genus of birds. Order *Grallatoriæ*; family *Longirostres*; genus *Scolopax*, Lin. Name from ἱμας, a string, and πους, a foot, in allusion to the extreme length and tenuity of the legs.

Hin, a Hebrew measure of capacity, equal to one gallon, two pints, English measure.

Hinge. The *hinges of a door* or *gate* are the iron or brass ligaments on which it turns. The *hinge of a shell* is the point by which bivalve shells are united. It is formed by the teeth of the one valve inserting themselves between those of the other, or by the teeth of one valve fitting into the cavities or sockets of the opposite valve. It is on the peculiar construction of the hinge that the generic character of bivalve shells is mainly founded, in connection with the general form of the shell.

Hip. 1. The articulation of the thigh with the pelvis.——2. The ripe fruit of the dog-rose tree (*Rosa canina.*)——3. A piece of timber at the corner of a roof. Hips are much longer than rafters in consequence of their slanting position, and have commonly five planes. Workmen call them *corners*, or *principal rafters*, or *sleepers*, but sleepers are distinguished as lying in the valleys, and join at top with the hips. *See* Hip-roof.

Hip-moulds, a term in carpentry for the back of the hip or corner of a roof also for the pattern by which the hip of a roof is set out.

Hip-roof. When a roof of a building is formed by equally inclined planes, rising from each side, it is called a *hipped-roof*, and the ridges rising from the angles of the walls are called *hips*, whereas if the ridge runs out straight with the face

of the end walls, it is described as a *gable-end*.

Hippocen'taur, a fabulous monster of antiquity supposed to be half man and half horse, from ἱππος, a horse, and centaur (q.v.).

Hip'pocras, Fr. *quasi, wine of Hippocrates*. An aromatic wine, formerly in high repute in England as a cordial drink.

Hippoc'rates Sleeve, a sort of bag made by uniting the opposite corners of a square piece of flannel, used for straining syrups and decoctions.

Hippocratic Face. Pale, sunken, and contracted features, considered a bad symptom in diseases.

Hippocre'ne, ἱππος, and κρηνη, fountain. A celebrated fountain at the foot of Mount Helicon.

Hip'podrome, from ἱππος, a horse, and δρομος, a course. A list or course among the ancients wherein chariot and horse races were performed, and horses exercised.

Hip'pogriff, from ἱππος, a horse, and *griffin* A fabulous animal half horse and half griffin. The winged horse imagined by Ariosto.

Hip'pomane, the manchineel tree. A genus of one species. *Monœcia — Monadelphia*. Name *hippomane*, from ἱππος, a horse, and μανια, madness. A love potion; because the tree yields a white milky juice which appears to have some of the qualities of the ancient philter. West Indies.

Hippopot'amus, the river-horse; from ἱππος, a horse, and ποταμος, a river. A genus of mammalia of the Pachydermatous order. There is only one species, the *H. amphibius*, an animal with a massive and naked body, very short legs, enormous head, terminated by a large inflated muzzle, small tail, ears, and eyes. It is now confined to the rivers of the middle and south of Africa, lives upon roots, &c., and exhibits much ferocity and stupidity. Fossil remains of the hippopotamus are found plentifully in many parts of Europe in alluvial deposits.

Hippothe'rium, an extinct animal allied to the horse: whence the name from ἱππος, a horse, and θηριον, a wild beast. The remains belong to the Miocene period.

Hip'purites, a genus of fossil bivalve shells of a conical shape. Specimens have been found in the chalk.

Hip'pus, Lat. from ἱππος, a horse. An affection of the eyes, whereby the eyes continually dilate and contract, as is usual with those who ride on horseback. It arises from a spasmodic affection of the iris.

Hir'cine, from *hircus*. The name given by Chevreul to a liquid fatty substance which is mixed with the oleine of mutton suet. It is soluble in alcohol, and yields hircic acid by saponification.

Hir'sute, Lat. *hirsutus*, bristly. In *zoology*, when long stiffish hairs upon an animal are thickly set.

Hirun'do, a genus of passerine birds, the *swallows*: family *Fissirostres*. The genus comprehends the swifts and martins of English authors.

His'pid, Lat. *hispidus*, bristly. Applied to stems, seeds, &c., of plants, and surfaces of animals.

His'ter, a genus of pentamerous coleoptera: family *Clavicornes*. This genus is now divided into *hister proper*, *hololepta*, *abræus*, &c. The species feed on cadaverous matters, and decomposing vegetable substances, as old mushrooms, &c.

Hister'ides, a tribe of pentamerous coleoptera, comprehending the genus *hister*, Lin.

His'tory, from ἱστορεω, to inquire. A narrative of facts and events, particularly such as respect nations: distinct from *annals*. The term *history* is also used to signify a description of things, as well as an account of facts. Thus, *natural history* comprehends a description of the works of nature, especially animals, vegetables, and minerals. Zoology is the *history* of animals, botany of plants, and mineralogy of minerals.

Histrion'ic, relating to the drama, from *histrio*, an actor, strictly a comedian, especially in pantomime.

Hitch. Among *seamen*, a knot or noose in a rope, for fastening it to a ring or other object: distinguished according to the sort of knot, by the names *half-hitch*, *rolling-hitch*, *clove hitch*, &c.

Hithe, a Saxon word for a port or small harbour where goods are shipped or landed: Queenhithe, on the Thames, for example.

Hive, the box, chest, or other habitation of a swarm of bees; also the swarm of bees inhabiting a hive. Bees are also said to *hive* or *cast* when they send off their young colonies.

Hives, a popular name of that variety of varicella, in which the vesicles are very large and globular.

H. M. S., an abbreviation for His or Her Majesty's ship or service.

Hoard'ing, the name given to the wooden boarding inclosing any building operations.

Ho'ary, a whiteness on the surface, arising from a covering of thick spread short hairs.

Hock, from *Hockheim*, in Germany, a light Rhenish wine: called sometimes *hockamore*.

Hod, Fr. *hotte*. A small box at the end of a long staff, for carrying bricks and mortar in.

Hoe, Ger. *haue*. A gardener's implement for cutting up weeds and loosening the earth about the roots of plants. It is in shape like an addice, the head being a plate of iron with an eye to receive a handle, which forms an acute angle with the plate. Operations with this and similar instruments are termed *hoeing*.

Hog. 1. In *zoology* (*see* Sus).——2. Among *seamen*, a sort of scrubbing broom for scraping a ship's bottom under water. ——3. In *England*, a castrated sheep of a year old.

Hog'ging. In *ship-building*, the convex appearance, like the back of a hog, sometimes assumed by ships after being launched, by the dropping of the two extremities, on account of their being less water-borne than the middle. Hogging when of great amount is a serious fault, as the timbers of the vessel are thereby proportionally strained. Formerly, a three-decker drooped at once, on being launched, 9 inches at each end, and this increased with her length of service. At present such a ship is calculated to droop only 3½ inches, and this, when the timbers are once set, suffers very little increase.

Hogs'head, a measure of capacity containing 52½ imperial gallons. A hogshead is ½ a pipe.

Hoke Day, the Tuesday after Easter week, celebrated annually in commemoration of the expulsion of the Danes.

Hol'cus, the *Indian Millet:* a genus of gramineous plants. *Polygamia—Monœcia.* Temperate climates.

Hold (of a ship), the whole interior cavity between the floor and the lower deck.

Holera'ceæ, *pot herbs.* The twelfth natural order in Linnæus' system, comprehending trees, shrubs, perennial and annual herbs, as rhubarb, beet, &c.

Ho'ling. In *architecture*, piercing the plates to receive the nails. In *mining*, undermining coal-beds.

Holland, a fine sort of linen, so named from its having been first manufactured in Holland.

Hol'low Quoin (in lock-gates), the recess made in the walls of locks at each end to receive the gates, which are properly hollowed out to receive the quoin posts.

Holm (Sax.), an island or marshy place surrounded by water.

Hol'ocaust, ὅλος, the whole, and καιω, I burn. The burnt-offering of Scripture; an ancient sacrifice where the whole of the body of the victim was consumed.

Holocen'trum, the name given, by **Artedi,** to a beautiful genus of acanthopterygious fishes of the percoid family. The species are found in the hot parts of both oceans.

Hol'ograph, from ὅλος, all, and γραφω, to write. Something wholly written by the person who signs it.

Holo'meter, from ὅλος, all, and μετρον, measure. A mathematical instrument, serving universally for taking all measures both terrestrial and celestial.

Holothu'ria, the *sea-slug* or *sea-cucumber:* a genus of Radiata. Class *Echinodermata*, order *Pedicellata*, Cuv. The species have an oblong coriaceous body, open at each end, and complicated tentacula, susceptible of being retracted.

Holt, Ger. *holz*, wood. The termination of many names of places in England, being near a wood.

Holy Alli'ance. In *politics*, an alliance formed after the fall of Napoleon by the European sovereigns, "in accordance with the precepts of the gospel of Jesus Christ, and for the happiness and religious welfare of all subjects" (!) It was virtually an alliance for the better securing crowned heads against the encroachments of their subjects, and for mutual support, should their stability be threatened by any outburst of popular opinion.

Ho'ly-rood Day, a festival observed by Roman Catholics, in commemoration of the exaltation of the Saviour's cross.

Ho'ly Stone, a stone used to scour the deck of a ship by hand, with the addition of sand.

Ho'ly Thursday, a festival in commemoration of Christ's ascension, observed ten days before Whitsuntide.

Ho'ly Week, the week before Easter, in which the passion of the Saviour is commemorated.

Homæop'athy, from ὁμοιος, similar, and παθος, feeling. A particular mode of curing diseases. *See* Homœopathy.

Hom'age, from *homo*, a man. The oath of submission and loyalty, which the tenant under the feudal system used to take to his superior, when first admitted to the land which he held of him in fee.

Hom'berg's Phosphorus, ignited chloride of calcium, which has the property of shining in the dark, a fact first noticed by Homberg.

Hom'berg's Pyrophorus, alum calcined with an equal weight of brown sugar or flour. It is spontaneously inflammable.

Hom'berg's Salt, boracic acid, first obtained in a separate state by Homberg.

Home. In *naval language*, applied to anything in its place; as the sheets of the sails, and the charge of a gun.

Hom'icide, from *homo*, a man, and *cædo*, to kill; the killing of one man or human being by another. Homicide is *justifiable* when it proceeds from unavoidable neces-

nity, without an intention to kill, and without negligence; *excusable* when it proceeds from misadventure, or in self-defence; *felonious* when it proceeds from malice, or is done in the prosecution of some unlawful act. Killing premeditated is murder, and suicide is felonious homicide. Homicide comprehends murder and manslaughter.

Hom'iletic, pertaining to familiar discourse, from ὁμιλητικος, conversable. *Homiletic theology* is that branch of practical theology which teaches the manner of adopting discourses to the capacities of hearers, and the best methods of instructing congregations: called also *pastoral theology*.

Hom'ily, from ὁμιλια, familiar discourse. A familiar discourse on some subject of religion, such as an instructor would deliver to his pupils.

Hom'ine Replegi'ando. In *law*, a writ to bail a man out of prison.

Ho'mo, man. A genus of Mammalia, order *Bimana*. One species, but three very distinct varieties: the *Caucasian*, or white; the *Mongolian*, or yellow; and the *Ethiopian*, or negro.

Homocro'mous, ὁμου, together, and χρωμα, colour. When the florets in the same flower-head are of the same colour.

Homœop'athy, from ὁμοιος, similar, and παθος, affection. A new medical doctrine, promulgated some years since by Dr. Samuel Hahnemann, of Leipsig. It proceeds on the principle that two diseased actions cannot go on simultaneously in the same part, and if a medicine be administered to a person labouring under that disease which the medicine has a natural tendency to produce, the effect will be to resolve the disease. The medicine is, however, administered in *infinitesimal doses*, as the millionth or quadrillionth part of a grain!

Homog'amous, ὁμον, like, and γαμος, marriage. In *grasses* when all the florets of the spikelets of an individual are hermaphrodite. In *composite plants*, when all the florets of a flower-head are hermaphrodite.

Homoge'nea, an order of infusorial animals, thus named from there being no appearance of viscera, or other complication in the body, frequently not even the appearance of a mouth.

Homo'nyms, ὁμον, and ονομα, name. Words of the same sound, but of different signification.

Homoph'onous, ὁμος, and φωνη, tone. In *music*, of the same pitch.

Homo'phony, ὁμος, and φωνεω, I speak. Words of the same sound but differently spelt.

Hone, Hone'stone, whet-slate. A variety of talcy slate, named *novaculite* by Kirwan.

Hon'esty. In *botany*, *see* Lunaria.

Hon'ey, Sax. *hunig*. The sweet viscid liquor elaborated by bees from the sweet juices of the nectars of flowers, and deposited by them in the cells of their *combs*.

Hon'ey-comb. 1. The waxen cells in which bees deposit their honey, &c.——2. Among *founders*, a flaw in a casting, the metal appearing porous or spongy.

Hon'ey-dew, a saccharine substance found on the leaves of some trees, and said to be deposited by a species of aphis, called the *vine-fretter*.

Hon'ey-guide. In *ornithology*, the *Cuculus indicator*, Lin., found in Africa, and celebrated on account of its conducting persons to hives of wild honey.

Hong. The Chinese name for the large factories at Canton, where each nation has a separate *hong*: hence the term of *Hong merchants*.

Honora'rium, Lat. *honos*, honour. Nearly synonymous with *fee*. Applied to the fees of professors and professional gentlemen.

Hon'ourable, a title of quality attributed to the younger children of earls, to persons enjoying places of trust and honour, and collectively to the House of Commons and the East India Company.

Hood. In *ships*, 1. A low wooden porch over the ladder which leads to the steerage of a merchant-ship.——2. The upper part of a galley-chimney, which being in the shape of the letter S reversed, is trimmed or turned round according to the various directions of the wind, that the smoke may always fly to leeward.——3. A short semicylindrical frame of wood, serving to cover the upper wheel of a chain-pump.——4. The same with Whood (q.v.).

Hook. 1. In *husbandry*, a sickle.——2. In *nautical language*, a crooked piece of iron, of which there are several kinds, of different shapes and sizes, as boat-hooks, breast-hooks, can-hooks, cat-hooks, &c. Foot-hooks are termed *futtocks* (q. v.). *Loof-hooks* is the name given to a tackle with two hooks, one to hitch into a cringle of a fore or main-sail in the bolt-rope, and the other to hitch into a strap which is spliced to the chess-tree. Their use is to pull down the sail, and succour the tackle of a large sail.

Hook and Butt. The scarfing or laying of two ends of planks over each other.

Hook-pins, bolts made with a shoulder at one end, and used by carpenters in framing.

Hop. 1. In *botany*, *see* Humulus.——2. The floral leaf of the *Humulus lupulus*, a climbing perennial plant, said to have been introduced into England from the Netherlands, in the sixteenth century. Its fruit is a sort of cone, composed of mem-

braneous scales, each of which envelopes a single seed. These cones are the objects for which the plant is cultivated, and their principal use is to communicate to beer its strengthening quality, to prevent it from turning sour, and to impart to it an agreeable aromatic bitter.

Hop'lites, ὁπλίτης. The heavy-armed infantry of Grecian antiquity.

Hop-oast, a particular kind of kiln for drying hops.

Hop'per. 1. A basket wherein seed-corn is carried at the time of sowing.—— 2. The wooden trough in a mill into which the corn is put to be ground.

Hop'ple, a mode of fettering the legs of animals turned out to graze.

Hor'ary, Lat. *horarius*. Relating to an hour. The *horary circle of a globe* is a small brazen circle, fixed upon the brazen meridian, divided into 24 hours, having an index moveable round the axis of the globe, and used to show the *hour* or time of day in other countries. The *horary lines* or *circles of a dial* are those lines and circles which mark the hours upon it. The *horary motion of the earth* is the arc described by it in the space of an hour: it is 15° on an average.

Horde. A name applied to those migratory nations who subsist by rapine and plunder.

Hor'deine. The name given by Proust to the peculiar starchy matter of barley (*hordeum*).

Horde'olum, Lat. dim. of *hordeum*, barley. A little tumour on the eyelids, resembling a barley-corn; vernacularly a *stye*.

Hore'hound. In *botany*, *see* Marrubium.

Hori'zon, ὁρίζων, from ὁρίζω, to bound. In *geography*, the line which terminates the view when extended to the surface of the earth, dividing the globe into two hemispheres. It is *sensible* and *rational*; the sensible, visible, or apparent horizon is a lesser circle of the sphere, which divides the visible part of the sphere from the invisible. The rational, true, real, or astronomical horizon is a great circle, whose plane passes through the centre of the earth, and whose poles are the zenith and nadir. These horizons would coincide if the eye could take in the whole hemisphere.

Horizon'tal, parallel to the horizon. Thus, a *horizontal dial* is one drawn upon a plane parallel to the horizon, and a *horizontal line* and *plane* are terms in perspective for a line and plane parallel to the horizon, and passing through the eye. The *horizontal range of a piece of ordnance* is the distance at which the ball falls on a horizontal plane, whatever be the angle of elevation of the piece. The *horizontal speculum* is a well-polished metal speculum of three or four inches diameter, inclosed within a brass ring, and so fitted that the centre of gravity of the whole shall fall near the point on which it turns.

Horn. 1. In *natural history*, the hard pointed bodies growing on the heads of some graminivorous animals, serving either for defence or ornament, are termed *horns*; and the same name is used vernacularly for the antennæ of insects.——2. In *chemistry*, the substance composing the horns of graminivorous animals, consisting of coagulated albumen, with a little gelatine and phosphate of lime: it is extensively used in the arts.——3. In *music*, a wind-instrument, originally made of horn, but now of brass.——4. In *botany*, a spur. *See* Calcar.

Hornblende, a mineral. The amphibole of Haüy, of a green, or blackish green colour, produced by the oxides of chromium and iron. It enters largely into the composition of several of the trap rocks. It is sometimes found regularly crystallised, but more commonly the crystallization is confused, and it appears in masses composed of laminæ, acicular crystals, and fibres variously aggregated. It occurs under many forms. Thus carinthine, actinolite, tremolite, calamite, amianthus, &c. are varieties; but hornblende itself is a sub-species of straight-edged augite.

Horn'blende Schist, a metamorphic rock, composed principally of hornblende, with a variable portion of felspar, and sometimes grains of quartz. It appears to be merely clay altered by heat and pressure.

Hor'ned Owl. The common owl, or *Strix otus*, Lin.. is thus named from its having two tufts of feathers on the forehead, which it can erect at pleasure.

Hor'net, a large species of wasp, the *Vespa crabro*, Lin.; common in Europe.

Hor'ning, Letters of. In *Scottish law*, a species of process against a debtor.

Horn'pipe. 1. A Welsh instrument of music, consisting of a wooden pipe with horns at the ends—one to collect the wind from the mouth, the other to carry off the sounds.——2. An air or tune of triple time, with six crotchets in a bar.——3. An animated dance.

Horn Sil'ver, a native chloride of silver crystallised in the cubic system, and sectile like horn. It is rare in European mines, but common in the mines of Peru and Mexico.

Horn'stone, a variety of rhomboidal quartz It is called *Chert* in Derbyshire, where it abounds. It is valuable for forming the grinding-blocks of flint-mills in the pottery manufacture. The name *hornstone* is often confounded with *hornblende*.

Horog'raphy, from ὥρα, an hour, and

γραφω, I write. The art of constructing dials.

Horo'metry, ὥρα and μετρον, measure. The art of measuring hours.

Horop'ter, from ὥρα and οπτομαι. In *optics*, a right line drawn through the point where the two optic axes meet, parallel to that which joins the two pupils.

Hor'oscope, from ὥρα and σκοπεω. In *astrology*, a scheme or figure of the twelve houses or signs of the zodiac, in which is marked the disposition of the heavens at a given time.——2. The degree of the ascendant or star which rises above the eastern horizon at any time when a prediction is to be made.

Horse. 1. In *zoology*, the *Equus caballus*, Lin.——2. In *navigation*, a rope reaching from the middle of a yard to its extremity, on which the sailors stand when they are loosing or reefing the sails; also a thick rope fixed fore or aft a mast, for the purpose of hoisting some yard.

Horse-power, the power or force which a horse generally exerts. It is compounded of his weight and muscular strength, and decreases with his speed. It is generally reckoned in mechanical calculations, equal to 33,000 lbs. raised 1 foot high per minute; and if continued throughout the day of 8 hours, amounts to 150 lbs. conveyed a distance of 20 miles, at a speed of 2½ miles per hour.

Horse' run. In *earthwork*, a contrivance for drawing up loaded wheelbarrows from the bottom of deep cuttings for railways, docks, &c., by the assistance of a horse, which walks to and fro instead of round as in the horse-gin.

Horse'shoe. In *fortification*, a work of a round or oval form.

Hor'tus Sic'cus, *dry garden*. A collection of dried plants kept in paper or books.

Hosan'na. In the *Jewish rituals*, a term signifying *Save now*. Hosanna became latterly the name of a prayer, rehearsed on the several days of the feast of tabernacles, and in which the word was often repeated.

Hose. 1. A term synonymous with stockings.——2. The name of the leathern pipe used with fire-engines, for conveying the water.——3. The leathern pipe used in ships for conveying water from the main decks into the casks.——4. The hollow part of a spade, or other tool of a similar kind, which receives the end of the shaft or handle.

Hos'pital Gan'grene, a peculiar form of gangrene which sometimes prevails in hospitals.

Hospitall'ers, an order of religious knights, known now by the title of Knights of Malta. They took the name of *Hospitallers* from their building an hospital, at Jerusalem, for the reception of pilgrims.

Hospi'tium, a Latin word for an *inn*: used, in *old law books*, for an Inn of Court, and sometimes for a monastery, or common inn for the accommodation of travellers.

Hos'podar, a title borne by the princes of Walachia and Moldavia, who receive their investitures from the Grand Seignior.

Host, from *hostia*, a victim. The name given, in the *Romish rituals*, to the elements of the Eucharist, or rather to the consecrated wafer.

Hot'bed. A bed of earth with horse-dung or other manure, and covered with glass, for raising early plants, or such as will not thrive in cold soil.

Hotch'pot. In *law*, a mixing of land given in marriage with lands in fee falling by descent.

Hot'-flue, an apartment heated by stoves or steam-pipes, in which padded or printed calicoes are dried hard.

Hot'house. A building heated by flues, for rearing exotic plants, which require a warm atmosphere and soil.

Hot'wall. A wall for the growth of fruit-trees, built with flues for being heated in severe weather.

Hound. In *zoology*, the *Canis venaticus*, Lin. The *hound*, the *pointer*, and the *terrier* differ between themselves only in size and the proportions of the limbs. The *greyhound* is longer and more lank.

Hounds. In *nautical language*, the projecting parts of the head of a ship.

Hou'ri, a nymph of Mahommed's paradise.

House, Sax. *hus*. In *astrology*, the situation of a planet in the heavens, also the twelfth part of the zodiac.

House'bote. In *law*, a sufficient allowance of wood to repair the houses of the tenant and supply fuel.

House'breaking. The breaking into a house by daylight with intent to commit a felony: the same by night is *burglary*.

House'line, or Hous'ing. Among *seamen*, a small line formed of thin strands, smaller than ropeyarn, used for seizings, &c.

Hous'ing. In the *manége*, a piece of cloth fastened to the hinder part of a saddle, and covering the horse's croup: called also *boot-housing*. Also a cloth laid over a saddle.——2. The same as *houseline* (q. v.).——3. In *architecture*, the space taken out of one solid to admit of the insertion of another.

How'itzer, Germ. *haubitze*. A kind of mortar or short gun, mounted on a field-carriage, and used for throwing shells, &c. It differs from a mortar in having the trunnions in the middle.

How'ker. A two-masted Dutch vessel: also a fishing-boat, with one mast, used on the coast of Ireland.

Hoy, a small vessel usually rigged as a sloop, and employed for conveying passengers and goods from place to place on the sea-coast, or to or from a ship in a road or bay.

Hu'bert, Order of St. The highest Bavarian order of knighthood, instituted in 1444.

Hue and Cry. In *law*, the common process of pursuing a felon.

Huer, or Hoer, the Icelandic name of certain fountains of boiling water in Iceland, otherwise called *Geysers*.

Hu'guenots. A name formerly given to the Protestants in France. The name is supposed to be a corruption of the German word *Eidgenossen*, which means *sworn-fellows*.

Hui'ssiers. Civil officers in France, whose attendance is necessary in every judicial tribunal, from that of a justice of the peace to the Court of Cassation.

Hul'fston (Ger.). In *music*, the secondary note of a shake.

Hulk, Dut. *hulk;* the body of a ship. The word is applied only to the body of an old ship, which is laid by as unfit for use. The old vessels employed in raising sand, ballast, &c., in the river Thames, and wherein a certain class of convicts are kept at hard labour, are by way of eminence styled *the hulks*.

Hull. 1. The outer covering of a nut, grain, &c.——2. The body of a ship, exclusive of her masts, yards, and rigging. *Hull down* expresses that the hull of a ship is concealed by the convexity of the sea.

Hulothe'ism, from ὑλη, matter, and θεος, God. The doctrine that matter is God, or that there is no God but matter and the universe.

Human'ities. In *Scotch colleges*, the *literæ humaniores*, or grammar, rhetoric, and belles lettres, including the study of the ancient classics, in distinction from philosophy and science. The student in humanities is called a *humanist*.

Hum'boldite, a rare mineral which occurs in small and nearly colourless crystals, irregularly aggregated, and which seems to contain the same elements as datolite. Named in honour of Humboldt.

Hu'merus, Lat. from ωμος. In *anatomy*, (1.) The arm from the shoulder to the forearm. (2.) The shoulder.

Hum'mock, an eminence of land resembling a smooth rounded cone, as seen from the deck of a vessel at sea.

Hu'mor, Lat. from *humus*, the ground, whence moisture arises. A general name for any fluid of the body except the blood.

Hu'moral Pathology, that pathology which attributes all diseases to disordered states of the fluids or humours, without taking solids into consideration.

Hu'mours (of the eye). The *aqueous humour* is the transparent fluid occupying the space between the crystalline lens and cornea, both before and behind the pupil. The *crystalline humour* or *lens* is a small transparent solid body, occupying a middle position in the eye between the aqueous and vitreous humours. It is the principal instrument in refracting the rays of light, so as to form an image on the retina. The *vitreous humour* is a fluid contained in the minute cells of a transparent membrane, occupying the greater part of the cavity of the eye, and all the space between the crystalline and retina.

Hu'mulin, the narcotic principle of the hop (*humulus*).

Hu'mulus, the *hop:* a genus of perennial climbing plants. *Diœcia — Pentandria*. Named from *humus*, the ground. One species (*H. lupulus*) cultivated in Britain. *See* Hop.

Hun'dred, a division or part of a county in England, supposed to have originally contained 100 families, 100 able men for the king's wars, or 100 manors; but as the word means literally a *circuit*, it is probable that Alfred's divisions had no reference to number.

Hunga'rian Machine, a hydraulic engine on the principle of Hero's fountain, so called from its having been first employed in draining a mine at Chemnitz, in Hungary. The action is produced by the condensation of a confined portion of air, produced by the descent of a high column of water contained in a pipe, and therefore acts with a force proportionate to the weight of such column. It is a machine highly deserving of attention.

Hun'gary Water, water distilled from tops of rosemary flowers with some spirit of wine. Thus named from its having been first prepared for a queen of Hungary.

Hur'dle. 1. A crate of osiers, twigs, or sticks of various forms.——2. In *fortification*, twigs interwoven close together, sustained by long stakes, and usually covered with earth.——3. In *husbandry*, a frame of split timber or hazel rods wattled together, used for gates, sheep-folds, &c.

Hur'dy-gurdy, a musical instrument, the *lyra mendicorum* of Kircher, called also the *vielle* (q. v.).

Hurr'icane, Span. *huracan*. A violent storm, generally accompanied by lightning, and distinguished by the violence of the wind, and the sudden changes in direction to which it is subject.

Hurst, Sax. *a wood*. The termination of the names of some places in England.

Hurt'-ickle, the *centaurea cyanus*, thus named because it is troublesome to cut down, and sometimes notches the sickle.

Hus'bandry, the business of a farmer, comprehending agriculture, the raising

and managing of cattle and other domestic animals, the management of the dairy, and whatever the land produces. This term has the same root as *husband*, viz., Sax. *husbonda*, from *hus*, a house, and *buend*, a cultivator or inhabitant.

Husk. In *botany*, the glume or that part out of which a flower grows. The husks of corn and grasses are formed of valves, and embrace the seed. The husks of small grains constitute *chaff*.

Hussar'. a mounted soldier. The term is of Hungarian origin, from *husz*, twenty, and *ar*, pay, every twenty houses being obliged by order of Mathias I. (1458), to furnish and support one horseman.

Hus'sites, the adherents of John Huss, the Bohemian reformer.

Hus'tings, from Sax. *hustinge*, the house of trials. A court held in the guildhalls of several English cities, by the principal officers of their respective corporations.—The platform erected in the open air to accommodate the speakers, &c., at public meetings, especially political meetings.

Hutch, a name at some coal works for a box in which the coal is drawn up out of the pit, also the quantity of coal which such box can contain. Six *hutches* make a *cart* (about 14 cwt.).

Hutto'nian Theory. In *geology*, the Plutonic theory, first advanced by Dr. Hutton.

Hy'acinth (*see* Hyacinthus). 1. A gem much prized by jewellers. It is a subspecies of pyramidal zircon, of a deep gold or amber colour. Its constituents are zirconia 70, silica 25, and oxide of iron 0·5. It occurs embedded in gneiss and syenite, in basalt and lava.——2. In *botany* (*see* Hyacinthus).

Hyacin'thine. 1. As an *adjective*, of the colour of hyacinth.——2. As a *substantive*, the name of a mineral which usually occurs in rectangular eight-sided prisms. It is brownish, transparent, and causes double refraction.

Hyacin'thus, the *hyacinth:* a genus of perennial plants. *Hexandria—Monogynia.* Named ὑακινθος, from the friend of Apollo, who was turned, according to the poets, into this flower. The Hare-bell (*H. non-scriptus*), the only British type of this genus, is by some placed in the genus Scilla.

Hy'ades, from ὑαδες, a watery constellation. In *astronomy*, the seven stars in the bull's head, the principal of which is Aldebaran.—In *mythology*, the daughter of Atlas and Pleione.

Hyæ'na, a genus of ferocious nocturnal animals, somewhat allied to the dog. Order *Carnaria*, family *Carnivora*, division *Digitigrada*. There are three species, the grey, the brown, and spotted hyænas. They are found from India to Abyssinia, and Senegal. Name ὕαινα, was anciently applied to any cunning animal.

Hyberbo'reans, ὑπερ, beyond, and βορεας, north wind. The name given by the ancients to the unknown inhabitants of most of the northern regions of the globe.

Hybernac'ulum, (Lat.), a wintering place. A term in botany for that part of a plant which protects the embryo herb from external injury. It is an organic body, which sprouts from the surface of different parts of a plant, inclosing the rudiments of the new shoot, and which is capable of evolving a new individual perfectly similar to the parent.

Hyb'odont, from ὑβος, and *dens*. A sub-family of sharks (fossil), according to the arrangement of M. Agassiz. They seem to have begun with the coal formation, and to have ceased at the beginning of the chalk formation.

Hyb'odus, a genus of fossil fishes peculiar to the oolitic formations.

Hyb'rid, from ὑβρις, an injury; mongrel: applied to the offspring both of animals and plants when of different species. Neither hybrid animals nor plants propagate their species.

Hydar'thrus, from ὑδωρ, water, and αρθρον, a joint. The disease called vernacularly *white swelling*, which systematic writers usually distinguish into two kinds, *rheumatic* and *scrofulous*.

Hydatids. 1. A genus of Entozoa, of the Tænioid family. Name from ὑδωρ, water; being characterised by their being formed of a membrane containing a water-like fluid. They form the genus *Cysticercus*, Rud.——2. Little transparent vesicles of a water-like fluid, found especially in dropsical patients.

Hyd'num, the truffle or tuber. A genus of plants. *Cryptogamia—Fungi.* Some species of the genus of mushrooms are eaten on the continent, but many are poisonous. The hedgehog mushroom and paulet, are examples.

Hy'dra, from ὑδωρ, water. 1. A fabulous monster with many heads, said to have infested the lake of Lerna, and was killed by Hercules.——2. The *female snake* or *water-serpent*, an immense constellation of the southern hemisphere, extending for about 100°, from the west to east, beneath the Crab, the Lion, and the Virgin: it represents the water-serpent killed by Hercules.——3. The *fresh-water polypus*, a genus of gelatinous polypi which may be regarded as an animated stomach, provided with tentacula for catching its food. Their most wonderful property is that of being constantly reproduced by the indefinite excision of their parts, so that they can be multi

plied at will by division. Their natural increase is by shoots.

HYDRAN'GEA, a genus of arborescent and shrubby plants. *Decandria—Digynia.* Name from ὑδωρ, water, and αγγος, a vessel. Temperate climates. Some of the species are cultivated in our gardens, as the Chinese guelder-rose, &c.

HY'DRANT, from ὑδραινω, to irrigate. A pipe with the necessary valves, &c., by which water is raised and discharged from the main conduit of an aqueduct.

HYDRARGY'RIA, ὑδωρ, and αργυρος, silver. An eruptive disorder occasioned by the use of mercury.

HYDRAR'GYRUM, ὑδράργυρος, from ὑδωρ, water, and αργυρος, silver. Mercury or quicksilver.

HY'DRATE, from ὑδωρ, water. A compound not crystallised, in which water is chemically combined with some other substance in atomic proportion, as in slaked lime, which in chemical language is a *hydrate of lime*, or lime *hydrated*, that is, combined with water. The water solidified in the process of crystalline bodies, is termed *water of crystallization*.

HYDRAU'LIC, from ὑδωρ, water, and αυλος, a pipe. Relating to the conveyance of water through pipes.

HYDRAU'LICON, the water organ. An ancient musical instrument, acted upon by water. Its construction is now uncertain.

HYDRAU'LICS, the science which relates to the motion of non-elastic fluids, as water, and the construction of all kinds of instruments and machines by which the force of such fluids is applied to practical purposes. *See* HYDRODYNAMICS.

HY'DRIODATE, a compound of the hydriodic acid with a salifiable base.

HYDRIOD'IC ACID, an acid formed by the combination of hydrogen with iodine in equal volumes. It occurs in the gaseous state, but combines readily with water, like the hydrochloric acid.

HYDROBROM'IC ACID, an acid composed of equal volumes of hydrogen and bromine.

HYDROCAR'BON, a combination of hydrogen with carbon; e.g., etherine.

HY'DRO-CAR'BURETS, compounds of carbon and hydrogen, all of which are highly combustible.

HYDROCEPH'ALUS, Lat. from ὑδωρ, water, and κεφαλη, the head. Dropsy of the brain or head; a disease of which there are two sorts, the acute and chronic. The first is particularly fatal among children from two to seven years of age; in its first stage it is simply inflammation of the brain. The second is often a congenital disease, and is connected with cachexy and debility: it is always dangerous.

HYDROCHLO'RATE, a salt formed by the hydrochloric acid with a base. According to some chemists, hydrochlorates exist only when water is present; when the water is withdrawn the salt passes to a *chloride*. Thus, crystallised culinary salt is a chloride of sodium, but in solution it is a hydrochlorate of soda.

HYDROCHLO'RIC ACID, an acid formed by equal volumes of hydrogen and chlorine: muriatic acid, or spirit of salt, or marine acid. When pure it occurs in the gaseous state, but combines readily with water; its solution is extensively employed in the arts.

HYDROCHLO'RIDE, a compound of hydrogen, chlorine, and carbon, in atomic proportions.

HYDROCY'ANATE, a salt formed by the union of the hydrocyanic acid with a salifiable base.

HYDROCYA'NIC ACID, an acid consisting of equal volumes of hydrogen and cyanogen. It is called also *prussic acid*, because it was first obtained from Prussian blue. It is a transparent colourless liquid at ordinary temperatures, but is very volatile. Diluted with 8½ times its weight of water, it forms *medicinal prussic acid*. It is a deadly poison. One drop of the pure acid introduced into the fauces of the strongest dog produces death after one or two convulsive respirations.

HYDRODYNA'MICS, from ὑδωρ, water, and δυναμις, force. The branch of natural philosophy which treats of the mechanical effects of non-elastic fluids, whether at rest or in motion. It comprehends both *hydrostatics* and *hydraulics*, (q. v.).

HY'DRO-FER'RO-CY'ANIC ACID, an acid obtained in solution from the ferrocyanite of potash by the action of sulphuric acid on a solution of that salt. Its colour is lemon-yellow; and by the action of strong light or a gentle heat it is decomposed, and hydrocyanic acid and white prussiate of iron are formed.

HY'DRO-FLU'ATES, salts formed by the hydrofluoric acid with bases, called *fluates* by some, and *fluorides* by other chemists.

HYDROFLUO'RIC ACID. When fluor-spar (*fluoride of calcium*) is distilled with twice its weight of sulphuric acid, a highly volatile and corrosive liquid, which is *hydrofluoric acid*, is obtained. Its constitution is as yet imperfectly understood, as its basis *fluorine* (q. v.), has not yet been obtained in an insulated form. Analogy, however, leads to the inference that it is a compound of equal volumes of hydrogen and fluorine. It acts powerfully on glass, and must therefore be prepared and kept in silver or lead vessels, on which it does not act. Diluted with about six times its weight of water, it is employed for etching on glass.

Hy'dro-fluosil'icates, salts formed by the hydro-fluosilicic acid with bases.

Hy'dro-fluosilic'ic Acid, a compound acid consisting of, 1, hydrofluoric acid, and 2, fluosilicic acid (in simple mixture, according to Berzelius.)

Hy'drogen, from ὑδωρ, water, and γινναω, to produce. An inflammable, colourless, and aëriform fluid, the lightest of all known substances, and the basis of water (q. v.). It is plentifully distributed in nature. It is one of the ingredients of bitumens, oils, fats, alcohol, and in fact of all animal and vegetable bodies. It is speedily fatal to animal life when taken into the lungs; it does not support combustion, but uniting with oxygen much light and heat are evolved. Being the lightest ponderable substance known, it is usually assumed as unity in describing the sp. gr. of gases.

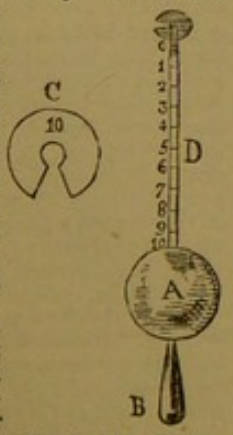
Hy'drogenated, combined with hydrogen.

Hy'drography, from ὑδωρ, water, and γραφω, to describe. Description of the watery part of the terraqueous globe, as seas, lakes, &c. It gives an account of tides, soundings, bays, gulfs, creeks, sands, shoals, &c.; the distances and bearings of objects from one another, and whatever is remarkable, either at sea or on the coast. It also comprehends the construction of maps and charts for the use of navigators, &c.

Hydrog'urets, compounds of hydrogen with a simple inflammable body, as carbon, phosphorus, or sulphur, or with metals; e. g., carburetted hydrogen is a hydroguret of carbon,

Hy'dromancy, ὑδωρ, and μαντεια, prophecy. Among the ancients a method of divination by water.

Hydrom'eter, from ὑδωρ, water, and μετρον, measure. An instrument in common use for finding the specific gravity of non-elastic fluids. It consists of a hollow ball of glass or metal with a weight below it, and a slender stem above, divided into a certain number of degrees by marks. In pure water it is adjusted to float at a particular mark, but when immersed in a lighter or heavier liquid it floats higher or sinks lower. Sometimes the instrument is adjusted to different fluids by moveable weights, while the graduations of the scale are made to express the specific gravities by the degree to which it sinks. The figure represents Silk's hydrometer, where A is a brass ball loaded with a weight B, and surmounted by a slender stem D, graduated into eleven equal parts. It is provided with eight weights C, in which a slit is cut so as to admit the slender part of the stem B into the hole in the centre. The use of these weights is to adjust the instrument to fluids heavier than water, and in which it would not otherwise sink to the level of the lowest division on the stem D. This is the instrument ordered by Act of Parliament for collecting the revenue on ardent spirits.



Hy'dro-ox'ide, a hydrated oxide.

Hydropersulphu'ric Acid, or Bisulphuret of Hydrogen. A compound of 2 of sulphur, and 1 of hydrogen.

Hydroph'ane, from ὑδωρ, water, and φαινω, to show. A variety of opal, which is opaque when dry, but by immersion in water becomes transparent.

Hydroph'ilus, a genus of aquatic insects, ὑδωρ and φιλος. The hydrophilii, form the first tribe of the palpicorne family of pentamerous coleoptera in Cuvier's arrangement, but in the arrangement of Linnæus they form a division of his genus *Dytiscus*. They are variously subdivided.

Hydropho'bia, from ὑδωρ, water, and φοβεω, to fear. Canine madness, which is always accompanied with a preternatural dread of water. Pathologists usually regard the disease as the consequence of a morbid poison, introduced into the system by the bite of a rabid animal.

Hydrophthal'mia, from ὑδωρ, water, and οφθαλμος, the eye. A morbid enlargement of the eye, arising from a preternatural increase of the vitreous or aqueous humours. The same name is also given to a mere œdematous swelling of the eyelid.

Hydroph'ytæ, water-plants, ὑδωρ, water, and φυτον, a plant. The number of *hydrophytes* is very considerable, and their situations are more various than could have been anticipated. Some are covered and uncovered daily by the tide; others live in abysses of the ocean, at the extraordinary depth of 1000 feet; and although, in such situations, there must reign darkness more profound than night, many of these vegetables are highly coloured.

Hydropneumat'ic Trough. A name which has been given to the apparatus more commonly called the *pneumatic trough*.

Hy'drops, dropsy, ὑδρωψ, from ὑδωρ, water. A preternatural hydropoid collection in the cellular substance, or different cavities of the body. Anasarca, hydrocephalus, hydrothorax, ascites, hydro-

metra, and hydrocele are some of the species of the disease.

Hy'droscope, from ὑδωρ, water, and σκοπεω, to view. A kind of water-clock anciently in use. Time was marked by the rise of water, which was allowed to flow slowly into a graduated tube.

Hydroselе'nic Acid, seleniuretted hydrogen. A highly deleterious gas, readily prepared by treating seleniuret of potassium with liquid hydrochloric acid.

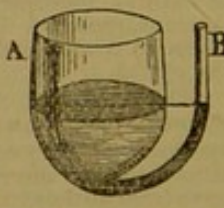
Hydrostat'ica. In *natural history*, an order of Acalepha, characterised by having buoyant air-vessels, by which they suspend themselves in their liquid element.

Hydrostat'ic Balance. A delicate balance employed in finding specific gravities.

Hydrostat'ic Bellows. An apparatus for illustrating the upward pressure of fluids, and the hydrostatic paradox. It consists of two circular boards connected by leather, to rise and fall like the common bellows, but without valves, and having a pipe three or four feet long, communicating with the interior through the lower board. Water being poured into this tube, the upper board of the bellows is raised with a force equal to the difference between its area and the area of the tube. This is the property applied by Mr. Bramah in the construction of his hydraulic press.

Hydrostat'ic Index. An apparatus for demonstrating the truth of Pascal's hydrostatic paradox.

Hydrostat'ic Paradox. The principle, in hydrostatics, that a portion of fluid, however small, may be made to counterpoise a portion of fluid, however great. Thus, if to a wide vessel A, a small tube B, be attached, communicating with the vessel, and if water be poured into either of them, it will stand at the same height in both; consequently there is an equilibrium between; and this holds, whatever the shape and size of the vessels may be. This illustrates the principle, that the pressure of fluids is as their height, without any regard to their quantity.



Hydrostat'ic Press. *See* Bramah's Press.

Hydrostat'ics, from ὑδωρ, water, and στατικὸς, static. That branch of hydrodynamics which treats of the weight, pressure, and equilibrium of non-elastic fluids at rest. It comprehends the doctrine of flotation, methods of finding specific gravities, &c.

Hydrosul'phates. Compounds of hydrosulphuric acid.

Hydrosul'phurets. Chemical compounds of bases with sulphuretted hydrogen.

Hydrosulphu'ric Acid. The name given by Gay Lussac to a solution of sulphuretted hydrogen in water. It has also been called *hydrotheionic acid*, from θειον, sulphur.

Hydro-sul'phurous Acid. When three vols. of sulphuretted hydrogen gas, and two of sulphurous acid gas are mixed together, over mercury, they are condensed into a solid orange-yellow body, to which Dr. Thomson has applied the name of *hydro-sulphurous acid*.

Hydrotho'rax, from ὕδωρ, water, and θωραξ, the chest, dropsy of the chest.

Hydroxan'thic Acid. An acid discovered by Zeise, of Copenhagen, and since considered as an oxy-acid, and described under the name of *xanthic acid* (q. v.). It is the *carbo-sulphuric acid* of some chemists, being a compound of two volumes of bisulphuret of carbon, and one volume of sulphuric ether.

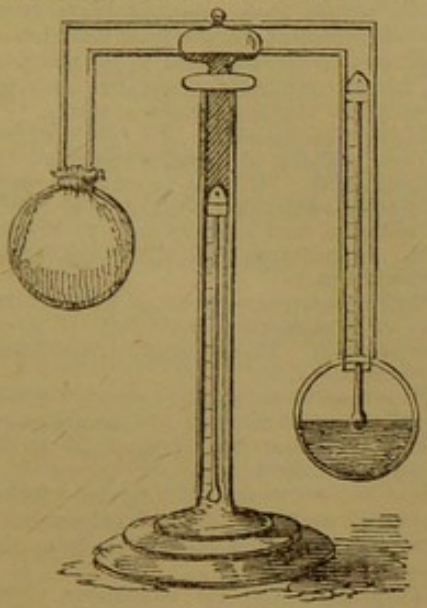
Hy'droxure, a hydrate.

Hyd'ruret, a compound of hydrogen with a metal. *See* Hydroguret.

Hyge'inism, the science of health, ὑγιεια, health. The right application of medical science to the preservation or restoration of health. The term has been extensively abused.

Hygrom'eter, from ὑγρος, moisture, and μετρον, measure. An instrument for determining the quantity of vapour in the atmosphere. Various instruments have been contrived for this purpose, some of them founded upon the property which certain substances have of imbibing vapours, and having their dimensions thereby altered; others on the principle that the moisture of the atmosphere will deposit itself in dew-drops upon the surface of a colder body in contact with it. It is upon this principle that Daniel's hygrometer is constructed. This consists of two small glass bulbs, connected together by a glass tube, bent at right angles, as shown in the figure. A very delicate thermometer is inclosed in one bulb, which also contains some ether, and the other bulb is covered with a piece of fine muslin. When an observation is to be made, the covered bulb is moistened with ether, which by evaporation produces intense cold, and thereby condenses the etherous vapour within. Evaporation from the further bulb is consequently promoted, and the temperature of its exterior surface falls; a slight ring of dew, coinciding with the surface of the liquid within, forms on the glass. The thermometer within is to be observed during the operation, and the temperature indicated by it at the instant when the dew appears on (or disappears

from) the glass, is called the *dew-point*, and will be found several degrees below



the temperature indicated by the thermometer in the stem of the instrument. The dew-point being found, the hygrometric state of the atmosphere is known.

HYGROMET'RIC, applied to substances which readily become moist and dry with the changes in the atmosphere.

HYLOZO'ISM, ὑλη, matter, and ζωη, life. In *philosophy*, the doctrine that matter lives.

HYMENÆ'A, the *locust-tree:* a genus. *Decandria—Monogynia.* Name from *Hymen.* Southern parts of America and the West Indies. The *H. courbaril* affords the resin called *gum animé.*

HYMENOPHYL'LAM, the *marriage-leaf:* a genus of perennial ferns. Britain and West Indies.

HYMENOP'TERA, from ὑμην, a membrane, and πτερος, a wing; membrane-winged. An order of insects characterised by having four membranous and naked wings, of which the superior are the largest. The mouth is composed of mandibles, maxillæ, and two lips; the abdomen of the females is terminated by an ovipositor or sting: the wasp and bee are examples.

HYOS'CIAMINE, a new crystalline vegetable principle obtained from henbane, (*Hyoscyamus niger*). It is alkaline, and highly poisonous. It is the *hyosciamia* of M. Brandes.

HYOSCY'AMUS, the *Henbane:* a genus of herbaceous plants. *Pentandria—Monogynia.* Name from ὑς, a hog, and κυαμος, a bean. The *H. niger* or black henbane is common in Britain: it is highly poisonous, but also highly useful in medicine.

HYPÆ'THRAL, from ὑπο, above, and αιθηρ, the air; open above. Applied to certain ancient temples which had ten columns on each façade, were surrounded by double porticoes, and had cellæ entirely exposed to the air, having no roof.

HYPAL'LAGE, ὑπαλλαγη, change. A grammatical figure consisting of a mutual change of cases. Thus Virgil writes *dare classibus austros*, for *dare classes austris.* See HYPERBATON.

HYPANTHO'DIUM, a form of inflorescence when the receptacle is fleshy, but not inclosed in an involucrum.

HY'PER, ὑπερ, over and above. A term used in composition to denote some excess.

HYPER'BATON, ὑπερβατον, transposition. a grammatical figure which consists in the inversion of the proper order of words and sentences. The species are the anastrophe, the hypallage, the synchysis, the tmesis, the parenthesis, and the true hyperbaton, which consists in a long retention of the verb which completes the sentence.

HYPER'BOLA, from ὑπερβολη, an excess. A section of a cone made by a plane, so that the plane makes a greater angle with the base of the cone than that formed by the base and side of the cone, and if the plane be produced so as to cut the opposite cone, another hyperbola will be formed, which is called the opposite hyperbola to the former.

HYPER'BOLE, ὑπερβολη, excess. A rhetorical figure which expresses more than the truth, or which represents things much greater or smaller, better or worse, than they really are.

"He was so gaunt, the case of a flageolet was a mansion for him."—*Shakspeare.*

HYPERBOL'IC CYL'INDROID, a solid generated by the revolution of a hyperbola about its conjugate axis.

HYPER'BOLIC CO'NOID, a conoid formed by the revolution of a hyperbola about its axis.

HYPER'BOLOID, from *hyperbola*, and ειδος, like. A hyperbolic conoid.

HYPERBO'REAN, from ὑπερ, beyond, and βορεας, the north; most northern. The ancients applied this epithet to all people and places to the north of the Scythians, and which they considered to enjoy a delightful climate, being beyond the domain of Boreas, or the north wind! They were, however, the Laplanders, the Samoiedes, and the Russians about the White Sea.

HYPERCATALEC'TIC, from ὑπερ, beyond, and καταληξις, termination. An epithet for a verse which has one or more syllables beyond the regular measure. When it contains only one syllable in excess, it is usually called a *hypermeter.*

HYPER'ICUM, the *St. John's-wort:* a very extensive genus of plants. *Polyadelphia—Polyandria.* Name from ὑπερ, over, and εικων, a spectre, because it was believed to have the power of driving away evil spirits. About 60 species, of which 11 are indigenous in Britain.

HYP'EROCHE, Gr. *pre-eminence.* In *music*, an interval of nearly one comma and a half.

HYPERSTHE'NE, } from ὑπερ, above, and
HY'PERSTENE, } σθενος, strength. Prismatoidal or Labrador schiller-spar: a mineral of a greenish black colour, but nearly copper-red on the cleavage. It consists of silica 54·25, magnesia 14, alumina 2·25, lime 1·5, oxide of iron 24·5, water 1. It is often cut for brooch-stones, &c., and has then a beautiful copper-red colour.

HYPERTHY'RUM, ὑπερ, and θυρα, a door. In *architecture*, the lintel of a doorway.

HYPERTRO'PHY, from ὑπερ, above, and τροφη, nutrition. A morbid increase in any organ, without change in the nature of its substances.

HY'PHEN, ὑφεν, under one. A note of conjunction between compound words, as in *five-leaved.*

HY'PO, ὑπο, under. A Greek prefix, opposed to *hyper.*

HYPOB'OLE, from ὑπο, under, and βαλλω, to throw. A rhetorical figure in which several things are enumerated which seem in favour of the opposite argument, and each of them is refuted in order.

HYPOCAU'STUM, ὑπο, and καιω, I burn. In *ancient architecture*, a vaulted chamber containing apparatus for heating apartments by means of earthen tubes.

HYPOCHON'DRIA, from ὑπο, under, and χονδρος, a cartilage. The spaces in the abdomen immediately under the false ribs on each side of the epigastrium; in the one is the liver, and in the other the spleen.

HYPOCHON'DRIASIS, } Vapours or low-
HYPOCHONDRI'ACISM, } ness of spirits, often accompanied by weariness of life, misanthropy, or spleen. The corporeal symptoms are commonly flatulency in the stomach and bowels, acrid eructations, costiveness, copious discharge of pale urine, spasmodic pains in the head, and other parts of the body, giddiness, palpitations, general sleeplessness, dimness of sight, languor, &c.

HYPOGÆ'OUS, ὑπο, and γη, earth. In *botany*, applied to all the parts of plants beneath the surface of the ground.

HYPOGAS'TRIUM, Lat. from ὑπο, under, and γαστηρ, the stomach. The lower anterior region of the abdomen, from a little below the umbilicus to the pubes: called the *hypogastric region.*

HYPOG'ENE, from ὑπο, under, and γινομαι to produce; nether-formed. Applied to rocks which have assumed their forms and structure at a depth from the surface.

HYPO'GYNOUS, ὑπο, and γυνη, a female. In *botany*, applied to anything growing from below the base of the ovarium.

HYPONI'TROUS ACID. An acid containing one volume of oxygen less than the nitrous acid. It is a greenish liquid, formed by subjecting a mixture of 2 vols. of nitrogen and 3 of oxygen to intense cold. It combines with bases, and forms hyponitrites.

HY'POPHOSPHORIC ACID, a liquid mixture of 2 phosphoric acid with 1 phosphorous acid. Dulong gave it the name of *phosphatic acid.*

HYPOPHOS'PHORUS ACID, an acid which is probably a compound of 4 atoms phosphorus, and 3 atoms oxygen. It is obtained in solution.

HYPOSCE'NIUM, ὑπο, and σκηνη, a scene. In *ancient architecture*, the front wall of a theatre, facing the orchestra from the stage.

HYPOS'TASIS, Lat. for ὑποστασις (from ὑπο, under, and ἱστημι, to stand); properly subsistence or substance: hence used by divines in the sense of *person* or *being.* Thus the Holy Trinity consists of three *hypostases* or persons.

HYPOSULPHU'RIC ACID, an acid procured in solution by passing sulphurous acid gas through black oxide of manganese suspended in water. It consists of 2 vols. of sulphur, and 5 vols. oxygen.

HYPOSUL'PHUROUS ACID, an acid which has not yet been insulated. It is regarded as a compound of equal volumes of sulphur and oxygen.

HYPOTHE'CA, ὑποθηκη, a pledge. A term in civil law for the obligation whereby the effects of a debtor are made over to his creditor, to secure the debt.

HYPOTHECA'TION, from *hypotheca.* The pledging of a ship or goods for the repayment of money borrowed to carry on a voyage: otherwise called *bottomry.*

HYPO'THENUSE, ὑπο and τεινω, I stretch. In *geometry*, the longest side of a right-angled triangle, or the side opposite the right angle.

HYPOTRACHE'LIUM, ὑπο and τραχηλος, neck. In *architecture*, that part of the shaft immediately below the neck of the capital of a column.

HYPOTYPO'SIS, ὑπο and τυπος, type. In *rhetoric*, an animated description of a scene or event, in language enriched with rhetorical figures.

HYPSIPRYM'NUS, the kangaroo-rat or potoroo of New Holland. A genus of Marsupialia, named from ὑψιπρυμνος, raised behind, in allusion to the great length of

the hind legs compared with the fore-ones. There is but one species known; size of a small rabbit and of a mouse grey.

Hy'rax, a genus of Pachydermous mammaiia; the damans, long placed among the Rodentia on account of their small size. They are rhinoceroses in miniature, the horn excepted.

Hy'son, a species of green tea, of which there are three varieties, hyson, *young hyson*, and *hyson skin*. These, with *imperial*, constitute the second and third spring crops of the tea plant.

Hyster'ia, } from ὑστέρα, the womb.
Hyster'ics, } A disease of women, characterised by spasmodic affections of the nervous system, and which was formerly supposed to proceed from the womb.

Hys'teron Prot'eron, ὑστέρον, last, πρότερον, first. A rhetorical figure, in which that word which should follow is put first: vulgarly, the cart before the horse.

Hysterot'omy, from ὑστέρα, the womb, and τέμνω, to cut. The Cæsarian operation.

Hystrici'asis, from ὑστριγξ, a porcupine. A singular disease of the hairs, in which they stand erect like porcupines' quills.

Hys'trix, ὑστριγξ, a porcupine. A genus of mammiferous animals. Order *Rodentia*. The porcupines are readily known by the stiff and sharp spines or quills with which they are armed, like the hedgehog. They live in burrows, and have many of the habits of the rabbit. To their grunting voice, and thick truncated muzzle, they are indebted for being compared to the pig, and for their corresponding French appellation, *porc-epic* (whence *porcupine*). The true or common porcupine (*H. cristata*, Lin.) inhabits the south of Europe, and is also found in Barbary. From this are separated the *Atherurus*, Cuv., the *Eretison*, F. Cuv., and the *Synetheres*, F. Cuv.

I.

I, the ninth letter and the third vowel of the English alphabet. As a numeral it stands for one, whether alone or combined with other numeral letters. Placed before V or X it subtracts itself, and the numerals denote one less than the V or the X, but when it is placed after V or X, it denotes the addition of a unit.

Iam'bic (Eng.), for Fr. *iambique*, } A po-
Iam'bus (Lat.), for Gr. ἰαμβος. } etical foot consisting of two syllables, the first short and the last long, as *adore*. Hence verses composed of short and long syllables alternately are termed *iambics*.

I'bex, a species of goat which inhabits the most elevated situations of the eastern continent. The *Capra ibex* Lin

I'bis, a genus of grallaceous birds of the longirostrine family, found only in warm climates. The sacred ibis (*I. religiosa*, Cuv.) was reared in the temples of ancient Egypt, with a degree of respect bordering on adoration, for some reason not well known. It is found throughout Africa. The red ibis inhabits the hot parts of America, and is remarkable for its bright red colour.

Ic. In *chemistry*, a particle used as a termination of the names of those acids which contain, in combination, the highest known quantity of the acidifying principle. It is used also when there is only one known acid combination of the elements, as carbonic acid. *See* Acid.

Ice, a solid, transparent, brittle body formed by the congelation of a fluid by abstraction of its heat of fluidity. The term is applied only to water and analogous fluids when frozen, and which are liquid at all temperatures above 32° F.

Ice'berg, from *ice*, and Ger. *berg*, a hill. A large mass or hill of ice floating upon the sea. Icebergs are common in the polar seas, and are often of enormous size, sometimes 300 or 400 feet above water, and consequently 2400 or 3200 feet below water (the relative specific gravities of the ice and water being such that every foot of ice above the surface of the water corresponds to eight feet below.) When floating ice is extended beyond the reach of sight it is called *field-ice*; when smaller, but still of very large dimensions, it is called a *floe*; when a floe is broken up, its fragments form a *pack* when they keep closely together; but *drift-ice* if they are scattered. A portion of ice above the common level forms a *hummock*; a detached and lofty mass is an *iceberg*.

Ice'blink, a name given by seamen to a bright appearance in the horizon, occasioned by the light being reflected by fields of ice obliquely into the atmosphere, and seen before the ice itself is visible.

Ice'boat, a boat employed on canals, &c., to break the ice in frosty weather; it is usually heavy laden and protected by iron bows and keel. The improved ice-boat breaks the ice upwards instead of downwards, as in those of the common construction. The ice-boat is called a *boar* or *bore* in Scotland, perhaps in allusion to its mode of action.

Ice'house, a subterranean apartment for the preservation of ice during summer. The ice should be closely packed, and surrounded with substances of low conducting power, as straw, wool, &c.

Ice'land-moss, a species of liver-wort, the *Cetaria Icelandica*.

Ice'land spar, calcareous spar in its purest form. It is used to exhibit the optical phenomenon of double refraction. *See* Calcareous Spar.

Ice'plant, the *Mesembryanthemum crystallinum*, a plant remarkable for the little icy and pellucid vesicles which cover its surface.

Ich Dien, Germ. for *I serve*. The motto of the Prince of Wales. It was first used by John, King of Bohemia, slain at the battle of Cressy, when it was adopted by Edward the Black Prince, as a mark of subjection to his father Edward III.

Ichneu'mon. 1. In *zoology*, the *mangouste of Egypt*, an animal larger than our cat, and slender as a marten. It takes its name (ιχνευμων, from ιχνευω, to follow) from its hunting for the eggs of the crocodile. It is domesticated and kept for destroying rats and mice. The Europeans at Cairo call it *Pharaoh's rat*; the natives *nenis*. *See* Mangouste.——2. In *entomology*, a genus of hymenopterous insects of the family *Pupivora*, Cuv., thus named from the circumstance of its preying upon the posterity of the Lepidoptera under the form of caterpillars, just as the quadruped so named destroys the crocodile, by breaking its eggs. There are 1200 species.

Ichnog'raphy, from ιχνος, a footstep, and γραφω, to describe. 1. In *perspective*, the view of anything cut off by a plane, parallel to the horizon just at the base of the object.——2. In *architecture*, the plan of a building exhibited by a transverse section.——3. The term is sometimes used to designate a description of ancient works of art, as statuary, paintings. &c.

Ichthyol'ogy, from ιχθυς, a fish, and λογος, discourse. That branch of zoology which treats of the structure, classification, and habitudes of fishes.

Ichthyosau'rus, from ιχθυς, a fish, and ταυρος, a lizard, the *fish-lizard*. An extinct genus of marine-lizard or reptile, approaching to the characters of a fish in its organization. Several species have been ascertained, some of which are of enormous size.

Ichthy'osis, the fish-skin disease, from ιχθυς, a fish. It is characterised by a thickened, hard, rough, and in some cases almost horny texture of the integuments of the body, with some tendency to scaliness, like the skin of a fish.

Icon'oclasts, image-breakers, from εικων, an image, and κλαστης, a breaker. A name which Catholics give to those who reject the use of images in their religious worship.

Iconog'raphy, from εικων, an image, and γραφω, to describe. The description of ancient statues, busts, paintings in fresco, mosaic work, &c.

Icosahe'dron, from εικοσι, twenty, and 'εδρα, a basis. A regular solid, consisting of twenty triangular pyramids, which have their heights and bases equal, and whose vertices therefore meet in the centre of the circumscribing sphere.

Icosan'dria, from εικοσι, twenty, and ανηρ, a man. The twelfth class of plants in Linnæus's sexual system, consisting of such as have hermaphrodite flowers, furnished with twenty or more stamens inserted *into* the calyx. Epithet *icosandrian*.

Ide. In *chemistry*, a termination for certain compounds which are not acid; as oxides, chlorides, bromides, and iodides.

Ide'a, Lat. for ιδια, from ιδειν, to see. In *popular language*, idea signifies the same thing as conception, apprehension, notion. To have an idea of anything is to conceive it. In *philosophical use*, it does not signify that act of the mind which we call thought or conception, but some object of thought.—*Reid*. Whatever the mind perceives in itself, or is the immediate object of perception, thought, or understanding, that I call an idea—*Locke*. The word ιδια, as used by Pindar, Aristophanes, and St. Matthew, represented "the visual abstraction of a distant object, when we see the whole without distinguishing its parts." Plato adopted it as a technical term, and as an antithesis to ειδωλα, or sensuous images, and transient and perishable emblems or mental words of *ideas*. Des Cartes introduced into his philosophy the fanciful hypothesis of *material ideas*, or certain configurations of the brain, which were so many moulds to the influxes of the external world. Mr. Locke adopted the term, but extended its signification to whatever is the immediate object of the mind's attention or consciousness. Mr. Hume, distinguishing those representations which are accompanied with a sense of a present object from those reproduced by the mind itself, designated the former by *impressions*, and confined the word *idea* to the latter.—*S. T. Coleridge*.

Ide'al. An imaginary model of perfection, considering ideas as images or forms in the mind. Thus we speak of the *ideal* of beauty, the *ideal* of virtue, &c.

Ide'alism. That system or theory that makes everything to consist in ideas, and denies the existence of material bodies.—*Walsh*. *Materialism* is a circumference without a centre; *idealism* is a centre without a circumference.—*Guesses at Truth*.

Iden'tity, Personal. The sameness of the conscious subject, *I*, throughout all the various states of which it is the subject.

Ideograph'ic Characters, from ιδια and γραφω, I write. In *philology*, characters which express figures or notions.

EOLOGY, from ἰδέα, an idea, and λογος, discourse. The doctrine of ideas.

IDES, Lat. pl. of *idus*. Eight days of each month in the Roman calendar, the first day of which fell on the 13th of January, February, April, June, August, September, November, and December; and on the 15th of March, May, July, and October

IDIOLEC'TRIC, electric *per se*, from ἴδιος, and ἠλεκτρικος.

IDIOPATH'IC, from ἴδιος, peculiar, and πάθος, affection. An epithet applied to diseases which are primary, and not consecutive upon any other disease. The term is opposed to *symptomatic* and *sympathetic*.

IDIOSYN'CRACY, from ἴδιος, peculiar, συν, with, and κρασις, a temperament. A peculiarity of constitution, in which a person is affected by certain agents, which produce no effect on the generality of persons.

ID'IOT. In *law*, one born without understanding, or who has lost it by disease, so as to have no lucid intervals; the lunatic is one who has lucid intervals.

IDIO'TICON. A dictionary of words in one dialect, or of one tract of a country.

I'DOCRASE, a mineral. The vesuvian of Werner, found in lava, and formerly mistaken for the hyacinth. Named from ἰδέα, form, and κρασις, mixture, in allusion to its occurring both in a massive and crystallised form. Its primitive form is a four-sided prism, with square bases.

I.E., a contraction of *id est*, that is to say.

IG'NEOUS ROCKS. Rocks produced by the action of fire; *igneus*, fiery.

IGNES'CENT, Lat. *ignescens*. Giving out sparks of fire when struck with steel, &c. Flint is an *ignescent* mineral.

IG'NIS FAT'UUS, a meteor of light which appears in the night over marshy grounds, occasioned by the liberation and ascent of phosphuretted hydrogen gas. It is popularly known as *Will-o'-the-Wisp*, and *Jack-o'-Lantern*.

IGNI'TION, from *ignis*, fire. A body heated to redness is said to be in a *state of ignition*. Gold, silver, copper, iron, and platinum may be *ignited* without melting; but lead, tin, bismuth, zinc, and antimony melt before they become ignited.

IGNO'BLE. Those birds of prey which cannot be easily employed in falconry are termed *ignobles*: they are much more numerous than the *nobles*. The Eagles, Goshawks, Sparrowhawks, and Kites are *ignobles*; the Common Falcon and Gerfalcon are *nobles*.

IGNORA'MUS. In *law*, a Latin word signifying *we do not know*, and used by the grand jury, as the term of indorsation, when they *ignore*, or throw out a bill of indictment for want of sufficient evidence.

IGUAN'IDA, a family of Saurians, possessing the general form, long tail, and free and unequal toes of the Lacertians; their eye, ear, &c. are all similar, but their tongue is fleshy, thick, and non-extensible, and only emarginated at the tip. They are divided into two sections, the *Agamians* and the *Iguanians proper*. In the first, there are no palatine teeth; in the second, there are teeth in the palate.

IGUAN'ODON, an extinct fossil, herbivorous reptile, of great size (70 feet or so in length), discovered in the strata of the Tilgate Forest, by Dr. Mantell, and thus named from *iguana*, and ὀδους, a tooth, on account of the resemblance of its teeth to those of the iguana.

IL'EUM, Lat. from εἰλεω, to turn about. The last portion of the small intestines, thus named from its convolutions.

I'LEX, the holly. A genus of evergreen shrubby trees. *Tetrandria—Tetragynia*. There are fourteen species enumerated by Don, of which the *I. aquifolium* is the British type. Ten or eleven varieties of this species are, however, established.

IL'IA. In *anatomy*, the small intestines; also that part of the abdomen in which they are inclosed.

IL'IAC, an epithet for parts connected with, or situated near, the ilia. The *iliac region* is that part of the abdomen between the ribs and the loins.

IL'IAC PASSION, a disease consisting of severe griping pains and vomiting, accompanied by spasm of the muscles of the abdomen. Thus named from the ileum being regarded as its seat.

ILLA'TIVE CONVERSION. In *logic*, that in which the truth of the converse follows from the truth of the given proposition.

ILLU'MINATI. 1. Among early Christians, persons who had received baptism. ——2. Certain associations of men in modern Europe, who combined to overthrow the existing religious institutions, and to substitute for them the law of reason. ——3. Graduates are styled *illuminati* of their particular universities.

ILLU'MINATING. The art of illustrating and adorning books and manuscripts with miniature painting. This was anciently a profession, practised by *illuminators*: the writers of the books first finished their part, and the illuminators filled up the blanks left with appropriate *illuminations*, often with great skill and taste, and always with excellent colours.

IM'AGE, Lat. *imago*. 1. In *optics*, the figure of any object made by rays of light proceeding from the several points of it. ——2. In *rhetoric*, a lively description of anything in discourse.——3. In *religion*, a

representation of some object of religious worship or veneration.

Imag'inary. In *algebra*, a term applied, in common with *impossible*, to certain expressions which arise in various algebraical and trigonometrical operations, to which no value either rational or irrational can be assigned; yet being substituted in the equations whence they are deduced, are found to answer the conditions of the question. Thus, $\sqrt{-2}$ is an imaginary quantity, as its value cannot be assigned, there being no quantity the square of which is -2.

Imagina'tion, from *image*. A power or faculty of the mind, by which it conceives and forms ideas of things communicated to it by the organs of sense. "The business of conception is to present us with an exact transcript of what we have felt or perceived. But we have also a power of modifying our conceptions, by combining the parts of different ones, so as to form new wholes of our own creation. I shall employ the word *imagination* to express this power. I apprehend this to be the proper sense of the word, if imagination be the power which gives birth to the productions of the poet and painter."—*Stewart*.

I'mam, or I'man. A minister of the Mohammedan Church, answering to a parish priest with us; but the term is nearly synonymous with our word *prelate*.

Im'bricate, Lat. *imbricatus*, tiled. Arranged like tiles on a house: applied to leaves.

Imbro'glio (Ital.), a confounding or mixing together.

Im'itative. In *music*, a term applicable to music which is composed in imitation of the effects of some of the operations of nature, art, or human passion.

Immemo'rial, from *in* and *memor*; beyond memory. In a *legal sense*, a thing is said to be of time immemorial that was before the time of king Edward II.

Immer'sion, from *in* and *mergo*. A term in *astronomy* for the disappearance of a planet, comet, &c., in consequence of their near approach to conjunction with the sun. Immersion also denotes the beginning of an eclipse, or occultation, when the body begins to disappear in the shadow of the obscuring body.

Immola'tion, from *mola*, a salt cake. A ceremony in Roman sacrifices, which consisted in throwing upon the head of the victim some corn and frankincense, together with the *mola* (or salt cake) and wine.

Im'pact, Lat. *impactus*. A term, in *mechanics*, for the simple act of one body upon another to put it in motion. The point where the body acts is termed the *point of impact*.

Impa'ges (Lat.). In *architecture*, the rails of a door.

Impale'ment, from *in* and *palus*, a stake. 1. An enclosure by palisades.——2. The barbarous mode of torture used by the Turks, as a punishment for Christians who say anything against the law of the Prophet, who intrigue with Mohammedan women, enter a mosque, &c.: it consisting in driving a stake vertically through the body, and leaving the victim to perish in lingering torment.——3. Conjunction of two coats of arms *pale-ways*, as is the case with those of a husband and wife.

Impana'tion. In *theology*, the substantial of the body and blood of Christ with the elements of the Eucharist, without a change in their nature.

Impan'neling. In *law*, the writing down of the names of a jury, summoned by the sheriff, on a piece of parchment called a *pannel*.

Impar'lance. In *law*, license to a defendant granted, on motion, to have delay of trial to consider of his answer to the plaintiff's action. Hence also the continuation of a cause till another day is termed an *imparlance*. The root of the term is Norm. *emparler*, to hold mutual converse; and the origin of the license of imparlance was to allow the litigants time to discuss their cause of action together, and to settle it amicably if possible.

Impa'tiens, the *Balsam*. A genus of annual plants (*Pentandria—Monogynia*): thus named because the seed vessels burst instantly, on contact with any extraneous body, as if impatient of the touch. The Touch-me-not (Yellow Balsam) is the only British type.

Impeach'ment. In *law*, an accusation or charge brought against a public officer for maladministration in his office: from Fr. *empêcher*, to stop or hinder. It is the right of the House of Commons to impeach, and the right of the House of Lords to determine impeachments.

Imped'iments. In *law*, such hindrances as prevent a person from suing for his rights. Non-age, idiocy, imprisonment, &c., are impediments.

Impenetrabil'ity. In *physics*, that property of matter which prevents two bodies from being in the same space at the same time: a truth derived from experiment.

Impen'nates, Lat. *in* and *penna*, a wing. Swimming birds having short wings, as the penguin.

Imper'fect, not perfect, deficient. Applied: 1. In *grammar*, to a tense which expresses time indefinitely.——2. In *botany*, to flowers wanting anthers or pistils, or both.——3. In *music*, to incomplete chords and intervals.

Impe'rial (Fr.). In *architecture*, a species of pointed dome.

Impetra'tion, from *impetro*. A term in *law* for the obtaining of anything by request or prayer. In *old statutes*, it signifies the pre-obtaining of benefices, from the Court of Rome, which belonged to the King or other lay-patron of the realm.

Im'petus. In *mechanics*, the force with which one body in motion strikes another; also the force with which any body moves towards any point.

Implica'tion, Lat. *implico*, I involve. In *law*, an inference necessarily arising from something declared.

Implu'vium (Lat.). In *ancient architecture*, the outer part of the court of a house, exposed to the weather.

Impo'se, from *impono*. 1. In *printing*, to *impose a form*, is to put it on the *imposing-stone*, fit on the chase, and thus prepare it for the press.——2. Legislators *impose* taxes, duties, and other burdens on the country, many of which are vexatious, and yield no return to the revenue.

Imposi'tion of Hands, Lat. *impono*, I place upon. In *ecclesiastics*, the sign and seal of Confirmation and Ordination to the Ministry and to Deaconship.

Impos'sible. In *algebra*, the same as *imaginary* (q. v.),

Im'post. 1. A duty imposed on goods imported.——2. The layer of stone which crowns a door-post, pier, or the like, and which generally projects and is ornamented with mouldings.

Impregna'tion. 1. The act of fecundating: applied to plants and animals.——2. In *pharmacy*, the communication of the virtues of some particular substance to a medicine, whether by mixture, coction, or digestion.

Impress'ing, } is a compulsory and
Impress'ment, } iniquitous mode of obtaining seamen for the Navy. All seafaring men are liable to be impressed, unless specially protected by custom or statute.

Impres'sion. 1. A copy obtained in some plastic substance. Thus we take impressions of medals in wax; and impressions of organic bodies are abundant in the strata of the earth's crust.—— 2. An edition of a book, print, or the like, is called an *impression*, the mechanical part only being considered.

Imprima'tur (Lat.), *let it be printed*. The term applied to the privilege, which in some countries must be granted by a functionary, of printing and publishing a book.

Im'print, Fr. *imprimer*. The names of the place where, and by whom, and the time when a book is published, always placed at the bottom of the title-page. *See* Colophon.

Impro'per Frac'tion. In *arithmetic*, a fraction whose numerator is equal to or greater than the denominator.

Impropria'tion, from *in* and *proprius*. The putting of an ecclesiastical benefice into the hands of a layman, thence called an *impropriator*; also, the benefice so impropriated.

Improvisato'ri (Ital.), persons who compose and recite verses extemporaneously. Improvisatori are common in Italy and Spain; and although their verses are generally within the range of mediocrity, the readiness with which they are produced never fails to excite astonishment in people of less flexible intellect and colder fancy.

Im'pulse, from *impulsus*. Communicated force; the effect of one body impinging against another.

Inarch'ing. In *gardening*, a method of grafting, usually called grafting by approach.

Inaugur'ation, Lat. *inaugurare*, to take omens. Synonymous with the consecration of a prelate, or the coronation of a king. It means also an introduction to any office with certain ceremonies.

In Autre Droit, (Fr., for "in another's right"), is where executors or administrators sue for debt or duty, &c., of the testator or intestate.

In'ca, the title given by the natives of Peru to their kings and princes of the blood, before the conquest of that country by the Spaniards.

Incanta'tion, Lat. *in* and *canto*, I sing. A form of words combined with certain ceremonies and mixtures of heterogeneous substances, anciently used for superstitious purposes.

Incarna'tion, from *in* and *caro*. A term in surgery for the healing up of wounds, and filling the part with new flesh.—In *theology*, the union of the Godhead with the manhood in Jesus Christ.

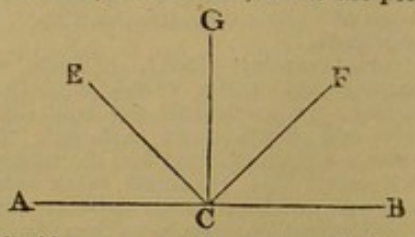
Incep'tive, Lat. *inceptivus*, from *incipio*. An epithet in grammar for verbs which express a proceeding by degrees in an action; also in mathematics for moments, which, though of no magnitude themselves, are yet capable of producing such. Thus a point is *inceptive* of a line, and a line is *inceptive* of a surface.

Incertum Opus. In *ancient architecture*, a species of walling composed of stones built in without any regularity of appearance.

Inch, Sax. *ince*. 1. A lineal measure, the 12th part of a foot, and equal to three barleycorns.——2. Used as a prefix to certain small Scottish islands, as Inch-Keith, being derived from the Gaelic *inis*, an island.

In'cidence, Lat *incidens*, from *incido*. The direction in which one body falls on or strikes on another. The angle which the direction of the falling or moving body makes with the plane struck, is called the *angle of incidence*, and is equal

to the *angle of reflection*. Thus ACE = BCF and ECG = FCG. Here also GC is the axis, EC the line, and C the point,

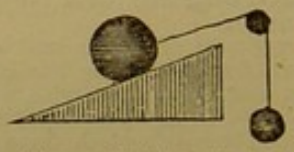


of incidence; sometimes termed the *incident* axis, line, or point.

Inci'sor, Lat. from *incido*, to cut; a cutting tooth. The four front teeth of both jaws are called *incisors*.

Inclina'tion, from *in* and *clino*, to lean. A term employed by mathematicians to denote the mutual approach, tendency, or leaning of two lines, planes or surfaces, towards each other, so as to make an angle at the point of their contact of greater or less magnitude. The *angle of inclination* is otherwise called the angle of incidence (*see* Incidence). The *inclination of the earth's axis* is the angle which it makes with the plane of the ecliptic. The *inclination of a planet* is the angle comprehended between the ecliptic and the plane of the planet in its orbit. For *inclination of magnetic needle* (*see* Dipping Needle).

Incli'ned Plane. In *mechanics*, a plane which forms with a horizontal plane some



angle less than a right angle. It is one of the simple mechanical powers, and its proportion is—Power : Weight : : Height of plane : Length of plane, or, P : W :: H · L. Whence $P = \frac{HW}{L}$ and $W = \frac{PL}{H}$

Incli'ners, a name for inclined or inclining dials, or such as are drawn on planes not perpendicular to the horizon.

Inclu'sa, a family of Mollusca: order *Acephala Testacea*. The mantle is open at the anterior extremity, or near the middle only, for the passage of the foot, and extended from the other end into a double tube which projects from the shell. Nearly all of them live buried in sand, stones, ooze, or wood.

Inclu'si or Reclu'si, Lat. *shut up*. A class of religious persons who lived in cells, under the obligation of not leaving them except in cases of extreme necessity.

Incombus'tible, not combustible. Applied in chemistry to bodies neither capable of supporting combustion nor of undergoing combustion. Only one such substance is at present known, namely, *nitrogen*. Cotton and linen fabrics are said to be *incombustible* when they are rendered incapable of taking fire, or of burning with flame, by being imbued with some preparation, as alum, sal-ammoniac, &c.; and incombustible cloth and paper have been manufactured from the fibrous mineral called amianthus.

Incommen'surable, not commensurable. *I. lines* are such as have no common measure. Thus the diagonal and side of a square are incommensurable, being to each other as $\sqrt{2}$ to 1.—*I. numbers* are such as are prime to each other, or have no integral common measure greater than 1.

Incompa'tibles. In *chemistry*, such substances as cannot exist together in solution without mutual decomposition.

Incomple'te, Lat. *incompletus*, not complete. Applied to flowers which want either the cup or blossom.

In'crement, Lat. *incrementum*, increase. Used in fluxions to designate the finite increase of a variable quantity. Dr. Brook Taylor, to whom we are indebted for the Doctrine of Increments or Finite Differences, denoted his increments by a dot under the variable quantity: thus the increment of x was denoted by $\dot{x}$; others have employed an accent, thus x' or $,x$. M. Nicole employed another letter, as $\overset{*}{x}$; but Euler who seems to have given a permanent form to this branch of analysis, employs the character Δ; thus Δx = increment of x.—In *rhetoric*, a species of climax rising from the lowest to the highest.

Incrusta'tion (Fr.). In *architecture* and *sculpture*, work fixed with cement into notches made to receive it.

Incunab'ula, Lat. *a cradle*. A term applied to books printed before the year 1500.

In'cus, Lat. *anvil*. The largest bone of the tympanum of the ear, thus named from its shape.

Indecli'nable, not declinable. Applied to words (nouns), not varied by terminations.

Indefea'sible. In *law*, that cannot be defeated.

Inder'inite. In *logic*, an *indefinite proposition* is one which has for its subject a common term, without any indication whether it is distributed or not.—In *botany*, when stamens are above twenty in number, or in other cases when their number cannot be readily counted.

Indehis'cent, Lat. *in* and *dehisco*, to gape. Applied to a fruit, of which the pericarpium continues closed when the fruit is ripe.

Inden'ture, a writing containing a contract, as of apprenticeship. Inden-

tures were formerly duplicates laid together and indented, so that the two papers or parchments corresponded to each other. But the indenting is now rarely done, though the writings or counterparts retain the name of *indentures*.

Indepen'dents, a sect of Protestant dissenters, who maintain that every congregation of Christians is a complete Church, subject to no superior authority, and competent to perform every act of government in ecclesiastical affairs.

Indeter'minate, not determined. An *indeterminate quantity* is one whose value is not determined. An *indeterminate problem* is one which admits of many solutions, and that branch of algebra which investigates the nature and properties of such problems, constitutes *indeterminate analysis*.—In *botany*, when a stem is never terminated by a flower, or any other organic cause of stopping its growth.

In'dex, a pointer. 1. In *anatomy*, the forefinger.——2. In *algebra*, the same as *exponent* (q. v.).——3. In *literature*, an alphabetical table of the contents of a book.——4. In *music*, a direct.——5. The *index of a globe* is the little style or gnomon fitted on the north pole, which, by turning with the globe, serves to point to certain divisions of the hour circle.

Index Expurgato'rius, a catalogue, published annually at Rome, of works which the Church of Rome condemns as heretical.

Index of Refrac'tion. In *optics*, is the constant ratio which exists between the sines of the angles of incidence and refraction.

Indian Ink, a substance composed of lampblack and glue, and used for water colour.

Indian Oak, the Teak-wood (*Tectona grandis*), an East Indian tree.

Indian Red, a variety of ochre. It is a fine purple earth of compact texture and great specific gravity.

Indian Rubber, a name for *caoutchouc* (q. v.), because used for rubbing out pencil marks, &c. The *Indian rubber tree* is the *ficus elastica*, a tree common in the East Indies.

Indian Wheat, the Zea mayz, or Indian corn. *See* Maize.

Indica'tor, from *index*. An extensor muscle of the forefinger In *ornithology*, a genus of birds of the cuckoo tribe.

Indic'ative, from *indico*. The name in grammar for the first mood of a verb by which we simply affirm, deny, or indicate something.

Indica'vit (Lat.), *he has shown*. In *law*, a species of the writ of prohibition.

Indic'tion, from *indico*. A term in chronology for a cycle of fifteen years, instituted by Constantine the Great, originally a period of taxation. The origin is thus stated:—Constantine having reduced the time which the Romans were obliged to serve in the army to fifteen years, imposed a tax or tribute at the end of that term to pay the troops discharged. The practice introduced the keeping of accounts by this period; and ultimately the Council of Nice ordained that accounts of years should no longer be kept by olympiads but by indictions, and fixed A.D. 313 as the commencement. At the reformation of the calendar, the year 1582 was reckoned the 10th year of the indiction, and as 1582 divided by 15, gives a remainder 7, which is 3 less than the indiction, the same must hold in all subsequent years. Hence to find the indiction for any year, divide the date by 15, and the remainder increased by 3 is the indiction. Thus for the year 1842 we have $\frac{1842}{15} = 122\frac{12}{15}$; therefore $12 + 3 = 15$ is the indiction.

Indict'ment, from *indico*. A written accusation or formal charge of a crime or misdemeanor, preferred by a grand jury, under oath to a court; also the paper or parchment containing the charge.

In'digo, the drug which yields the beautiful blue dye known also by the name of *indigo*. It is obtained by maceration in water of certain tropical plants; but the indigo of commerce is almost entirely obtained from leguminous plants of the genus *Indigofera*: that cultivated in India being the *I. tinctoria*, and that in America, the *I. anil*. Some species of the *Isatis*, *Nerium*, and *Polygonum*, also afford indigo in small quantity.

Indigof'era, indigo-bearing plants. An extensive genus. *Diadelphia—Decandria*. Many of the species are cultivated for the manufacture of indigo.

In'digogen, reduced or deoxidised indigo. It is a white substance soluble in alcohol and alkalis, but not in water or acids.

Indigom'etry, the method of finding the colouring power of indigo. This is effected by finding the amount of chlorine necessary to discolour a given quantity of the indigo.

Individ'ual. In *fine arts*, what is proper or peculiar to a single object.

Indivis'ibles. In *geometry*, those small elements or principles into which any body or figure may be resolved. According to the method of indivisibles, a line is said to consist of contiguous points, a surface of contiguous lines, and a solid of contiguous surfaces, all of which are regarded as indivisible elements.

Indorse' from *in* and *dorsum*, the back. To write on the back of a deed or other written instrument; hence also to assign by writing an order on the back of a note or bill. He who writes the *indorsement*

is the *indorser*, and in cases of promissory notes, &c., makes himself liable to pay the full amount of the note to the *indorsee*, or person to whom the note is indorsed.

INDU'CEMENT. In *law*, a statement of facts alleged by way of introduction to other material facts.

INDUC'TION, from *induco*. 1. The introduction of a person into office by the usual forms and ceremonies, chiefly applied to the introduction of clergymen to benefices, &c.——2. In *logic*, the drawing of a general inference from a number of facts; opposed to *deduction* wherein the inference is drawn from a single fact. Hence that kind of philosophical reasoning which ascends from particular facts to general principles, and illustrates those principles by particular applications, is termed *inductive reasoning*, and the science founded upon it constitutes *inductive philosophy*.

INDUL'GENCE. In the *Romish church*, remission of the punishment due to sins, granted by the pope or church, and supposed to save the sinner from purgatory. The theory of indulgences is this: all the good works of the saints, over and above those which were necessary for their own salvation, are deposited, together with the infinite merits of Jesus Christ, in one inexhaustible treasury, the keys of which were as a matter of course intrusted to St. Peter and his successors the popes, who may open it at pleasure, and by transferring a portion of this superabundant merit to any particular person for a sum of money, may convey to him either the pardon of his own sins or release from the pains of purgatory for any one in whom he is interested. We owe the scheme to Pope Urban II., who issued letters of indulgence to such as went in person upon the glorious enterprize of conquering the Holy Land.

INDU'SIUM, Lat. *indus*. A cup surrounding the stigma of Goodeniaceous and other plants. Also the membrane covering the thecæ in dorsiferous ferns.

INEQUAL'ITY. In *astronomy*, any deviation of a planet from its mean motion.

INÆQUILAT'ERAL, } Not equilateral.
INEQUILAT'ERAL. } Having unequal sides. Applied to geometrical figures, &c.

INEQ'UIVALVE, } Not equivalvular.
INEQUIVAL'VULAR. } Having unequal valves. Applied to bivalve shells where one valve is more convex than the other.

INER'MOUS, Lat. *inermis*, unarmed. Opposed to *spinous* in describing leaves.

INER'TIA, Lat. from *iners*. The passive property of bodies, by which they persist in a state of rest or motion, and receive motion in proportion to the force impressed on them, and resist as much as they are resisted; called also in the language of philosophy, *vis inertia*.

INESCUTCH'EON. In *heraldry*, a small escutcheon borne within a shield.

IN ES'SE (Latin), in actual being or existing. Distinguished from *in posse*, which denotes that a thing *may be*, a law phrase.

IN'FAMY. In *law*, the loss of character. The term comprehends all degrees of public disgrace by which a person is rendered incapable of being a witness or juror.

IN'FANT. In *law*, a person under the age of 21 years.

INFAN'TA, } A title in Spain and Portugal
INFAN'TE. } for all princes and princesses of the blood royal, except the eldest when heir apparent to the crown. The dignity of the title consists in styling them *the children*, by way of eminence. In other parts of Europe, the eldest son and daughter have also been so titled by way of eminence over the other children.

IN'FANTRY, the whole body of foot-soldiers of an army. The name originated from one of the Spanish infantas, who, finding that the Moors had defeated the army under the king, her father, assembled a body of foot soldiers, with which she totally routed the enemy. In memory of this, and to distinguish the foot soldiers, who were not before much esteemed, they received the name of *infanteria*, whence *infantry*.

INFEC'TION, from *inficio*; the communication of the poison of disease to a healthy body. The words *contagion* and *infection* are frequently confounded. The first is properly the virus or effluvium generated in a diseased body, and capable of producing the specific disease in a healthy body, by contact or otherwise. *Infection*, on the other hand, is anything that taints or corrupts; hence it includes contagion, and any other noxious matter which excites disease in a healthy body.

INFE'RIOR. In *botany*, when the calyx is distinct from the ovarium.

INFER'NAL MACHINE, a name which has been given to a clumsy apparatus for the purposes of assassination. The most memorable is that constructed by Fieschi, of a number of gun barrels arranged in a frame, so as to be fired off at once. It was used on the 28th of July, 1835, against Louis Philippe and his suite, while reviewing the national guards. The king and his sons escaped, but sixteen of his suite were killed, and many wounded. Fieschi, who was immediately apprehended and subsequently executed, was himself wounded by the bursting of some of the barrels.

INFILTRA'TION, from *filter*. The diffusion of fluids through the interstices or pores of a body.

IN'FINITE, Lat. *infinitus*, without limits. Applied to quantities which are greater or less than any assignable quantities. The term is also used in the sense of *indefinite*,

to denote a line or quantity to which no certain limits can be prescribed.

Infinites'imal, an *infinitely small quantity*, or one which is so small as to be incomparable with any finite quantity whatever.

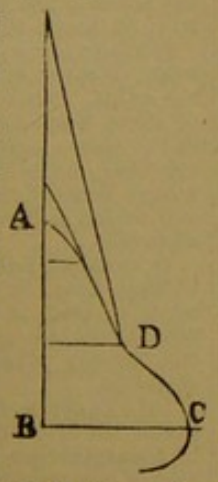
Inflam'mable. *I. air* is an old name for hydrogen gas; and *heavy inflammable air*, for carburetted hydrogen gas.

Inflamma'tion, from *inflamma*. 1. The act of inflaming.——2. A state of a part of an animal body in which the blood is obstructed, so as to accumulate in greater quantity into that particular part, causing there a higher degree of colour and heat than usual. A vast number of diseases resolve themselves into cases of local inflammation, either external or internal, and which often arise in the human body from causes wholly unknown. The most common excitants are cold, morbid poison, mechanical and chemical irritants, acrimony of the blood and humours, contagion and metastasis.

Infla'ted, Lat. *inflatus*, distended with air. In *botany*, applied to parts of plants which are distended like a blown bladder.

Inflec'ted, Lat. *inflexus*. bent inwards. In *botany*, applied to leaves, petals, &c.

Inflec'tion, from *inflecto*, a bending inwards. In *grammar*, the variation or change which a word undergoes in its termination to express case, number, gender, tense, &c.—In *optics*, inflection has the same meaning as *diffraction*, *deflection*, viz., a property of light by which, when it comes within a certain distance of any body, it is either bent from or towards it. It is, therefore, a kind of imperfect reflection or refraction.—In the *higher geometry*, that point where a curve begins to bend a contrary way, is called the *point of inflection*. Thus a curve line A D C is partly concave and partly convex towards a right line A B, or towards a fixed point D, which divides the concave from the convex part, and is consequently at the beginning of the one and the end of the other; this point D is then the point of inflection, as long as the curve continued towards D keeps its course, but at the point C, the curve begins to reflect back again towards the line of its origin: this point is therefore called the *point of retrogression*.



Inflores'cence, Lat. *inflorentia*, from *inflores'co*, to flower. A botanical term introduced by Linnæus to denote the manner in which flowers are situated upon a plant: denominated by preceding writers *modus florendi*, or manner of flowering. It is *pedunculate* when furnished with a stalk, *sessile* when adhering to the plant without a flower-stalk, *cauline* when on the stem, *rameal* when on a branch, *terminal* when on the apex of a stem or branch, *axillary* in the axilla, *foliar* on the surface of a leaf, *radical* on the root, and *latitant* when concealed in a fleshy receptacle. It has also many names, as whorl, raceme, spike, corymb, fascicle, tuft, umbel, cyme, panicle, bunch, &c.

Influen'za, an Italian word for *influence*. Used to denote epidemic catarrh, which in old times was supposed to be produced by a peculiar influence of the stars.

In Fo'ro Conscien'tiæ (Lat.), in the court of the conscience.

In For'ma Pau'peris. In *law* (*see* Forma Pauperis).

Infor'mes Stel'læ (Lat.), unformed stars. Those stars which have not yet been reduced into constellations: otherwise called *sporades*.

Infralapsa'rians, a general name for those predestinarians who think the decrees of God, in regard to the salvation and damnation of mankind, were formed in consequence of Adam's fall.

Infrascap'ular, subscapular; situated beneath the scapula.

Infraspi'nate, situated beneath the spine. Applied to a muscle of the humerus situated below the spine of the scapula.

Infu'sion, from *infundo*, the name given in pharmacy to any preparation made by pouring water of any temperature on such substances as have a loose texture, as thin bark, wood in shavings or small pieces, leaves, flowers, &c., and suffering it to stand for a certain time. The term *infusion* is applied both to the liquor and process of preparing it.

Infuso'ria. *Infusory animals*, a class of the animal kingdom, comprehending those animalcules which are found in infusions of organic substances. They are divided into two orders, the Rotifera and Homogenea.

In'got, Fr. *lingot*. A mass of uncoined gold or silver cast in a mould.

Ingraft'ing. In *gardening* (*see* Grafting).

In'gress. In *astronomy*, a term applied to the entrance of the moon into the earth's shadow in eclipses, and to the sun's entrance into a sign, especially Aries.

Ingres'su. In *law*, a writ of entry: termed also *præcipe quod reddat*.

Ingres'sus. In *law*, a duty paid by the heir to the lord of the fee on entering upon lands.

Inher'itance, from *hæres*, an heir. A perpetual right in lands invested in a person and his heirs.

Inhibi'tion. In *law*, prohibition: a writ to forbid a judge from further proceedings in a cause depending before him. In *Scots law*, a writ of diligence obtained by a creditor against his debtor, prohibiting him from selling or contracting debts upon his estate to the creditor's prejudice.

In'is, an Irish word denoting an island; as Iniskilling, &c.

Ini'tiative, Lat. *initium*, a beginning. In *politics*, that branch of the legislature which has the right to propose measures. Thus, in England, all bills for taxing the subject, must originate with the Commons; some private bills, by custom, have the initiative with the Lords; and one, viz., that for a general pardon, begins, in the first instance, with the Crown.

Injec'tion, from *in* and *jacio*. 1. A medicated liquor, to be thrown into a natural or preternatural cavity of the body, by means of a syringe.——2. A liquid thrown into the vessels of the dead body, to display them more distinctly.——3. The cold water thrown into the condenser of a steam-engine, to condense the steam, is called *injection-water*, and those steam-engines in which the steam is condensed in this way are called *injection-engines*. Most condensing engines at present in use are of this kind.

Injunc'tion, from *injungo*, a command. In *law*, a prohibitory writ, restraining some act that appears against equity: mostly issued by Chancery.

Ink, any liquor or pigment used for writing and printing on paper, &c. There are various sorts; as (1.) *Indian* or *China ink*, composed of lamp-black and size. (2.) *Printer's ink*, composed of burned linseed oil and lampblack (or some coloured pigment, if a coloured ink be wanted). (3.) *Common writing ink* is (partly) a gallate of iron, formed by adding an infusion or decoction of gall-nuts to sulphate of iron in solution. (4.) *Red ink* is made by infusing Brazil-wood in weak vinegar for some days. (5.) *Gold* and *silver inks* are made by grinding gold or silver leaf with white honey till they be reduced to the finest possible division. (6.) *Sympathetic ink*. The best is hydrochlorate of cobalt.

Ink'-bag, a bladder-shaped sac found in some species of cephalopods, containing a black and viscid fluid, resembling ink, by ejecting which, in cases of danger from enemies, they are able to render the surrounding water opaque, and thus to conceal themselves. Examples of this contrivance may be seen in the *Sessia vulgaris*, and *Loligo* of our seas.

Ink'le, a sort of broad linen tape, principally manufactured at Manchester.

In'laying, the operation of ornamenting work with thin pieces of differently coloured material, by inserting them into a prepared ground. Articles of cabinet work are often inlaid, and mosaic work is altogether a process of inlaying.

In Lim'ine (Latin), at the threshold; before anything is said or done.

In'n, Sax. *inn*. 1. A house of entertainment for travellers. —— 2. A college of municipal or common law professors and students; formerly the town-house of a nobleman, bishop, or other distinguished personage, in which he resided when he attended the court. *Inns of Court*. There are four principal colleges of this name; viz., the *Inner Temple* and *Middle Temple*, anciently the habitation of the Knights Templars; *Gray's Inn*, anciently the manor-house of baron Gray, in the reign of Edward III.; and *Lincoln's Inn*, originally the dwelling-house of Henry Lacy, earl of Lincoln. The *Inns of Chancery* are eight. (1.) *Barnard's Inn*, which once belonged to Dr. Mackworth, dean of Lincoln, and in the possession of one Lionel Barnard. (2.) *Clement's Inn*, once a messuage belonging to the parish of St. Clement Danes. (3.) *Clifford's Inn*, the dwelling-house of the Cliffords, earls of Cumberland. (4.) *Furnival's Inn*, once the mansion-house of Sir Richard Furnival. (5.) *Lyon's Inn*, once a private house known by the name of the Black Lion. (6.) *New Inn*, once the dwelling-house of Sir J. Tyneaulx. (7.) *Staples' Inn*, which formerly belonged to the merchants of the Staple. (8.) *Thavie's Inn*, anciently the dwelling-house of John Thavy, armourer of London. These are subordinate to the inns of court, from which alone students can be called to the bar.

In'nate Ide'as. In *metaphysics*, ideas or principles supposed to exist in the mind from the first moment of its existence, and to be developed along with it. Locke has taken much pains to refute this doctrine of innate ideas.

Innomina'tum, Os, a large irregular bone, situated at the side of the pelvis of the adult. It is so called, as being formed of three bones to which names are given in the young subject, but which growing together, form one complete bone, to which none of the names are applicable, and which is therefore left innominate or nameless.

Innuen'do, Lat. from *innuo*, to nod. An oblique hint, or distant reference. The term is used in declarations and law-pleadings, to ascertain or point out the precise person when otherwise left doubtful.

Inoc'ulation, from *inoculo*, to bud, from *oculus*, an eye. 1. In *surgery*, the practice of transplanting the small-pox, by infusion of the matter, from ripened pustules, into the veins of an uninfected person, with a view to producing a milder case of the disease than when taken naturally. After the discovery of the preventive

power of the cowpox, smallpox inoculation gradually fell into disuse, and it is now felony for any medical practitioner to perform the operation.——2. In *gardening, see* BUDDING.

INOR'DINATE, Lat. *inordinatus*, irregular. E. g. *inordinate proportion* is where there are three magnitudes in one rank, and three others proportional to them in another, and they are compared in a different order. Thus, suppose the numbers are 2, 3, 9, and 8, 24, 36, and they are compared, 2 : 3 : : 24 : 36; and 3 : 9 : : 8 : 24: then, rejecting the mean terms, we have 2 : 9 : : 8 : 36.

INORGAN'IC, not organic. *Inorganic bodies* are such as have no organs of vitality, as the various minerals, and the chemical examination of these is called *inorganic chemistry*.

INOS'CULATION, from *in* and *osculum*, a little mouth. Anastomosis, or the union of the extremities of the vessels of organic bodies.

IN PRO'PRIA PERSO'NA (Latin). In one's own person or character.

IN'QUEST, from *in* and *quæro*, to seek. Judicial inquiry. An inquest of office is an inquiry made by the queen's officer, his sheriff, coroner, or escheator, concerning matters which entitle the Crown to possession of lands, tenements, &c. It is made by a jury of no determinate number.

INQUI'RY. A *writ of inquiry* is one issued to the sheriff, to summon a jury, to inquire what damages are due to a plaintiff in an action upon a case, where judgment goes by default.

INQUIST'TION, from *inquiro*. 1. An official examination; an inquest.——2. A court established in some Catholic countries, for the examination and punishment of heretics. This court was established in the twelfth century, by Father Dominic, who was charged by Pope Innocent III. with orders to incite the Catholic princes and people to extirpate heretics.

INROL'MENT, } In *law*, the registering,
INROLL'MENT. } recording, or entering upon the rolls of Chancery, Queen's Bench, Common Pleas, or Exchequer, or by the Clerk of the Peace in the Records of the Quarter Sessions, any lawful act, as a deed of bargain and sale of lands, &c.

INSAN'ITY, Lat. *insanitas*, from *in* and *sanus*, sound; derangement of intellect. The word is applicable to any degree of mental derangement, from slight delirium, to distraction, or madness; it is, however, rarely used to express the temporary delirium occasioned by fever or accident.

INSCRI'BE, from *inscribo*. 1. To draw a figure within another, so that all the angles of the figure *inscribed* track the angles, sides, or planes of the *circumscribing* figure.——2. An *inscribed hyperbola* is one which lies wholly within the angles of its asymptotes, as does the common or conical hyperbola.

IN'SECT, Lat. *insecta*, from *in* and *seco*, to cut. A class of articulated animals with articulated legs, breathing by lateral tracheæ extending parallel to each other, throughout the whole length of the body, and furnished with two antennæ and a distinct head. The name seems first to have been given to bees, and analogous insects, whose bodies appear as if almost divided or *insected*; but Linnæus extended the name to crustaceans and arachnides. Cuvier distributes the insects into twelve orders: (1.) Myriopoda. (2.) Thysanoura. (3.) Parasita. (4.) Suctoria. (5.) Coleoptera. (6.) Orthoptera. (7.) Hemiptera. (8.) Neuroptera. (9.) Hymenoptera. (10.) Lepidoptera. (11.) Rhipiptera. (12.) Diptera. Most insects pass through three stages of metamorphoses; the larva, the chrysalis, and perfect insect. *See* ENTOMOLOGY.

INSECTIV'ORA, a family of carnarian mammalia. They lead a nocturnal or subterraneous life, and live chiefly on insects: whence the name from *insect* and *voro*, to eat. The hedgehog, teneric, shrew, desman, and mole, are examples. Epithet *insectivorous*.

INSER'TED COLUMN. In *architecture*, a column standing, or apparently standing, partly in a wall.

INSIST', from *insisto*, to stand on. In *geometry*, an angle is said to *insist upon* the arc of the circle intercepted between the two lines which contain the angle.

IN SITU (Lat.), remaining in the original position.

INSOLA'TION, from *in* and *sol*, the sun; exposing to the action of the sun's rays. Chemical action is often promoted by insolation.

INSOL'VENT LAW, or *act of insolvency*, a law which liberates a debtor from imprisonment, or exempts him from liability to arrest and imprisonment on account of any debt previously contracted.—These terms may be regarded as generic, comprehending all bankrupt laws which protect a man's future acquisitions from his creditors; but in a limited sense, as the words are now generally used, an insolvent law extends only to protect the person of the debtor from imprisonment, on account of debts previously contracted.

INSTALLA'TION, from Ital. *installare*, to place. The putting in possession of an office, rank, or order, with the customary ceremonies. To *install* a clergyman, is to place over a particular church one who has been already ordained.

INSTAL'MENT. In *commerce*, a part of a sum of money to be paid at a particular time. In constituting a capital stock by subscriptions of individuals, it is custom-

ary to afford facilities to subscribers by dividing the sum subscribed into *instalments*, or portions, payable at distinct periods. In large contracts also, it is usual to agree that the money shall be paid by *instalments*, and a bankrupt who has obtained a settlement with his creditors, pays his composition by *instalments*.

In'stance Court, a branch of the Court of Admiralty.

Instant, contracted *inst.*, is used in correspondence, &c., for the current month. The distinction between inst. and curt. is this: *inst.* denotes that the day of the month named is past, and *curt.* that it is not yet arrived: e. g. I received your letter of the 3rd inst., and shall transmit the draft on the 12th curt.

Instan'ter, a Latin word for *instantly*. A term in law for signifying that something is to be done at the present time or without delay.

In Sta'tu Quo (Lat.), in the state in which it was.

Instaura'ta Ter'ra (Lat.), land ready stocked.

Instau'rum Eccle'siæ (Lat.), utensils of a church.

In'stitute, Lat. *institutum*. 1. A maxim, precept, principle, or established law. In this sense the term is used in the plural, as the title of a book containing the elements or principles of the Roman law.—— 2. In *Scots law*, when a number of persons in succession hold an estate in tail, the first is called the *institute*, and the others *substitutes*.——3. Societies established according to certain laws or regulations for the furtherance of some particular object, such as colleges, or seminaries for the cultivation of the sciences, are termed *institutes*, sometimes *institutions*. Thus we have Mechanics' Institutes, Literary Institutes, &c.

In'sulate, from *insula*, an isle. 1. To free from all combination. Some acids, as the fulminic, have not been *insulated*. ——2. To detach from connexion with surrounding objects. A column which stands alone, and a body which is surrounded by non-conductors of electricity, are said to be *insulated*.

Insula'tion, a term applied chiefly in electrical experiments to denote the state of a body surrounded by non-conductors. The common *insulators* are glass, lac, silk, &c.

Insu'rance, or Assu'rance, a contract by which one or more persons called *insurers* or *assurers*, for a stipulated *premium*, engage to make good any loss which another may sustain by fire, shipwreck, or other cause, specified in the *policy* of insurance. When the insurance is made against risk at sea, it is distinguished by the name of *Marine Insurance*, and the insurer is called an *underwriter*. Policies for lives constitute another description of insurance, whereby a person, for a certain annuity, insures to his heirs a certain sum payable at his decease. Insurances of this kind are often made for a specified number of years, and instead of an annual premium, a single sum may be paid, depending in amount upon the age of the party upon whose life the insurance is made.

Intagl'io, Ital. from *intagliare*, to carve; anything with figures in relief on it. Antique gems are frequently engraved in *intaglio*, and are hence called *intaglios*.

In'teger (Lat.), the whole of anything. In *arithmetic*, whole numbers are called *integers*, in contradistinction to *fractions*.

In'tegral Calculus. *See* Calculus.

In'tegrant, making part of an *integer* or whole. The *integrant particles* of a body are those into which it is reducible by mechanical division or solution: distinct from *elementary particles*.

Integ'ument, Lat. *integumentum*, that which covers, from *intego*, to cover. Chiefly used in anatomy for any covering which invests a body or particular part. The skins of seeds are also termed *integuments*, as are also the coats of the eye, &c.

Intendant, Fr. from Lat. *intendo*. One who has charge or management of some public business. *Intendant* has the same signification in France, that *superintendent* has in England.

Intend'ment, Fr. *intendement*, intention or true meaning. In the application of statutes, &c., the *intendment* of the same is to be ascertained, i. e. the true intention of the legislator.

Inter'calary, Lat. *intercalarius*, something inserted, from *inter* and *calo*, to call or proclaim. The 29th day of February in leap year is an *intercalary day*, and it was common in adjusting the old calendars to make *intercalary lunations*. These *intercalations* were declared and ordered by proclamation.

Intercep'ted Axes. In *conic sections* (*see* Abscissa).

Intercel'lular Passages. In *botany*, the spaces between the cells, tubes, or vessels, of which the tissue consists.

Intercolumnia'tion, from *inter* and *column*. The space between two columns, measured from the place where they are of equal thickness. Vitruvius enumerates five different properties of intercolumniation, by the names of Pycnostyle, Systyle, Diostyle, Araeostyle, and Eustyle.

Int'erdict, from *inter* and *dico*, to speak. A prohibition forbidding the performance of some act, originally a sort of ecclesiastical censure, by which the Pope forbade the performance of divine service in a kingdom, province, town, &c. England was placed under *interdict* by Pope Alexander III.

In'terest. In *commerce*, the allowance made for the loan or forbearance of a sum of money which is lent for, or becomes due, at a certain time. It is always in regular transactions so much per cent., and is either *simple* or *compound*. It is simple when it arises upon the principal only for the whole time of the loan, and compound when the interest as it becomes due remains unpaid and is perpetually accumulating, as stock bearing interest like the original principal. In *arithmetic*, the rule by which interest is computed.

Interfer'ence. In *optics*, a term employed by Dr. Young to express certain phenomena resulting from the mutual action of the rays of light.

In'terim (Latin), in the mean time.

Interloc'utor, Lat. *interloquor*. In *Scottish law*, a judgment of a court on some intermediate question, before the final judgment is passed. In *literature*, a person who takes part in a dialogue.

In'terlude, from *inter* and *ludus*, play. An entertainment exhibited on the stage between the acts of a play, or between the play and the afterpiece, to amuse the audience while the actors take breath, shift their dresses, &c.

Interlu'nary, from *inter* and *luna*, the moon. An epithet for the time when the moon about its change is invisible; called *interlunium* by the old astronomers.

Interme'de or Intermezzo. Nearly the same as interlude. A short musical piece, generally burlesque.

Interme'diate. In *chemistry*, a substance which is the *intermedium* or means of chemical affinity, as an alkali, which renders oil combinable with water.

Intermodil'lion, the space in architecture between two modillions.

Internun'cio, from *inter* and *nuncius*, a messenger. A messenger between parties.

Interos'seous Muscles, small muscles between the bones of the hand and foot, for moving the fingers and toes.

Interpilas'ter. In *architecture*, the space between two pilasters.

Interplea'der. In *law*, a bill of interpleader in chancery is where a person owes a debt or rent to one of the parties in suit, but till the determination of it he knows not to which, and he desires that they may *interplead* or settle their claims between themselves, that he may be safe in the payment.

Interpola'tion, from *inter* and *polio*. Something put into the original matter. The term is used in mathematical analysis for the methods by which any intermediate term in a series may be found, its place from the first term being given.

Interreg'num, Lat. from *inter* and *regnum*, reign. The time during which a throne is vacant between the death or abdication of a sovereign and the accession of his successor. In strictness an interregnum can only happen in governments where the sovereign is elective; for in hereditary kingdoms, the reign of the successor commences at the moment of his predecessor's death. The term has, however, been used somewhat loosely.

In'ter-rex, a person appointed to discharge the royal functions during a vacancy of the throne.

Interrupted, Lat. *interruptus*, divided. Applied to compound leaves when the principal leaflets are divided by intervals of smaller ones; also to spikes of flowers where the larger spikes are divided by a series of smaller ones. A stem is sometimes interrupted by the intervention of leaves or smaller sets of flowers.

Interscen'dent, Lat. *inter* and *scando*, I climb. In *algebra*, quantities, the exponents of whose powers are irrational. They are a mean as it were between algebraic and transcendental quantities, whence the name.

In'ter-ties, short pieces of timber used in roofing, to bind upright posts together in roof partitions, in lath and plaster work, and in walls with timber frame-work.

Intertransversa'les. In *anatomy*, four small bundles of muscular fibres which fill up the spaces between the transverse processes of the vertebræ of the loins, and serve to draw them towards each other.

In'terval, from *inter* and *vallum*, a wall; a void space between two objects. The term is technically applied in music to the difference between the number of vibrations produced by one sonorous body of a certain texture and magnitude, and of those produced by another of a different texture and magnitude in the same time. The ancients divided the intervals into simple or uncomposite, which they called *diastems*, and composite intervals, which they called *systems*. Modern musicians consider the *semitone* as a simple interval, and only call those composite which consist of two or more semitones.

Interver'tebral, situated between the vertebræ. Thus the *intervertebral muscles* hold the vertebræ together.

Intes'tine, Lat. *intestinus*, from *intus*, within. Internal. The *intestines* are the convoluted canal or tube extending from the right orifice of the stomach to the anus. The whole length of this tube in the human subject is about six times that of the body. The *small intestine* comprises the upper four-fifths of the tube, and the *large intestine* the remaining fifth. The parts in their order downwards, are the *duodenum*, the *jejunum*, the *ileum*, the *cæcum*, the *colon*, and the *rectum*.

Intona'tion, from *in* and *tono*, to sound. A term in music for the action of sounding the notes of the scale with the voice,

or any other given order of musical tones. ——2. The manner of sounding the notes of a musical scale. In this sense the word is always accompanied by an epithet, as sharp, flat, &c.

Intrafolia'ceous, Lat. *intrafoliaceus*, without the leaves. Applied to stipulæ which are above the footstalk of plants, and internal with respect to the leaf.

Intra'dos (Italian). The internal curve of the arch of a bridge.

Intran'sitive, Lat. *intransitivus*, from *in* and *transeo*, to pass over. An epithet in grammar for a verb that expresses action that does not *pass over* to the object, but is limited to the agent.

In Tran'situ (Latin). In the act of passing or of transition.

Intrench'ment, properly a trench only: but as the earth thrown out of a trench forms a part, and often the most necessary and useful part of a fortification, the term is generally used to signify a ditch and parapet, and frequently fascines covered with earth, gabions, bags filled with earth and other materials collected to cover men from an enemy's fire.

Introsuscep'tion, from *intro*, within, and *suscipio*, to receive. The slipping of one portion of intestine within another. This accident gives rise to *iliac passion*.

In'troit, Lat. *introitus*, entry. In *ecclesiastical history*, the verses chanted at the entry of the congregation into the church.

Intui'tion, from *intuitus*, immediate knowledge. Knowledge not obtained by deductive reasoning; also the act whereby the mind perceives the agreement or disagreement of two ideas immediately by themselves without the intervention of any other, in which case the mind perceives the truth as the eye does the light, only by being directed towards it.

Intus-suscep'tion, from *intus*, within, and *suscipio*, to receive. 1. Introsusception (q. v.).——2. Nutrition, the interstitial deposition of particles, by which the existence of living bodies is sustained, and their waste supplied.

In'ula, a genus of syngenesious plants, mostly hardy perennials. Order *Polygamia superflua*. Name contracted from *helenium* (ἑλένιον), fabled to have sprung from the tears of Helen. The elecampane, flea-bane, and golden samphire, are British types. There are 26 exotic species known.

In'uline, a substance first extracted from the root of the *Inula helenium*, or elecampane. It is white and pulverulent like starch, and differs from this substance chiefly because its solution, when it cools, lets fall the inuline unchanged, in powder, whereas starch remains dissolved in the cold as a jelly or paste.

In Vacuo, in a vacuum, a void or empty space. *See* Vacuum.

Inverse', Lat. *inversus*, inverted: opposed to *direct*. *Inverse proportion* or *ratio* is when the effect or result of any operation is *less* in proportion as the cause is *greater*, or *greater* in proportion as the cause is *less*. Thus the time in which a quantity of work can be performed, will be *less* in proportion as the number of workmen is *greater*, and *vice versâ*. Also, in the case of light and heat flowing from a luminous body, the light and heat are less in proportion as the distance is great: the intensities are *inversely* as the square of the distance. The *inverse method of fluxions* is the method of finding the fluents of given fluxional expressions. It is the same as the integral calculus.

Inver'sion, from *in* and *verto*, to turn; change of order, so that the first comes last and the last first. Thus by inversion the antecedents of a proportion become the consequents and the consequents the antecedents; e.g., if a : b :: c : d, then by inversion b : a :: d : c. In *music*, a change of position, either of a subject or of a chord, constitutes an *inversion*; and in *grammar*, the same term is used to denote any change in the natural order of the words of a sentence.

Inver'tebral Animals. Animals destitute of a skull and vertebral column, for the protection of the brain and the spinal marrow.

Invert'ed Arch, an arch having its intrados below the centre, axis, or spring line. Inverted arches are much employed in the foundations of buildings, and are turned between piers, &c., to connect the whole together.

Inves'titure, from *invest*. A term in law for the open delivery of seisin or possession, anciently accompanied with a great variety of ceremonies.

Involucel'lum, Lat. In *botany*, the secondary involucrum surrounding one of the umbellules of an umbelliferous plant, or the florets of a capitulum.

Involu'crum (Lat.), a wrapper. 1. In *botany*, a leafy calyx or row of small leaves remote from the flower: applied chiefly to umbelliferous plants. It is *universal*, when at the base of the whole umbel, and *partial* when at the base of each partial stalk of the umbel.——2. In *anatomy*, a membrane which covers any part; also a name of the pericardium.

In'volute. In *geometry*, a curve conceived to be described by the extremity of a string unwinding itself from another curve about which it is lapped.

Involu'tion, from *in* and *voluo*, to roll; the infolding of parts. 1. In *algebra*, the raising of a quantity from its root to any given power. Powers are found from roots by *involution*, and roots from powers

by *evolution*.——2. In *grammar*, the insertion of one or more clauses or members of a sentence between the agent or subject and the verb.

Iod'ic Acid, an acid formed by the oxygenation of iodine. It is white and semi-transparent, of a strong acid and astringent taste, and destitute of smell. Its combinations are termed iodates.

I'odine, from ἰωδης, violet-coloured A simple body accidentally discovered in 1812, by De Courtois, a manufacturer of saltpetre at Paris, in the mother-waters of that salt. Its affinities for other substances are so powerful as to prevent it from existing in an insulated state. It occurs, combined with potassium and sodium, in many mineral waters, and strongly saline springs. This combination exists sparingly in sea-water, abundantly in many species of *fucus* or sea-weed, and in kelp made from them; in springs, in several marine molluscæ, such as the doris and oyster; in several polyparies and sea-plants; particularly in the mother-waters of the salt-works upon the Mediterranean sea, and it has been found in combination with silver in some ores brought from the neighbourhood of Mexico. It is economically procured from the mother-water of kelp, as furnished by those manufacturers of soap who employ this crude alkali. By pouring an excess of sulphuric acid upon that liquid, and exposing the mixture to heat in a retort, iodine rises in violet vapours, and condenses in the receiver into black, brilliant, soft, scaly crystals, resembling graphite or plumbago.

I'odo-nitric Acid, I'odo-phosphor'ic Acid, I'odo-sulphu'ric Acid. When sulphuric acid is dropped into a concentrated and hot aqueous solution of iodic acid, there immediately results a precipitate of iodosulphuric acid, possessed of peculiar properties. Analogous acids are produced by the action of the nitric and phosphoric acid on iodine. These acids act powerfully on the metals, and dissolve gold and platina.

I'odous Acid, an acid readily obtained by distilling equal parts of chlorate of potash and iodine. It contains less oxygen than the iodic acid.

Ion'ic Order. In *architecture*, an order invented by the Ionians as a medium between the masculine strength of the Doric and the feminine slenderness of the Corinthian. The capital has two spirals peculiar to this order, in imitation of ringlets of hair, and the cymation indicates locks hanging over the forehead, and the mouldings of the base represent the turn and shape of shoes worn by females when the order was invented. The body of the column is usually channelled with 24 gutters, and its length, with the capital and bases, is 25 modules.

Ipecacuan'ha, *Ipecacuan*. According to Decandolle, the term ipecacuanha implies in South America *vomiting root*; and therefore it is applied to the roots of very different species of plants. The genera which chiefly afford it are Viola, Cynachum, Asclepias, Euphorbia, Dorstenia, and Ruellia. The medicinal virtues of ipecacuanha depend on the quantity of hematine it contains.

Ip'se Dix'it (Lat.), he himself says.

Ip'so Fac'to (Lat.), by the deed itself.

Irides'cence, exhibition of colours like those of the rainbow (*iris*).

Irid'ium, a new metal procured from crude platinum, along with osmium, and thus named from *iris*, a rainbow, on account of the variety of colours which its solutions exhibit. Iridium is the most refractory of all the metals, and appears as a grey metallic powder.

Iron, Sax. *iren*, Scot. *irne*. The most useful and the most plentiful of all the metals. Its tenacity exceeds that of any other metal known, and it is the hardest of those which are malleable and ductile. Its ores are found in all parts of the world, in every mineral formation, and in every soil. Mineralogists enumerate 19 species or varieties, of which 10 are worked either for the sake of the iron which they contain, for use in a native state, or for extracting some principles from them useful in arts and manufactures; such are arsenical iron, sulphate of iron, sulphuret of iron, and chromate of iron. Iron in a state of carburet forms *plumbago*, *cast-iron*, and *steel*. It is reduced from its ores by the process of *smelting*, and run out of the furnace into sand-moulds of the pattern required, or simply into furrows made in sand: the large mass in the main furrow is termed by the workmen a *sow*, and the less masses *pigs*, and hence the general name of *pig* for *crude* iron. *Wrought* iron is again prepared from the pig-iron, by remelting and hammering, and this, heated in contact with a *cement* of ground charcoal and common salt, forms *steel*. The common iron ores of this country are carbonates of iron, principally found in the coal measures in connection with coal and limestone, both of which are necessary in the process of smelting.

Iron-clay, a basaltic mineral usually vesicular and of a reddish-brown colour.

Iron-flint, a silicate of iron found both massive and crystallised in six-sided prisms.

Iron Liquor, acetate of iron used as mordant by dyers, &c.

Iron-wood. In *botany*, a name common to all the species of the genus *Sideroxylon* (q. v.) The wood is of a reddish colour, and remarkable for its great spe-

cific gravity and hardness, in both of which it exceeds ebony. The species generally inhabit the southern parts of Africa: one occurs in New Holland.

IRRA'DIATION. In *physics* and *astronomy*, the apparent enlargement of an object strongly illuminated.

IRRA'TIONAL. In *algebra* and *arithmetic* applied to numbers or qualities, the roots of which are incommensurable with unity, and therefore cannot be accurately extracted. Thus $\sqrt{2}$ is irrational, as it cannot be expressed by a finite number.

IRREGULAR CADENCE. In *music*, one which does not end upon the essential chord of the mode in which a piece is composed.

IRRITABI'LITY, from *irrito*, to provoke. A property peculiar to muscles, by which they contract upon the application of certain stimuli, without a consciousness of action. Even when the body is dead, and the nervous sensibility gone, the irritability of the muscles remains till the organisation begins to be dissolved. This muscular irritability descends even to the vegetable kingdom, and gives a peculiarity to what are called *sensitive plants*. The muscular parts of the body have all the irritability of the system, with but little feeling, and that little owing to the nerves which enter into their substance, while nerves have all the sensibility of the system with no motion.

IS'AGON, from ισος, equal, and γωνια, an angle. A figure whose angles are equal.

IS'ATIS. 1. In *botany*, a genus of herbaceous plants. *Tetradynamia — Siliculosa*. The *I. tinctoria*, an indigenous biennial, affords the dye-stuff called *woad*, now well nigh being superseded by indigo.——2. In *zoology*, the arctic fox or *Canis lagopus*, Lin.

ISBRAN'IKI. In *ecclesiastical history*, a name of the Russian sect of Raskolniks.

ISCHIA'GRA, Lat. from ισχιον, the haunch, and αγρα, a seizure. A name for hip-gout, and also for neuralgia of the sacro-sciatic nerve.

IS'CHIAS, ισχιας, from ισχιον, the hip. A rheumatic affection of the hip-joint; the hip-gout.

IS'CHIUM, Lat. from ισχις, the loin. A bone of the pelvis of the fœtus, and a part of the os innominatum of the adult. *See* INNOMINATUM, Os.

ISCH'URY, from ισχω, to retain, and ουρον, the urine. A retention of the urine; distinct from *dysury*.

I'SINGLASS, for *ice-glass*, fish-glue. A manufacture almost peculiar to Russia. It is gelatine, nearly pure. Prepared from the air-bladders, or sounds of sturgeons, especially the great sturgeon (*Acipenser puso*, Lin.) fished on the shores of the Caspian Sea, and in the rivers which flow into it, almost entirely for the sake of its swim-bladder. The best is that made into little ringlets, &c.; the second is laid together like the leaves of a book; the third put up without care.

IS'LAMIS, } A term used by Mohamme-
IS'LAMISM. } dans to signify the *true faith*: Mohammedanism.

ISMAE'LIANS, a Mohammedan sect, from whom the famous assassins sprung in the 10th century.

ISOCHEI'MAL, from ισος, equal, and χειμα, winter. Of the same winter temperature. *Isocheimal lines* are those drawn through places having the same winter temperature.

ISOCHROMA'TIC, ισος, and χρωμα, colour. Having the same colours.

ISOCH'RONAL, } from ισος, equal, and
ISOCH'RONOUS, } χρονος, time. Equal time, performed in equal times. The vibrations of a pendulum are *isochronal*.

ISOD'OMUM, ισος and δομη, structure. In *ancient architecture*, a species of walling, in which all the courses were of the same height.

ISOGEOTHER'MAL, from ισος, equal, γη, the earth, and θερμος, warmth. Of equal terrestrial temperature. *Isogeothermal lines* are those divisions in the earth's crust which have an equal degree of mean annual temperature.

IS'OLATED, } from Ital. *isola*, an isle.
IN'SULATED, } An *isolated harbour*, is one of refuge built independently of the coast, and connected to it by a bridge, under which the shingle is allowed to pass.

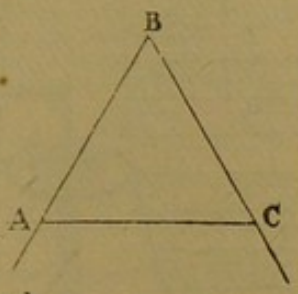
ISOM'ERISM, ισος, equal, and μερος, part. The condition of compounds which contain the same elements in the same proportion, and yet possess distinct chemical qualities. They are said to be *isomeric*.

ISOMOR'PHISM, from ισος, like, and μορφη, form. That quality of certain bodies, by which they are capable of replacing each other in compounds, without change of the primitive form.

ISOPERIM'ETRY, from ισος, equal, περι, about, and μετρον, measure. A branch of the higher geometry, which treats of the properties of *isoperimetrical figures*, i.e. surfaces contained under equal perimeters or boundaries.

ISOP'ODA, *isopods*. An order of Crustaceans characterised by having uniformly fourteen equal feet (ισος, equal, and πους, a foot), unguiculated, and without any vesicular appendage at their base. Most isopods are aquatic, and those which are terrestrial require a certain degree of humidity to enable them to breathe. Linnæus comprises them all in his genus *Oniscus*

Isos'celes, *ισοσκελης*, equal-legged; from *ισος*, equal, and *σκελος*, a leg. An *isosceles triangle* is one which has two equal sides; such is the triangle A B C. The angles at the base of such a triangle are equal, and if the legs be produced, the angles under the base are also equal.



Isoth'eral, from *ισος*, equal, and *θερος*, summer. Having the same summer temperature. *Isotheral lines* are those drawn on a map through places having the same summer temperature.

Isother'mal, from *ισος*, equal, and *θερμα*, heat. Having equal temperature. *Isothermal lines* are those drawn on a map through places having the same annual mean temperature. *Isothermal zones.* To avoid the confusion arising from the multiplicity of isothermal lines, geographers have grouped them into zones or bands. Thus the northern hemisphere is divided into six isothermal zones by Humboldt.

Isoton'ic, from *ισος*, equal, and *τονος*, tone. Having equal tones. In *music*, the *isotonic system* consists of intervals in which each concord is alike tempered, and in which there are twelve equal semitones.

Isth'mian Games, one of the four great national festivals of Greece, so called from being celebrated on the Isthmus of Corinth.

Is'suant, an epithet in heraldry for any beast issuing out of the bottom line of any chief or fess.

Is'sue, Fr. *issue*, Ital. *uscio*, a door. A term extensively applied both as a substantive and verb. Thus bankers *issue* paper-money, and regulate the amount of their *issues* by the circumstances of trade. A cause *issues* to the court, and finally *issues* in demurrer. Profits of land or other property, the legitimate offspring of parents, the point of matter depending in suit, &c., are all *issues* in legal phraseology. Surgical *issues* are little ulcers made designedly in various parts of the body, and kept open by the patient for some specific object.

Ital'ics, letters or characters first used in Italy, and which stand inclined, as *those in which this clause is printed.* They are often used, by way of distinction from Roman letter, to mark emphasis, antithesis, &c. To *italicise*, is to write or print in Italic characters.

Ital'ic School of Philosophy. The Pythagorean and Eleatic systems.

Ite. In *chemistry*, acids whose names terminate in *ous*, produce salts different from those whose names end in *ic*; and to indicate that a saline compound is formed by an acid ending *ous*, the termination *ite* is used; whereas *ate* is used when the acid terminates with *ic*. Thus the *sulphites* are formed by sulphurous acids with bases, and the *sulphates* by the sulphuric acid with the same bases. *See* Acid.

Ithas'as. The two great heroic poems of the Hindoos, the *Ramayana* and *Maha Bharata:* they are of great antiquity.

I'tis. This termination, added to the Greek name of an organ, implies *inflammation* of that organ; thus, *gastritis*, inflammation of the *stomach*.

It'tnerite. A rare mineral, which occurs massive, and in rhombic dodecahedrons, of a gray or bluish tint. It consists principally of silica, alumina, soda, and hydrosulphuret.

I'va, a genus of plants. *Syngenesia—Poly. necessaria.* The *I. frutescens* affords the Mexican quinquina, much celebrated in its native country as a febrifuge. This is a shrubby plant, but all the other species are annuals. Warm parts of America.

I'vory, Fr. *ivoire*. The name given to the tusks of the elephant and the walrus, and to the horn of the narwhal. It is an intermediate substance between bone and horn, containing about twenty-four per cent of gelatine. The hardest, toughest, and most translucent ivory is reckoned the best. It is readily distinguished from bone by its peculiar rhombohedral network, shown when the ivory is cut transversely.

I'vory Black, an animal charcoal, prepared by the calcination of ivory dust, used as the basis of the finer black pigments, ink for copperplate printing, &c.

Ivy-gum, a resinous juice which exudes from the stem of the ivy-tree, *Hedera helix*, in warm climates. It is imported from the East Indies, in compact reddish-brown masses.

Ix'odes, the name given by Latreille to a sub-genus of acari found in thickets, and fastening on dogs, oxen, horses, and other quadrupeds, from which they can only be detached by tearing out the part to which they adhere by their suckers, which they bury completely in the flesh. They are vernacularly named *ticks*, and are exceedingly plentiful in warm and dry seasons.

J.

J. A letter added to the English alphabet in modern days, and ranked as the tenth, being written in words where I was formerly used, and before vowels

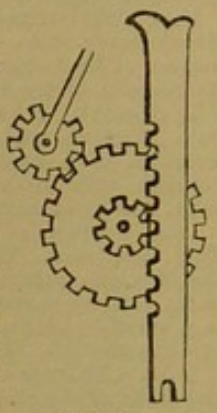
when *g* soft is required, as in *jet*, to distinguish from *get*.

JAC'ANAS, a genus of birds. Order *Grallatoriæ*. Distinguished by having four very long toes, separated down to their root, the nails of which are extremely long and pointed, a circumstance which has procured for them the vernacular name of *surgeons*. They are noisy and quarrelsome birds, and inhabit marshes in hot climates, where they walk with great facility, by means of their long toes

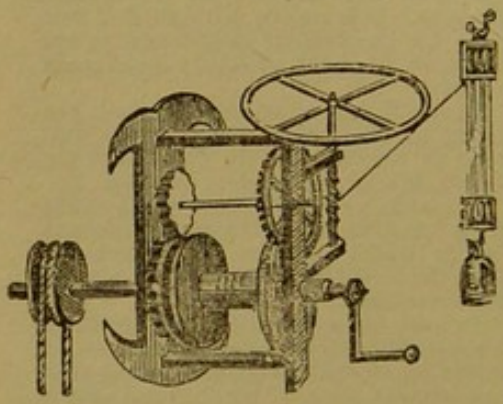
JACA-TREE, a name of the bread-fruit-tree of the East Indies. *See* ARTOCARPUS.

JA'CINTH, JACIN'THUS } *See* HYACINTH and HYACINTHUS.

JACK. 1. In *mechanics*, an instrument in common use for raising great weights, being a powerful combination of teeth and pinions, and the whole inclosed in a box. The power is applied by a winch or handle. The figure represents the machine without the frame.—The *kitchen-jack* is a machine in which the descent of a weight is made to turn a spit. The common worm-jack is shown in the figure. The

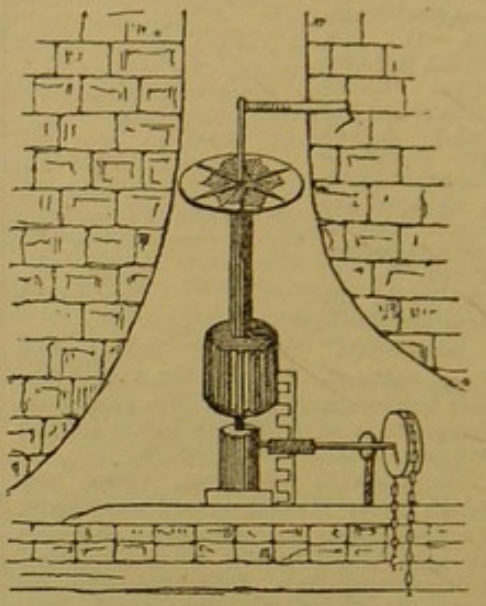


JACK.



KITCHEN-JACK.

smoke-jack is another contrivance for the same purpose as the common worm or kitchen-jack, but acting, not by a weight, but by means of the smoke passing up the chimney, which striking against a set of oblique vanes, fixed to a vertical spindle, causes it to revolve with great rapidity. This motion is conveyed to the spit by means of a small wheel, which works into another small wheel placed on the end of a horizontal spindle, having a pulley at the other end, over which passes the chain



SMOKE-JACK.

which works the spit. The name *jack* is very commonly applied to vibrating levers in various kinds of machinery, as in stocking-frames, &c.——2. In *navigation*, a sort of flag or colours displayed from the bowsprit. In the navy the jack is a small union flag, but in merchant ships the union is bordered with red.——3. In *ichthyology*, the young pike, *Esox lucius*.——4. In *botany*, the *Isjaca*, a species of bread-fruit-tree.

JACK'AL, corrupted from *chacal*, a canine animal, the *Canis aureus*, Lin., found in the Indies, and the environs of the Caspian Sea, and as far as in Guinea.

JACK ARCH, an arch of the thickness of only one brick.

JACK'-BACK, the largest jack of the brewer.

JACK'BLOCK, a block attached to the top-gallant-tie of a ship, to swing up or to strike the sail.

JACK'DAW. In *ornithology*, the *Corvus monedula*, Lin., is *the* jackdaw, a well-known bird; and the *Gracula guiscala* is named, from its colour, the *purple* jackdaw.

JACK'FLAG, a flag hoisted at the sprit-sail top-mast-head.

JACK-IN-THE-BOX, 1. A large wooden solid screw, turning in a hollow one, which forms the upper part of a strong wooden box, shaped like the frustrum of a pyramid. It is wrought by means of levers passing through holes in it, as a press in packing, &c.——2. The popular name of a genus of arborescent plants.

JACK-OF-HILTON, a vulgar name for an æolipyle.

JACK-OF-THE-CLOCK-HOUSE, a figure of a little man, which strikes the quarters in some clocks.

JACK-OF-THE-LANTERN, Will-of-the-Wisp. Vulgar names for the *ignis fatuus*.

JACK-PLANE, a plane of about 18 inches long, to prepare wood for the trying-plane.

JACK'RAFTERS. In *joinery*, the jack-timbers which are fastened to the high rafters and the wall-plates.

JACK'RIBS. In *joinery*, the jack-timbers which are fastened to the angle-ribs, and rest upon the wall-plates in groined or domed ceilings.

JACKS. Wooden wedges used in coal-mines.

JACK'SINKERS. Parts of a stocking-frame.

JACK'TIMBER. In *joinery*, a short timber fastened at the ends of two timbers which are not parallel, or to two timbers which actually meet in a point, as to the wall-plate and hip-rafter of a roof, the wall-plate and hip of a groin, &c.

JAC'OBINS. In *French history*, a political club, which bore a well-known part in the first Revolution. In *ecclesiastical history*, the French appellation of the religious order of St. Dominic.

JAC'OBITES. 1. In *English history*, the adherents of James II., after his abdication.——2. In *church history*, certain Syrian Christians, who hold that Christ had but one nature, and practise both circumcision and baptism.

JA'COB'S LADDER. In *naval affairs*, a rope-ladder with wooden spokes.

JA'COB'S STAFF, a mathematical instrument for taking heights and distances. A kind of astrolabe, or cross-staff, much used in the middle ages.

JACO'BUS, Lat. for *James*. A gold coin of the reign of James I.; value 25*s*.

JAC'ONET, a muslin fabric finer than *causey*, and coarser than *lawn*.

JACQUARD LOOM, a peculiar and most ingenious mechanism, invented by M. Jacquart, of Lyons, in 1800, to be adapted to a silk or muslin loom, to supersede the use of drawboys in weaving figured goods. It has of late been extensively applied in the weaving of carpets.

JAC'QUERIE. In *French history*, the name given to a revolt of the peasantry against the nobility, in 1356.

JACTITA'TION, from *jactito*. A term, in *canon law*, for a false pretension to marriage.

JADE, a hard magnesian mineral, called also nephrite, nephritic stone, and axe-stone. *See* AXESTONE. In consequence of its tenacity it has been wrought into chains and other delicate works. The name has been supposed to originate from *igida*, the Indian name of the stone.

JAGU'RY. In *commerce*, a Bengalese name for a species of coarse sugar in an impure state.

JAGHIRE', an East Indian word, denoting an assignment of the government share of the produce of a portion of land to an individual, either personal, or for the support of a public establishment, particularly of a military nature. The holder of a jaghire is styled a *jaghire dar*.

JAGUAR'. In *zoology*, the tiger of the Brazils. It is about the size of a wolf, very fierce and destructive among the larger quadrupeds, as oxen, horses, sheep, &c.

JAL'AP or JALOP, the root of the *Convolvulus jalapa*, an herbaceous twining vine; so named from Xalapa, in Mexico, from which it is chiefly imported. The root is only used in medicine.

JAL'APINE or JALAPPIN, resin of jalap. The active principle of jalap, obtained by digesting that root in alcohol. Herberger considers it an alkaloid, but its alkaline properties are not well established.

JAMACI'NA, a vegeto-alkaline principle discovered in 1824 by M. Hüttenschmidt in the bark of the *Geoffroya jamaicensis*, or cabbage-bark tree. It crystallised from its aqueous solutions.

JAMAI'CA BARK, the bark of the *Cinchona Caribæa*, or Caribæan bark-tree, which grows in Jamaica, where it is called the sea-side beech.

JAMAI'CA PEP'PER, the fruit of the *Myrtus pimenta*, or allspice tree. *See* PIMENTO.

JAMB, Fr. *jambe*, a leg. 1. Among *miners*, a thick bed of stone which hinders them in pursuing a vein ——2. In *architecture*, a supporter. Door-posts, upright posts at the ends of window-frames, the upright sides of a fire-place from the hearth to the mantle-piece, are all termed *jambs*; the uprights on the sides of doorways are more particularly called *jamb-posts*, and the side-work attached is termed *jamb-lining*.——3. A sea term; to squeeze tight.

JAMES, ORDER OF THE SWORD OF SAINT, an ancient military order in Spain and Portugal.

JAMES'S PILLS, pills made of equal parts of James's powder, ammoniacum, and the aloes and myrrh pill, beat up with tincture of castor.

JAMES'S POWDER, an antimonial medicine invented by Dr. James, and termed by him fever powder, being used by him extensively in fever cases. It still retains much of its reputation.

JAN'ITOR (Lat.). 1. A door or gate-keeper, from *janua*, a gate.——2. In *anatomy*, the *pylorus*, situated at the entrance of the intestine.

JANE. 1. A coin of Genoa.——2. A sort of fustian.

JAN'IZARIES, corrupted from the Turkish *Yeniskeri*, new troops. A name for the Turkish infantry; reputed the Grand Seignor's guards. Now abolished.

JAN'SENISTS, a sect of Christians who followed the opinions of Jansenius, bishop of Ypres, in Flanders, in regard to free will and grace.

JAN'UARY, Lat. *Januarius*. The first month of the year according to the present computation. The name is supposed to be taken from Janus, whom the Romans believed to preside over the beginning of all business.

JAPAN-ALLSPICE, a shrubby plant; the *Chimonanthus fragrans* of Japan, the fruit of which resembles that of the allspice tree.

JAPAN-EARTH, *Terra Japonica*. Catechu (q. v.).

JAPAN'NING, a kind of varnishing or lacquering learned of the Japanese, and practised chiefly on white iron and papier mâché, but all articles, the substance of which is firm, may be japanned. Japanned articles are often richly ornamented with figures in gold and various colours.

JAPAN-VARNISH, varnish used in japanning. The base is seed-lac dissolved in spirit of wine. To this is added the colour required.

JAR'GON, a mineral, the mock-diamond, a variety of Zircon.

JARL, a Scandinavian term signifying *noble*.

JAS'MINUM, the *Jasmine* or *Jessamine:* an extensive genus of permanent plants. *Diandria—Monogynia*. The species are valued chiefly for their beautiful flowers. Temperate and warm climates. The name is Arabic, *jasmen*.

JAS'PER, a subspecies of rhombohedral quartz, usually occurring massive, but sometimes crystallised. Prof. Jameson enumerates five varieties. Jaspers owe their colours to oxides of iron. They all admit of a good polish, and are used for various ornamental purposes.

JAS'PONYX, the purest horn-coloured onyx: it has beautiful green zones. It is simply striped, or ribbon jasper.

JAT'ROPHA, the *physic-nut:* a genus of permanent plants. *Monœcia—Monadelphia*. Name from ἰάομαι, to heal, and τρέφω, to nourish. The species inhabit South America and the West Indies. The seeds of the *J. curcas* afford an oil resembling castor-oil, and used for the same purpose; those of the *J. multifida* are the physic or purging nuts; the juice of the *J. elastica* is an elastic gum; the *J. manihot*, Willd., is the *Manihot Cannabina*, Donn. *See* MANIHOT.

JAUN'DICE, Fr. *jaunisse*, from *jaune*, yellow. A disease characterised by yellowness of the skin and eyes, the proximate cause of which is bile in the blood. When the colour is very intense, and the disease long protracted, it becomes *green jaundice*, when still more concentrated, *black jaundice*. Chlorosis has also been named *white jaundice*. Physicians distinguish many species of the disease.

JAV'ELIN (Fr.). A species of missile, anciently used by the soldiery. It was a rod five feet long, with a barbed head of iron.

J. D. An abbreviation of *Jurum Doctor*, doctor of laws.

JEEL. An E. Indian term for a shallow lake or morass.

JEERS. A sea word. Strong tackle for *swaying up* the lower yards.

JEJU'NUM, Lat. from *jejunus*, empty. The second portion of the small intestines, generally found empty in the dead body.

JEL'LY. *Vegetable jelly* of unripe currants and other berries is a compound of mucilage and acid, which loses its gelatinising power by long boiling. For *Animal jelly, see* GELATINE, GLUE, *and* ISINGLASS.

JEM'IDAR. A black officer in the E.I. Company's Service, having the same rank as a lieutenant.

JER'KIN-HEAD. A term used to express a peculiar feature in roofs, when the gable is carried higher than the side walls.

JES'SES. In *falconry*, straps with which bells are attached to the legs of hawks, represented in heraldry usually of a different tincture.

JES'UATES, of Saint Jerome. A religious order, founded in 1363, of very ascetic habits.

JES'UITS. A religious order of Romish clergy, forming the *Society of Jesus*, founded by Ignatius Loyola, a Spanish soldier, about 1534. Unlike other communities of monks, the duties of this were to be performed in active life, the object being universal empire.

JES'UITS' BARK. A name of Peruvian bark, introduced into Europe by Cardinal de Lugo, a Jesuit.

JES'UITS' DROPS. A nostrum composed of guaiac, Peruvian balsam, and sarsaparilla.

JET. 1. In *mineralogy*, black amber; a species of pitch coal, or glance-coal, of a beautiful compact texture, and susceptible of a fine polish, in consequence of which it was formerly manufactured into a vast variety of ornamental articles, as buttons, rosaries, crosses, necklaces, eardrops, bracelets, &c. It is still sometimes manufactured into snuff-boxes, and the like; but the greater portion of the articles which used to be manufactured of it are now made of black glass, which is harder, and therefore not so apt to lose its polish. The name is, Fr. *jaïet*.——2. In *hydraulics*, a spout. *See* JET D'EAU.

JET D'EAU. A French name for a fountain, which throws up water to some height in the air; (*jeter* to throw, and *eau* water). *See* FOUNTAIN.

JET'SAM, JET'SON, JET'TISON. } *See* FLOTSAM.

JETTE'. The border made round the stilts under a pier in certain old bridges, being the same with starling, consisting of a strong framing of timber, filled with stones, &c., to preserve the foundations of the piers from injury.

JET'TY-HEAD. A name given in the royal dockyards to that part of a wharf which projects beyond the rest; but more particularly the front of a wharf, whose side forms one of the cheeks of a dock.

JEW'EL-BLOCKS. In a *ship*, two small blocks which are suspended at the extremity of the main and fore-top-sail yards, to retain the top-mast studding sails beyond the sheets of the top-sails.

JEW'S-HARP. A musical instrument of a very imperfect kind; by some called the *jaw's harp*, because held between the teeth when played. It consists of an elastic steel spring, riveted at one end to a frame of brass or iron, and having the other bent and free to be struck by the finger in playing. It is also called the *Jew's-trump*, and often simply a *trump*.

JE'ZIDS, or DAVASIN. A religious sect, long settled near Mosul, the followers of Yezid Ben Anisa, a Mohammedan doctor.

JIB. 1. The foremost sail of a ship. It is a large staysail extended from the outer end of the bowsprit, prolonged by the jib-boom towards the fore-topmast head.——2. The projecting frame of a crane from which the weight or goods are suspended.

JIB-BOOM. In a *ship*, a continuation of the bowsprit forward, being run out from its extremity in a similar manner to a top-mast on a lower mast. There is also the *flying jib-boom*, which extends still beyond the jib-boom.

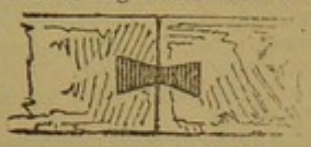
JIB-DOOR. In *architecture*, a door which stands flush with the wall outside, so as to appear as part of the wall.

JIG'GER. In a *ship*, a machine, consisting of a piece of rope about five feet long, with a block at one end and a sheave at the other, used to hold on the cable when it is heaved into the ship by the revolution of the windlass.

JIG'GER-TACKLE. In *ships*, a small light tackle, consisting of a double and single block, used on many occasions.

JOB'BER. A person who undertakes jobs or small pieces of work; also one who buys and sells for others: equivalent to *broker*. Hence *jobbing*, the business of a jobber. *Stock-jobbing* denotes the practice of trafficking in the public funds, or the buying and selling of stock, with a view to its rise or fall.

JOG'GLE. A term applied to a particular description of joint; thus to the joint connecting two stones or other bodies in



such a manner that they cannot slip away without tearing the joint or joggle asunder. The separate part securing the joint is more commonly called the *joggle*.

JOG'GLE-POST. In *carpentry*, a strut post for fixing the lower ends of the struts.

JOHN BULL. The well-known collective name of the English nation, first used in Arbuthnot's Satire, the *History of John Bull*.

JOHN DORY, a fish, the Dory (*Zeus Faber*, Cuv., Yarr.) common in the Mediterranean. Among the superstitious, the Dory disputes with the Haddock the honour of having been the fish out of whose mouth St. Peter took the tribute money, on which occasion he is said to have left the mark of his finger and thumb on their sides. Both fishes are similarly marked; but, according to another legend, the marks upon the Dory, are those of the finger and thumb of St. Christopher, who on occasion waded through an arm of the sea, and caught a Dory during his passage! Quin, the actor, and prince of epicures, established the edible reputation of the Dory, and gave it the national name of John, as a mark of high distinction.

JOIN'ER. } The *joiner's* occupation is to
JOIN'ERY. } construct things by joining pieces of wood. The finer wood-work in the finishing of buildings is done by joiners, as the ponderous parts are done by carpenters. The art in the one case is *joinery*, and in the other *carpentry*, but the distinction is not always observed.

JOINT, from *join*. 1. In *anatomy*, an articulation.——2. In *botany*, a knot or internode.——3. In *joinery*, &c., the juncture of two pieces of wood, &c.——4. A limb of an animal cut up by the butcher.——5. In *stone-work*, the name joint is applied to the vertical joinings, those situated horizontally being called *beds*.

JOINT-CHAIR. On *railways*, a chair which secures the jointure of two bars.

JOIN'TER, *jointing-plane*. The name given by joiners to their largest plane. Bricklayers give the name *jointer* to a piece of iron bent in two opposite directions, sometimes used in securing the joints of a wall when much strength is required.

JOINTING RULE, a rule used by bricklayers to secure a straight face to their work.

JOINT LIVES, a phrase in insurance and annuities, when the calculation is founded on the contingency of one life dropping

before another. Thus assurances are made for the benefit of survivors, by paying an annual premium during the continuance of two *joint lives*, the sum insured to be paid to the surviving party when either of the lives shall drop.

Joint Stock, a stock or fund formed by the union of several shares from different persons. In this way *Joint Stock Companies* are formed for commercial purposes. Banking in Scotland is mainly carried on by such companies.

Joint-tenancy, a tenure of estate by unity of interest, title, time and possession.

Join'ture, a settlement on a woman in consideration of marriage, and which she is to enjoy after her husband's death.

Joist, Scot. *jeist*. One of the cross or secondary timbers on which the boards of the floor of a house rest. Joists are placed with their edges uppermost, and are framed into the girders and summers. If cross pieces are fixed to the beams underneath, to sustain the lath and plaster, these are called *ceiling joists*. The *bridging joists* are those to which the boards are nailed; the *binding-joists* are those into which the bridging-joists are mortised.

Jolly-boat. The same as Yawl, which see.

Jonquil'. In *botany*, a species of narcissus or daffodil, the *N. jonquilla* of Spain. The *N. calathinus*, is called the great jonquil. The name is Fr. *jonquille*, from Lat. *juncus*, a rush; hence the plant is sometimes called the rush-headed daffodil.

Jour'nal (French). A sort of diary, from Lat. *diurnum*, through the Ital. *giornale*, from *giorno*, a day. Journals are made up of accounts of daily transactions. Navigators give the name *journal* to their register of the ship's course and distance, the winds, weather, &c., and merchants use the same term as the title of a book wherein their transactions are entered from the waste-book or blotter. Some daily newspapers are also appropriately called *journals*; and we have various *journals* published at stated intervals, containing accounts of inventions, discoveries, and improvements in the arts and sciences. ——2. In *mechanics*, the name *journal* is given to that portion of a shaft which revolves on a support situated between the power applied and the resistance.

Journeyman, strictly, a man employed to work by the day (*journée*, a day or day's work); but now applied to any mechanic who is hired to work for another, whether by the month, year, or other term. The term is restricted to mechanics in their own trades.

Ju'bilee, Fr. *jubilé*, from Lat. *jubilum*, from *jubilo*, to shout for joy. A term of public and solemn festivity. The jubilee of the ancient Hebrews occurred every fiftieth year, and began with the autumnal equinox. At this time all slaves were liberated, all debts annihilated, and all lands, &c., however alienated, were restored to their first owners. All agriculture for the whole year was also suspended, and the poor had the benefit of the harvest, vintage, and other productions of the earth. In imitation of the Jewish jubilee, Pope Boniface VIII. instituted jubilees at Rome, during which, plenary indulgence was granted to sinners, or to as many as should visit the churches of St. Peter and St. Paul at Rome.

Judge, from *judex*, compounded of *jus* and *dico*. A civil officer, who is invested with authority to hear and determine causes, civil or criminal, between parties according to his commission. In British polity, the title *judge* is retained where that of *president* would more truly express the functions of the officer who bears it. In Chancery, in the ecclesiastical courts, and in the Court of Admiralty, the judge really *judges*, but in the courts of law, civil and criminal, the jurors are the actual judges. There the business of the judge, as he is denominated, is to put the evidence and pleadings in a compendious point of view, but he submits the question of *judgment* to the jury.

Judg'ment. 1. In *metaphysics*, a faculty or rather act of the mind whereby it compares ideas, and perceives their agreement and disagreement.——2. In *law*, the sentence pronounced by a court upon any cause civil or criminal. Judgments are either interlocutory or final. ——3. In the *fine arts*, the faculty of making the most suitable selection.

Judgment or God. Formerly this term was applied to extraordinary trials of secret crimes, as by arms and single combat, ordeal, red-hot ploughshares, &c., it being understood that God would work miracles to vindicate innocence.

Ju'gerum, a Roman acre, being to the English acre as 10,000 to 16,097.

Ju'glans, the *walnut-tree*. A genus of four species. *Monœcia—Polyandria*. Name *quasi Jovis glans*, Jupiter's nut, from the excellence of the fruit. Temperate climates.

Ju'gular, belonging to the *jugulum* or throat, as the *jugular veins* which run from the head down the sides of the neck.

Ju'jube, a plant, the *Rhamnus zizyphus*; also the fruit of this plant, which nearly resembles a small plum. In the southern parts of Europe jujubes are a common article of food in their recent state; they are brought into this country as a half-dried fruit, and were formerly much used in pectoral decoctions. The name is Arabic, *jujubak*.

Julian Calendar. The civil calendar

introduced at Rome by Julius Cæsar, and used by all the Christian countries of Europe till 1582, when it was reformed by Pope Gregory XIII.

Julian Epoch. The commencement of the Julian Calendar, on the 1st of January of the 46th year before Christ, and 708th of Rome.

Julian Period, a cycle of 7980 years, being the product of the three cycles; viz., that of the sun 28, that of the moon 19, and that of the indiction 15; and thus named after Julius Cæsar Scaliger, the inventor of it. This period, though but feigned, is of great use as the standard and receptacle of all other epochas, as that every year within the period is distinguishable by a certain peculiar character; for the sun, moon, and indiction will not be the same again until the whole 7980 years be revolved. When the Christian æra commenced, 4713 years of the Julian Period were run, consequently, to find the year of the period answering to any given year, it is only necessary to add 4713 to it.

Julian Year, the year of 365 days, 6 hours, instituted by Julius Cæsar, who caused the Roman Calendar to be reformed. *See* Year.

Julus, Lat. from *ιουλος*. 1. In *botany*, a catkin or inflorescence consisting of chaffy scales, arranged along a stalk.——2. In *entomology*, a genus of apterous insects of many species.

Ju'ly, the seventh month of the year, named from Julius Cæsar, who was born in this month. Before that time, this month was called *Quintilis*, or the fifth month, March being the first.

Jump. In *mining*, one of the numerous appellations which the dislocations of the strata have received from the practical miners of different districts.

Jum'per. In *mining*, a long iron tool, with a steel chisel-like point, used for drilling holes for the lodgment of powder in rocks which are to be blasted; called also a *borer*.

Jum'pers, a Christian sect, well known in Wales, and remarkable for their eccentricities.

Jun'cus, the rush. An extensive genus of perennial plants. *Hexandria—Monogynia*. Name *juncus*, from *jungo*, to join, the rush being used anciently as cordage is at present. There are nineteen British species, and twenty-four in all, according to Donn.

Jun'gle, a Persian word, used in the East Indies to denote land covered with forest-trees, thick impenetrable brushwood, creeping plants, and coarse rank vegetation.

Ju'niper, juniper-tree. The *Juniperus communis*, a shrub which yields the concrete resin called *gum-juniper*, and whose fruit is the *juniper-berries*, so much valued, both in medicine and the manufacture of gin.

Junip'erus, the juniper. A genus of cruciferous plants of many species. *Diœcia—Monadelphia*. Name from *juvenis*, young, and *pario*, to bring forth, because it produces its young berries while the old ones are ripening. The common juniper and savin-trees are the most important species.

Junk. 1. From *juncus*, a bulrush, o which ropes were made in early ages Old pieces of cable, cordage, &c. used for making points, gaskets, mats, &c.; and when untwisted and picked to pieces, it forms oakum for filling the seams of ships. ——2. An oriental name of a sort of small ship, common among the Chinese, in the East Indies, &c., about the size of a fly-boat. The sails are frequently made of mats, and the anchors of wood.

Ju'no. 1. In *mythology*, the wife of Jupiter, and goddess of all power and empire, represented sitting on a throne, with a diadem on her head, and a peacock by her side.——2. In *astronomy*, the name of a small planet or asteroid, discovered in 1804, by Mr. Harding of Lilienthal. It has the appearance of a star of the eighth magnitude, and is situated between the orbits of Mars and Jupiter. It revolves round the sun in 4 years and 128 days.

Jun'to, } A select council in Spain and
Jun'ta. } Portugal, for taking cognizance of important matters in politics, commerce, &c.

Ju'piter, *Jovis pater*. In *mythology*, the son of Saturn and Ops, and chief of the gods. His usual attributes are the eagle and thunderbolts, and sometimes a figure of victory, and a spear.——2. In *astronomy*, one of the superior planets. Its diameter is 89,170 miles, which is more than eleven times that of our earth, yet revolves about its axis in 9h. 55m. 37s., and performs its circuit about the sun in 11 years and 318 days. Next to Venus, it is the most brilliant of the planets, has four satellites, and its surface is marked by zones or belts of various shades, concerning which there are various opinions. Distance from the sun 493,000,000 miles. Its polar and equatorial diameters are to each other as 12 to 13.

Ju'rats, *jurati*. Magistrates, in the nature of aldermen, for the government of several corporations, as Jersey, Maidstone, Rye, &c.

Ju're Divi'no (Lat.). By divine right.

Juriscon'sult, *juris consultus*. A person learned in jurisprudence, and fit to be consulted on the interpretation of the laws.

Ju'ry, Fr. *juré*, sworn. A number of persons, selected in the manner prescribed by law, empannelled and sworn to inquire

into and try any manner of fact, and to declare the truth on the evidence given them in the case. Juries are of several kinds; as *grand* and *petty* juries in criminal cases, and *common* and *special* juries in civil cases. The grand jury tries matters alleged in indictments; the petty jury tries the matters of fact in cases where a true bill is found by the grand jury. Special juries consist of individuals fitted by their kind of knowledge to try particular cases.

Ju'RYMAST, the name given by seamen to whatever they set up in the room of a mast lost in a battle or storm, from Fr. *jour*, a day, quasi *jouré*, temporary, or from Lat. *juvare*.

Jus (Lat.), law. *Jus civile*, civil law. *Jus coronæ*, the right of the crown. *Jus gentium*, the law of nations. *Jus gladii*, the right of the sword. *Jus scriptum*, the written law.

Jus'TICE, Lat. *justitia*, from *justus*, just. 1. Equity and the application of equity. ——2. Low Lat. *justiciarius*. One deputed by the sovereign to do right by way of judgment among the subjects. The *Justice of the Queen's Bench* is a lord by his office, and chief of the rest: his business is to determine all pleas of the crown.—The *Justice of the Common Pleas* determines all causes at common law, that is, all causes between common persons.—The *Justices of Assize* are such as were wont to be sent, by special commission, into various counties to take assizes.—The *Justices in Eyre* were in ancient times sent into divers counties, to hear pleas of the crown for the ease of the subjects, who must else have gone to the king's bench.—The *Justices of Gaol delivery* are such as are sent to determine all causes, pertaining to such as for any offence are cast into gaol.—The *Justices of Nisi Prius* are now the same as the justices of assize.—The *Justices of the peace* are appointed by commission to attend to the peace of the county where they dwell.

Justic'iary, *Court of Justiciary*. In *Scotland*, a court of supreme jurisdiction in all criminal cases.

Justic'ies. In *law*, a special writ empowering the sheriff of a county to hold plea of an action in his court.

Justifica'tion. In *law*, the shewing good reason in a court for doing something for which he is called to answer. From *justus*, just, and *facio*, to make.—In *theology*, men are *justified* when accounted righteous in the sight of God.

Juxtapo'sition, from *juxta* and *position*, apposition. The term is used in physiology to denote that species of growth which is performed by the apposition of new matter to the surface or outside of the old in opposition to *intus-position*.

K.

K, the eleventh letter of the English alphabet, borrowed from the Greek *kappa*. As a numeral it stands for 250, and with a stroke over it, thus $\overline{K}$, for 250,000.

Kal'and (Ger.), a lay fraternity instituted in Germany in the 13th century, for the purpose of doing honour to deceased friends.

Kalei'doscope, from καλος, beautiful, ειδος, form, and σκοπεω, to see. An optical instrument, which presents to the eye symmetrical and beautiful combinations of images, by a particular arrangement of mirrors adjusted in a tube. This instrument, the invention of Sir D. Brewster, consists in its most simple form of a tin tube containing two reflecting surfaces, inclined to each other at any angle which is an aliquot part of 360°. The reflecting surfaces may be two slips of glass silverized on the exterior sides, and from five to ten inches in length; one end of the tube is fitted with another short tube, in which are adjusted two circular discs of glass, between which are the little objects (bits of coloured glass, &c.,) which are to form the images. The instrument being thus prepared, and the eye placed at the open end, a brilliant circle of light will be observed divided into as many sectors as the number of times that the angle of the reflectors is contained in 360°, and showing some symmetrical and pleasing figure which may be changed into something else by simply turning round the tube. This instrument may be constructed with three or more reflecting planes, and then may be arranged in various ways.

Kalenders (Arab.), wandering dervises.

Ka'li, the name given by the Arabians to an annual plant, the *salsola soda*, which grows near the sea shore, and from the ashes of which they obtained their *alkali* for making soap. The Germans use the name *kali* to denote caustic potash, and *kalium* to denote its metallic basis.

Kallifthor'gan, a musical instrument, played as a piano, and producing an effect equivalent to a violin, tenor, violoncello, and double bass, in concert.

Kal'mia, a genus of beautiful shrubby plants. *Decandria — Monogynia*. North America. Some of the species, as the laurel, ivy-bush, calico-bush, &c., are much in request in our gardens, from the beauty of their flowers and foliage.

Ka'mi, certain spirits, the belief in which is the foundation of the Japanese religion.

Kam'sin, a hot and dry southerly wind, which prevails in Egypt at certain seasons of the year: named also *simoom* and *samiel*.

KANGAR'OO, } An animal peculiar to
KANGUR'OO. } New Holland. The kangaroos form the genus *Macropus*, Shaw, and *Halmaturus*, Illiger. The *M. major*, Shaw, sometimes six feet in height, is the largest of the New Holland animals. It was discovered in 1779 by Cooke, and is now bred in Europe.

KANGARO'O RAT, the potoroo of New-Holland.

KA'OLIN, the porcelain earth of the Chinese, analogous to the clay produced from the felspar of decomposed granite. Besides kaolin, the Chinese use *petunse* in the manufacture of their porcelain.—Kaolin is essentially composed of silex and alumine; the proportions are variable, but the silex usually predominates. When pure kaolin is employed in the manufacture of porcelain, some ingredient must be added as a flux, as when pure it is infusible. There is satisfactory evidence that kaolin has in most cases, if not in all, originated from the decomposition of rocks abounding in felspar, more particularly from graphic granite, which consists almost entirely of quartz and felspar.

KARA, a Tartar word, signifying *black:* frequently used as a prefix to geographical names.

KARM'ATHIANS or KARMATIANS, a Mohammedan sect, which arose in Irak during the 9th century A.D.

KA'VA, the name given among oriental tribes to the juice of a root of the pepper family (the *Piper methysticum*), diluted with water. The juice is extracted by chewing.

KEB'LAH, the name given by Mohammedans to that point of the compass where the temple of Mecca stands. *See* CAABA.

KECK'LING. Among *seamen*, the operation of twining small ropes about a cable or bolt rope, to preserve its surface from being fretted by friction against a rocky bottom, ice, &c.

KEDGE, } Among *seamen*, a small an-
KEDGER. } chor, used to keep a ship steady when riding in a river, &c., and particularly at the turn of the tide to keep her clear of her bower anchor; also to remove her from one part of a harbour to another, being carried out in a boat and let go, a process called *kedging*. The term is also used when a vessel is brought up or down a narrow river (stern foremost, and dragging the anchor), by the force of the tide, although the wind be contrary.

KEEL, Sax. *cæle*, Germ. and Dut. *kiel*. 1. The principal timber of a ship, extending from stem to stern at the bottom, and supporting the whole frame. Sometimes a *false-keel* is put under the first or *main keel*, and bolted to it to preserve it from injury. *Keel* is also the name of a description of small vessel, used for carrying coal on the river Tyne, from Newcastle, for loading the colliers.——2. In *botany*, the lower petals of a papilionaceous corol, inclosing the stamens and pistil.

KEELHA'UL, to haul under the keel of a ship. *Keelhauling* is a punishment inflicted in the Dutch navy for certain offences. The offender is suspended by a rope from one yard-arm with weights to his legs, and a rope fastened to him, leading under the ship's bottom to the opposite yard-arm, and being let fall into the water, he is drawn under the ship's bottom and raised on the other side.

KEEL'SON, } a piece of timber forming
KELSON, } the interior or counterpart of the keel of a ship, being laid upon the middle of the floor timbers, immediately over the keel, fastened with long bolts and clinched, and thus serving to bind the floor timbers upon the keel.

KEEP. In *old castles*, a strong tower into which the besieged retreated in cases of extremity.

KEEP'ER. The *keeper of the great seal* is a lord by his office, and a member of the privy council. He is constituted lord-keeper by the delivery of the great seal. The *keeper of the privy seal* is also a lord by his office, and a member of the privy council.

KEEPING. In *painting*, a term denoting the representation of objects in the same manner that they appear to the eye, at different distances from it. For this the painter has recourse to the rules of perspective.

KEESH. In *metallurgy*, a name for the flakes of carburet of iron which sometimes cover the surface of the bars of pig-iron.

KELP, the crude alkaline matter produced by incinerating various species of fuci or sea-weed. It yields about five per cent. of soda.

KE'LSON (of a ship), *see* KEELSON.

KENT'LEDGE, the name sometimes given to the iron pigs cast in a particular form for ballasting ships, and employed for that purpose.

KEP'LER'S LAWS, certain analogies between the distances of the planetary bodies and their times of periodic revolution; as also between the rate of motion of any revolving body, whether primary or secondary, and its distance from the central body about which it revolves: first discussed by John Kepler of Wirtemberg, the celebrated astronomer and mathematician.

KEP'LER'S PROBLEM, the determining of the true from the mean anomaly of a planet, or the determining its place in the elliptic orbit, answering to any given time, first proposed by Kepler.

KERI-CHETIB (Heb.), what is read and written. In *philology*, the various readings in the Hebrew Bible.

KER'MES INSECT, the *Coccus ilicis*, Lin., found upon the leaves of a species of oak, the *Quercus ilex*, which grows in the south of Europe. This insect is of the same species as the true Mexican cochineal, and before the discovery of America was the most esteemed drug for dyeing scarlet. The name is a corruption of the Arabic *kirmiran*.

KER'MES MINERAL, a hydro-sulphuretted oxide of antimony, so named from its resemblance in colour to the insect of that name.

KETCH, a description of vessel equipped with two masts, rigged with sails, like the main and mizen mast of a ship. Ketches are generally used as yachts, or as bomb-vessels; hence the latter are called *bomb-ketches*.

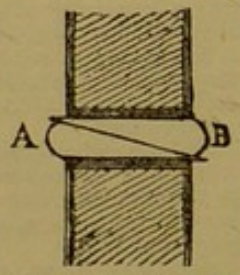
KETCH'UP. In *cookery*, a sauce obtained by sprinkling mushrooms with salt, and letting them stand until great part is resolved into a brown liquor, which is then boiled up with spices.

KET'TLE-DRUM, an instrument of martial music composed of two basins of brass or copper round at the bottom, and covered with vellum or goat's-skin.

KEV'EL. In *ships*, a piece or frame of timber serving to belay the sheets or great ropes by which the bottoms of the main-sail and fore-sail are extended.

KEV'EL-HEADS. In *ships*, the ends of the top timbers which, rising above the gunwale, serve to belay the ropes or take a round turn to hold on.

KEY, in a general sense, a fastener; as, 1. In *mechanics*, a wedge-shaped piece of iron or wood, driven firmly into a mortise, to tighten together the parts of any framing, as A B. Also an instrument by which the bolt of a lock is pushed, and by which a nut is screwed home upon its bolt, &c.



——2. In *music*, the *key* or *keynote* is the fundamental note or tone, to which the whole piece is accommodated, and with which it usually begins and ends. There are two keys, one of the major and one of the minor mode. *Key* also sometimes denotes a scale or system of intervals, and the same name is used to designate the little levers or pieces in the forepart of an organ or harpischord, by which the instrument is fingered, which together are termed the *key-board*. The small spring levers attached to flutes, &c., are also called *keys*.——3. In *hydrography*, a ledge or lay of sunken rock. The name is more especially applied to certain rocks in the West Indies, the tops of which rise nearly to the surface of the water; these are collectively called the Keys.——4. A wharf, more commonly written *quay* (q. v.).

KEY'STONE (of an arch). The last stone placed on the top thereof, and which being wedge-shaped, locks all the rest together.

KHAN, an Asiatic governor. In Persia the word denotes the governor of a province; among the Tartars it is equivalent to king or prince. The word has been erroneously written *Cham*, *Kan*, &c.

KHELAU'T, the robe of honour with which Asiatic princes confer dignity.

KHOOT'BA. In *Mohammedan rituals*, the particular part of the mosque service in which the sovereign of the country is prayed for.

KHOH, Pers. *bald*. A prefix to many geographical terms.

KID'NEYS. In *anatomy*, these are two in number, one on each side, the right under the liver, the left under the spleen. Their use is to separate the urine from the blood.

KIE'FEKIL, a species of clay found in a large fissure in grey calcareous earth, near Koniah, in Natolia, and chiefly used in forming the bowls of Turkish tobacco-pipes. It is of a yellowish colour, and when first dug it is of the consistency of wax. Constituents, 50·50 silica, 50 lime, 17·25 magnesia, 5 carbonic acid, and 25 water.

KIKEKUNEM'ALO, a pure resin similar to copal, but of a more beautiful whiteness and transparency; brought from America. It forms the most beautiful of all varnishes.

KIL'DERKIN, an old liquid measure equal to 18 gallons beer, and 16 gallons ale, measure.

KIL'KENNY MARBLE, a species of black marble, full of shells and coralloid bodies

KIL'LADAR. In the *East Indies*, the governor of a castle.

KIL'LAS, a provincial name, adopted by geologists, for an argillaceous schist or slate. The best designation of the *killas* rock in this situation (Cornwall) is that of a minutely grained and highly indurated gneiss that has lost its schistous character.

KIL'OGRAMME, from χιλιοι, 1000, and *gramme*. A French weight equivalent to 2 lbs. 3 oz. 5 dr. 13 gr. avoirdupois, or 1000 grams.

KILOM'ETER, from χιλιοι, 1000, and *metre*. A French measure of length equal to 1000 metres.

KINA, kina; Cinchona (q. v.)

KIND, in technical language, answers to *genus*.

KING, a sovereign; Sax. *cyng*, Ger *könig*, Dut. *koning*, Dan. *konge*, Wel, *cun*. Kings are absolute monarchs when they

possess the powers of government without control; *limited* monarchs when their power is restricted by fixed laws. They are *hereditary* sovereigns when they hold the government by right of birth, and *elective* when raised to the throne by the choice of the people.——A card having the picture of a king on it; also the chief piece in the game of chess.——The sacred books of the Chinese.

King-at-Arms, an officer in England of great antiquity, and formerly of great authority, whose business is to direct the heralds, preside at their chapters, and have the jurisdiction of armoury. There are three kings-at-arms, viz., garter, clarencieux and norroy.

King-post, the middle post of a truss frame, for suspending the tie-beam at the middle and lower ends of the struts.

Kingston, the angel-fish. *Squatina angelus.*

Kings'-evil, a scrofulous disease in which the glands are ulcerated. The gift of curing this disease was formerly attributed to the kings and queens of England, and had its origin in the time of Edward the Confessor.

King's Yel'low, a yellow pigment composed chiefly of orpiment.

Kin'ic Acid, a peculiar vegetable acid found in all the species of the genus *Cinchona*, and therefore called cinchonic acid, and kinic acid from *kina*, a name for cinchona. The acid is obtained from the cinchona bark. It forms salts called *kinates*, but they are hardly known.

Kink, a spontaneous twist of a rope, &c.; when hard twisted it endeavours to untwist itself. This is also the vernacular name in Scotland for the paroxysm in chin-cough.

Ki'no, an Indian word. An extractive matter obtained from various trees, which grow in the East and West Indies, Africa, Botany Bay, &c. The kino now found in the shops is brought from the East Indies, and is obtained from a shrubby plant, the *Nauclea gamba*, by simply bruising and boiling the branches and twigs in water, and evaporating the decoction till it acquires the consistence of an extract, which is kino.

Kiosk, a Turkish word. A kind of summer-house with a tent-shaped roof supported on pillars, introduced from Persia and Turkey into European gardens, &c

Kip'per, a term applied to salmon when unfit to be taken, and to the time when salmon are so considered.

Kirchwas'ser. 1. An alcoholic liquor distilled in Germany and Switzerland, from the Machaleb cherry, called *kirchen* or *kirschen* in Germany.

Kirk. In *Scotland*, (1.) A church. (2.) The Church of Scotland, as distinguished from dissenting churches. The word is the Sax. *circ* or *ciric*, related to κυριακη, from κυριος, lord.

Kirk-session. A church court, composed of the minister of the parish and the elders. It examines cases of scandal, poor's funds, &c.

Kit-kat, the denomination of a club in London, to which Addison and Steele belonged, and so named from Christopher Kat, the cook who served the club with mutton-pies! The word has now become a common name for a portrait three-fourths less than half-length, a portrait of this size having been placed in the club-room.

Kite. 1. An ignoble bird of prey, the *Falco milvus*, Lin. *See* Milvus.——2. An artificial bird, consisting of a slight wooden frame covered with paper, used chiefly as a juvenile plaything by boys. It has of late been applied to some useful purposes.

Kneck, the twisting of a rope or cable as it is veered out.

Knee. 1. In *anatomy*, the articulation of the thigh and leg bones.——2. In *carpentry*, a piece of timber somewhat in the shape of the human knee when bent, having two branches or arms, and used to connect the beams of a ship, for instance, with her sides or timbers.

Knight, originally a young man after he was admitted to the privilege of bearing arms. This privilege was conferred on youths of family and fortune, and hence sprung the honourable title of knight in modern usage, which ranks next to baronet, and entitles the person on whom it is conferred to be styled *Sir*, and his wife *Lady*. The *knight of a shire* is a representative of a county in parliament, originally a knight, but now any gentleman having an estate in land of 600*l.* a year is qualified.

Knight-errant, a wandering-knight. One, who in the enthusiasm of chivalry, set out attended by his esquire or shield-bearer, with the design of exposing his life wherever wrong was to be redressed. Knight-errants were, however, not exactly the amiable creatures which poetry represents them.

Knight-heads. In *ships*, bollard-timbers; two timbers rising just without the stem, one on each side of the bowsprit, to secure its inner end; also two strong frames of timber which inclose and support the ends of the windlas.

Knighthood, a military order, honour, or degree of ancient nobility, conferred as a reward of valour or merit. It is of four kinds; military, regular, honorary, or social.

Knight-mar'shal, an officer of the royal household, who has cognizance of

offences committed within the same, and of all contracts made therein.

KNIGHT'S FEE. Formerly, a portion of land held by custom, sufficient to maintain a knight, to do service for the king.

KNIGHT-SER'VICE, a tenure of lands, originally consisting in investiture of lands, upon express condition that the person so invested shall serve in the wars of his lord.

KNOT. 1. In *nautical language*, a division of the log-line, which answers to half-a-minute, as a mile does to an hour.——2. In *ornithology*, a fen bird, a species of *Tringa*.

KNOUT, a punishment in Russia, inflicted with a whip.

KNOX'S POWDER consists of eight parts of common salt, and three of chloride of lime.

KO'BOLD, Germ., spirit. Corresponding to the English goblin. Supposed, in Germany, to preside over all domestic operations. From this word the name of the metal *cobalt* is derived.

KOL'LYRITE, a variety of very pure clay (silica 14, alumina 45, water 42). It becomes transparent in water, and falls to pieces.

KO'RAN, the Mohammedan book of faith. *See* ALCORAN.

KO'RIN, a species of antelope remarkable for its slender horns.

KOS, a Jewish measure of capacity, containing about 4 cubic inches. The kos was the cup of blessing, out of which they drank when they gave thanks after solemn meals.

KOTH, a name given by the Spaniards to an earthy slimy substance ejected from the volcanoes of South America.

KOU'MISS, the name of a liquor which the Tartars make by fermenting mare's milk, and from which they distil their favourite intoxicating spirit called *rack*.

KRAAL, a name among the Hottentots for a village or collection of huts.

KRA'KEN, an immense sea-serpent, said to be seen occasionally on the coasts of Norway, and of late years on the North American coasts. The accounts of these monsters are so grossly overcharged, and their dimensions so exaggerated, that it is common to treat the whole as fable; yet some of the more recent accounts seem to claim the attention of naturalists.

KU'FIC LETTERS, the ancient letters of the Arabic, thus denominated from Kufa on the Euphrates.

KUP'FERNICKEL. *False copper*. A sulphuret of nickel, and the most common ore of that metal.

KY'AN'S PATENT PREPARATION, a process for preserving timber from the dry rot, recently invented by Mr. Kyan, consisting of a solution of corrosive sublimate (*perchloride of mercury*) in which the timber is immersed, whereby the primary element of fermentation is neutralised, and the fibre of the wood rendered indestructible.

KYR'IE, the first word of every mass in music, implying "O Lord," and joined with *eleison* signifies "O Lord have mercy on us."

L.

L, the twelfth letter of the English alphabet, is employed as a numeral to denote 50, and with a dash over it, 50,000.

LA. In *music*, the syllable by which Guido denotes the last sound of each hexachord. When it begins in C, it answers to one A: when in G, to E: and when in F, to D.

LAB'ADISTS, a heretical sect, founded by Jean de Labadie, who held that God can and does deceive men, that the observance of the Sabbath is not required, &c.

LABARRA'QUE'S DISINFECTING LIQUID. A solution of carbonate of soda impregnated with chlorine.

LAB'ARUM, the imperial standard, upon which Constantine, after his conversion, blazoned the monogram of Christ. The Roman labarum was a rich purple streamer supported on a spear, and always borne before the emperors.

LAB'DANUM, or LADANUM, an unctuous resin, found besmearing the twigs and leaves of the *cystus creticus*, a shrub which grows in the Grecian Islands, and in Syria: used chiefly in surgery for making plasters. The best is in dark-coloured masses, almost black; but the impurities of the best kinds amount to about ¼ of the whole.

LA'BEL, from Wel. *llab*, a strip. 1. A narrow strip or slip of paper or parchment, containing a name or title, and affixed to anything, as an apothecary's bottle, a deed in writing, &c.——2. A long brass rule, with a small sight at one end of it, and a centre hole at the other, commonly used with a tangent line on the edge of a circumferentor to take altitudes, &c. ——3. In *heraldry*, a fillet with pendants or points, usually three in number. It is commonly an addition to the arms of a second brother, and is esteemed the most honourable of differences.

LABEL'LUM (Lat.), a little lip. A term in botany for one of the three pieces forming the corolla in orchideous plants. It differs in size and form from the other two, and is often spurred.

LA'BIA, the lips: plural of *labium*, a lip.——2. Corollas of plants are often distinguished by their *labia*.

LA'BIALS, *lip-letters*. A name for such letters as are pronounced chiefly by means of the lips (*labia*.)

LABIA'TÆ, a natural order of plants

which have labiate corollæ, as mint, thyme, rosemary, &c.

LA'BIATE, Lat. *labiatus*, lipped. Applied to the corols of plants, as those of mint, sage, &c., which resemble the lips of an animal.

LA'BIUM (Lat.), a lip (See *Labia*). 1. In *entomology*, the lower lip of insects, the upper being the *labrum*.——2. In *conchology*, the inner lip of the shell, the outer lip being the *labrum*.

LA'BOUR. At sea, when the action of a ship in a heavy sea is *uneasy*, or *jerks*.

LA'BOURED. In the *fine arts*, the appearance of constraint in execution, opposed to *easy* or *free*.

LAB'RADOR FEL'SPAR, LAB'RADOR STONE, LAB'RADORITE. A mineral formerly called *Labrador Hornblende*. It is found on the coast of Labrador, particularly on the island of St. Paul; also in some parts of Europe. It is a variety of opaline felspar, distinguished by its reflecting very beautiful colours when the light falls upon it in certain directions.

LAB'YRINTH, Lat. *labyrinthus*, from λαβυρινθος. 1. Among the ancients, an edifice or place formed with winding passages which rendered it difficult to find the way from the interior to the entrance. The most remarkable of these were the Egyptian and Cretan labyrinths.——2. In *anatomy*, that part of the external ear which is behind the cavity of the tympanum, consisting of the cochlea vestibulum and semicircular canal.——3. In *metallurgy*, a series of canals distributed in a stamping-mill, through which water is transmitted for suspending, carrying off, and depositing, at different distances, the ground ores.

LAC (Latin). 1. Milk.——2. A peculiar substance produced by the puncture of an insect (the female of the *Coccus lacca* or *ficus*,) upon the branches of several trees, as the bihar-tree (*Croton lacciferum*), the pepel (*Butea frondosa*), sacred fig (*Ficus religiosa*), jujube (*Rhamnus jujuba*), bottree, coosim-tree, &c. It yields a fine red dye, which is said to be more permanent, though not so bright, as the Mexican cochineal, and a resinous part, used in the manufacture of sealing-wax and hats, and as a varnish. The twigs encrusted with the lac constitute the *stick-lac* of commerce: and the *lac-dye*, *lac-lake*, or *cake-lac* consists of the colouring matter extracted from the stick-lac. When the colouring matter is extracted by the dyer from the stick-lac, as far as can be conveniently done by water, there remains a resinous yellow powder, which is *seed-lac*. This liquefied by heat forms *lump-lac*, when the whole mass is allowed to cool, but the part which passes through a cotton bag, and is allowed to cool in thin sheets or plates of an amber colour, is known by the name of *shellac* or *shell-lac*.

LAC'CIC ACID, a peculiar acid of a white yellow colour, obtained from stick-lac. *See* LAC.

LAC'CINE, that portion of shell-lac which is insoluble in boiling alcohol.

LACE, a delicate and beautiful net-work, tastefully composed of many threads of gold, silver, silk, flax, or cotton. The name is said to be a contraction of Lat. *lacinia*, the fringe of a garment. There are many varieties of this beautiful fabric.

LACER'NA (Lat.), an ancient Roman military cloak, so made that either side might be worn out.

LACERTIN'IDA, lacertians. A family of reptiles, distinguished by the tongue, which is thin, extensible, and terminates in two threads, like that of the coluber and viper. Cuvier divides them into two great genera, *Monitor* and *Lacerta*. They are oviparous, and provided with feet.

LA'CHES. In *law*, slackness or negligence. The term is Norm. *lachesse*, from *lache*, from Lat. *laxus*, lax.

LACH'RYMA, Δάκρυμα, a tear. The *lachrymal apparatus* are those parts which secrete and conduct the tears. The *lachrymal gland* is a glomerate gland, situated above the external angle of the orbit, in a depression of the frontal bone. Its use is to secrete the tears. The *lachryma duct* is the excretory duct of the lachrymal gland. A branch of the ophthalmic nerve is also sometimes called the *lachrymal nerve*.

LACH'RYMATORY, a vessel found in ancient sepulchres, in which it has been supposed that the tears (*lachrymæ*) of a deceased person's friends were collected and preserved with the ashes and urn. It was a small glass vessel or phial, with a very long neck.

LACI'NIA, a fringe; *laciniate*, fringe-like. Applied to leaves, petals, &c., when jagged or torn, as it were, on the edges.

LACK, Sanscrit *lacsha*. An East Indian word signifying 100,000; as a *lack of rupees*.

LACK'ER, LAC'QUER. A solution of lac in alcohol, used as a varnish for tin, brass, &c. It is commonly tinged with saffron, anotto, or some other colouring matter.——2. Among *potters*, a mixture of soft soap and tallow, made by boiling in water over a clear fire, and used for coating the surface of moulds to prevent adhesion.

LACRIMO'SO. In *music*, an Italian term, implying a plaintive movement, as if weeping.

LAC'TATES, salts formed by the combination of the lactic acid with bases.

LAC'TEALS, from *lac*, milk. Numerous minute tubes, commencing by open and very minute orifices from the inner sur-

face of the intestines, and uniting successively into larger vessels, till they form trunks of considerable magnitude. Their office is to take up the chyle, and transmit it to the heart; and this substance, in the higher order of animals, often containing a multitude of globules, which give it a milky appearance, gives name to the vessels which contain it.

Lac'tea Via. The milky-way.

Lac'tic Acid, acid of milk. It exists in large quantity in butter-milk, and also in fresh milk in small quantity. Scheele first obtained the acid from the sour whey of clotted milk.

Lactom'eter, from *lac*, milk, and μετρον, measure. An instrument for estimating the quality of milk; called also a *galactometer*. The most convenient form is a graduated glass tube, into which the milk is poured, and the cream allowed to separate.

Lactu'ca, the lettuce. A genus of herbaceous plants. *Syngenesia—Poly. æqualis.* Name from *lac*, milk, in allusion to the milky juice which exudes from it when it is wounded. The garden lettuce, *L. sativa*, is a native of India. There are, however, three indigenous species.

Lacu'næ (Lat.), defects. 1. In *anatomy*, small cavities in some of the mucous membranes, in which a secretion of mucus is carried on.——2. In *botany*, the opening of a glandiform body.

Lacunars. In *architecture*, panels or coffers on the ceilings of apartments, and sometimes in the soffits of the corona of the Ionic, Corinthian, and Composite orders.

Lacuno'se, Lat. *lacunosus*, dotted or pitted. Applied to leaves having the surface marked with furrows, pits, or depressions.

Lady. Applied to the daughters of all peers above the rank of a viscount, and extended by courtesy to the wives of knights.

Lady Chapel, the name given to a small chapel, generally found in ancient cathedrals, behind the screen of the high altar. It is usually dedicated to the Virgin Mary, by Catholics called *Our Lady*.

Lady-day, the 25th of March, so called because it is the day of the Annunciation of the Virgin Mary.

Læmodip'oda, from λαιμος, the throat, and πους, a foot; an order of throat-footed malacostracians with sessile eyes. They are the only crustaceans in which the anterior feet, that correspond to the second foot-jaws, form part of the head. The læmodipods are all comprehended in the genus *Cyamus*, Latreille, and are all marine.

Lagoon', } Ital. *laguna*. A salt-water
Lagune, } lake, fen, or marsh.

Lag'ophthalmy, from λαγος, a hare, and οφθαλμος, an eye; the hare's-eye. A disease in which the eye cannot be shut, but remains open like that of the hare, even when the individual is asleep.

Lag'othrix, the name given by Geoffrey to a subgenus of *Quadrumana*, from λαγος, a hare, and θριξ, hair. The Caparo, the Grison, the Sajou, the Capuchin, the Horned-sajou, &c., from South America are species. They are named *weeping-monkeys*, from their soft plaintive voice. They are said to be remarkable gluttons.

Laird, from Sax. *hlaford*, lord. In *Scotland*, the proprietor of a manor.

Lake, 1. Lat. *lacus*. An extensive collection of inland water, having no direct communication with the ocean.——2. Fr. *lac*. A name which comprehends all those colours which consist of vegetable dye combined by precipitation with a white earthy basis, usually alumina. Thus if a solution of alum be added to a solution of madder, a precipitate falls, consisting of alumina and the colouring matter of the madder. The precipitation is assisted by an alkali. In this way the *yellow lakes* are obtained from Persian or French berries, the *red lakes* (of which the finest is *carmine*), from cochineal, kermes, &c., the *blue lakes* from indigo. Prussian blue, cobalt blue, and ultramarine, serve all the purposes of the blue lakes, and *green lakes* are made by mixing the yellow lakes with the blue pigments. Lakes are much used in painting in water colours.

Lalla'tion, that species of vicious pronunciation in which the letter *l* is substituted for *r*.

La'ma. There are two species of this animal, the *Camelus llacma*, Lin., and the *Camelus vicunna*, Lin. The first is the Lama, or Llama, properly so called, and was the only beast of burden in Peru at the time of the conquest; the second is called the Paco, and affords a fine wool, extremely soft, and highly valued for manufacturing in fine fabrics.——2. A title bestowed upon Mongolian priests of every degree; and among the Calmucks restricted to the higher classes of priests only.

Lambdoi'dal, from λαμβδα and ειδος, an epithet for one of the sutures of the cranium, from its supposed resemblance in form to the Greek letter λ.

Lam'ella (Lat.), a thin plate or scale: used generally in the plural *lamellæ*. Hence *lamellated*, composed of thin plates, layers, or scales; and *lamellar*, foliated.

Lamellicor'nes, the sixth family of Pentamerous Coleoptera, distinguished by their foliated or lamellar horns (*cornu*, a horn). Cuvier divides these insects into two tribes; the *Scarabæides* and the *Lucanides*.

AMELLIF'EROUS, from *lamella*, a scale, and *fero*, to bear; bearing scales.——2. Having a foliated structure.

LAMELLIROS'TRES, the fourth family of Palmipedes in the arrangement of Cuvier, so named because the edges of the bill (*rostrum*) which is usually thick, are furnished with *lamellæ*, arranged like teeth placed transversely. The goose, swan, merganser, &c., are examples.

LAMIA'RIÆ, a tribe of Tetramerous Coleoptera, belonging to the family of *Longicornes*, and distinguished by their vertical head and filiform palpi. The *Cayenne Harlequin* is an example.

LAM'INA (Lat.), a thin plate, scale, layer or stratum: used commonly in the plural *laminæ*. Hence also *laminated*, disposed in layers, scales or plates; and *lamination*, arrangement in layers.

LA'MIUM, the Nettle, a genus of herbaceous plants; *Didynamia—Gymnospermia*, named from a mountain in Ionia. There are four indigenous species.

LAM'MAS-DAY, the first day of August. A festival in memory of St. Peter's imprisonment.

LAMMAS'MEN. When the Salmon-trout (*Salmo trutta*, Yarr.) is returning to the sea in the months of January and February, numbers of it are taken in the Forth and Tay, and sent to the Edinburgh market under this name

LAMPADOPHO'RIA, Gr. *carrying torches*. A torch race, exhibited at certain Athenian festivals.

LAMP'-BLACK, a fine soot formed by the condensation of the smoke of burning pitch, or other resinous substance.

LAM'PIC ACID. When the cotton wick of a spirit of wine lamp is surmounted by a spiral coil of platinum wire; and when, having been some time lighted, the flame is blown out, the coil still continues ignited, and a current of hot vapour continues to rise as long as the spirit lasts. This vapour is *lampic acid*, and may be condensed into a liquid by cold. It is probably a mixture of the formic and the acetic acid, in which the carbon and hydrogen are not fully oxidated.

LAMPY'RIDES, a tribe of Pentamerous Coleoptera, of which the genus *Lampyris* is the type. The insects of this tribe are distinguished by being phosphorescent, whence they are termed *glow-worms*, *fire-flies*, &c. The species are very numerous.

LAM'PYRIS, the Fire-fly, a genus of Pentamerous Coleoptera, placed among the Serricornes by Cuvier. *See* LAMPYRIDES.

LANA PHILOSOPH'ORUM, *Philosophers' Wool*: LANA PHILOSOPH'ICA, *Philosophical Wool*, old names for flowers of zinc: the snowy flakes of oxide which result from the combustion of zinc.

LA'NATE, Lat. *lanatus*, woolly Applied to the stems, leaves, &c. of plants when covered with woolly matter.

LAN'CEOLATE, Lat. *lanceolatus*, lance or spear-shaped. Applied to leaves, petals, seeds, &c., of a narrow oblong form, tapering towards each end. Applied also similarly in entomology and conchology.

LAN'CIFORM, lanceolate or spear-shaped.

LAND. In *nautical language* this word makes part of several compound terms, viz. 1. To *lay the land*, is to lose sight of land by sailing away from it.——2. To *make the land*, is to discover land from sea as the ship approaches it.——3. To *set the land*, is to see by the compass how it bears from the ship.——4. A *land-fall*, is the first land discovered after a sea-voyage, and is good or bad according as it is near to or distant from the place to which the course was directed.

LAN'DAMMAN, the president of the Helvetic republic.

LANDAU', a sort of coach or carriage, the top of which parts and may be thrown back, so as to form an open carriage; so called from a town in Germany, where it was first used.

LAND'-BREEZE, a current of air which, in many parts within the tropics, particularly in the West Indies, regularly sets from the land towards the sea during the night, and this even on opposite points of the coast. It depends on the relative temperatures of the land and water.

LAND'GRAVE (Ger. *landgraf* from *graf*, an earl), a title in Germany corresponding to earl in England, and count in France. It is now a title of certain princes who possess estates or territories called *landgraviates*.

LANDREEVE, an assistant to the steward of an estate.

LAND'LOCKED, is said of a harbour which is environed by land on all sides, so as to exclude the prospect of the sea, unless over some intervening land.

LAND' REMAINS, those remains of terrestrial animals and vegetables found everywhere on digging in the earth, mostly interchanged with strata containing marine remains. *See* FOSSIL.

LAND' OFFICE, an office in most colonies in which the sales of new lands are registered, and warrants issued for the location of land, and where other business respecting unsettled land is transacted.

LAND'SLIP, a portion of land which has been separated from the main body, usually on the side of a hill, in consequence of long continued rains, or other cause, and has slipped to a lower situation. Landslips are often attended, like the fall of avalanches, with fatal effects.

LAND SPRINGS, sources of water which are in action only after heavy rains, dis-

tinguished from *constant springs*, which flow throughout the year.

Land Steward, one who superintends a landed estate.

Land'Waiter, an officer of the Custom-house, whose duty is, upon the landing of any merchandise, to examine the same, and take due account thereof.

Lan'dwehr, Ger. *land-guard*, the militia of Prussia and Austria.

Lan'grel, Lan'grage, a particular kind of shot, used at sea for tearing sails and destroying rigging. It is formed of bolts, nails, and other pieces of iron tied together, and is seldom used except by privateers and merchantmen.

Lan'gued. In *heraldry*, an epithet for an animal whose tongue projects from its mouth, and is represented in coat armour of a different tincture from the rest of the body.

Langue'nte (It.) In *music*, signifies to be performed softly or languishingly.

Languette', a French name for the tongue of a jack in a harpsichord or spinet. The valve which opens or shuts the windchest in an organ, to let the air into the pipes when a key is pressed down.

Lan'iard, a short piece of rope or line fastened to several things in a ship, to secure them in their places or to manage them more conveniently, as the *laniards* of the gun-ports, of the buoy, of the cat-hook, &c. The name is, however, given more especially to those used to extend the shrouds and stays of the masts by their communication with the dead-eyes, &c.

La'nius, the shrike or butcher-bird (q. v.). A genus of passerine birds belonging to the family *Dentirostres*, Cuv. Name from *lanio*, to tear in pieces. The genus is variously subdivided.

Lan'squenets. The German infantry raised by Maximilian to oppose the Swiss, in the 15th century.

Lantern, Fr. *lanterne*. A well-known machine, of which there are many used aboard ships, as poop-lanterns, top-lanterns, signal-lanterns, store-room lanterns, powder-room lanterns, &c.——1. In *architecture*, a little dome or turret raised on the roof of a building to give light and serve as a crowning. The term is also used for a square cage of carpentry placed over the ridge of a corridor or gallery, between two rows of shops, to illumine them, as in the Royal Exchange, London. ——2. A *dark lantern* is one with only a single opening, which may also be shut up when the light is wished to be entirely hidden.

Lan'tern-fly, an insect common in South America. It is a species of *Fulgora*, and emits a strong phosphorescent light from the head or lantern.

Lanu'ginose, } Lat. *lanuginosus*, having
Lanu'ginous, } soft wool or down, *lanugo:* applied in natural history.

Lanu'go (Latin), down or soft wool, as that which grows on some leaves, fruits, &c.

Lan'yard. In a *ship*, certain lashings whether fixed or temporary.

Lapi'dary, from *lapis*, a stone. One who polishes and engraves gems. The *lapidary style* signifies the style proper for monumental and other inscriptions.

Lapidifica'tion, from *lapis*, stone and *fio*, to become. The conversion into stone of some other substance.

Lap'sana, the *ripple-wort*. A genus of herbaceous plants *Syngenesia — Poly. æqualis*. Temperate climates. There are two British species, called also *dock-cresses*.

Lapse. In *ecclesiastical law*, the omission of a patron to present to a benefice within six months.

Lap-sided, the state of a ship when built in such a manner as to have one of the sides heavier than the other; and by consequence to retain a constant heel or inclination to the heavier side.

Lap'wing. In *ornithology*, the lapwings form the genus *Vanellus*, Bechstein, and the genus *Tringa*, Linnæus. The common lapwing is the *Tringa vanellus*, Lin. The lapwing plovers constitute the genus *Squatarola*, Cuv. These birds are common in Europe.

Lar'arium. In *ancient architecture*, the apartment in which the household gods were deposited.

Lar'board (of a ship). The left-hand side when the face is turned to the stem or head: opposite the *starboard* (q. v.). *Larboard tack* is when the ship is close-hauled with the wind blowing on her larboard-side. *Larboard-watch* is the division of a ship's company on duty when the other is relieved from it.

Lar'bowlines, a cant term used by the boatswain's mates, implying the larboard-watch.

Lar'ceny, Norm. *larcim*; Celtic *lladron*, thieves. Petty theft. The stealing of anything below the value of 12*d*. is *petty larceny*, above that value, *grand larceny*.

Larch. In *botany*, a name corrupted from *larix*. The common larch is the *pinus larix* of Europe; the black larch is the *pinus pendula* of North America; the red larch is the *pinus microcarpa* of North America.

La'res, the household gods of the Romans.

Large. 1. In *nautical language*, a term applied to a wind when it crosses the line of a ship's course in a favourable direction, particularly on the beam or quarter.——2. In *music*, the greatest measure equal to two *longs*.

LARGHET'TO (It.) In *music*, a little quicker than largo.

LAR'GO. In *music*, an Italian term for a slow movement, one degree quicker than adagio.

LARK'SPUR. In *botany*. *See* DELPHINIUM. The British species is the *L. consolida*, an annual.

LAR'MIER, a French term, used in architecture synonymously with *corona*, the upper member of a cornice. In the Gothic architecture it is a sort of plinth, the upper surface of which is inclined, and the inferior part hollowed in a round canal, to throw the water from the wall.

LA'RUS, the gull. A genus of birds. Order *Palmipedes*; Family *Longipennes*, Cuv. The gulls are voracious and cowardly birds; they swarm about the seashore and feed on fish, dead bodies, &c. They have been divided into *goelands*, which embrace the great black gull, *L. marinus* and *L. glaucus*, and *mauves* or *mouettes*, which embrace the smaller species. The common gull is the *L. cyanorhyncus*, Meyer. It feeds on shell-fish.

LAR'VA, Lat. *larva*, a mask. An insect in the caterpillar state. The adjective *larval* is applied to a larva, and also to a disease of the skin, a species of *porrigo*.

LAR'VATE, Lat. *larvatus*, masked; applied in entomology.

LARVIP'ARA, Lat. *larva* and *pario*, I bring forth. Those insects are so called which bring forth larvæ instead of eggs.

LARYN'GEAL, appertaining to the larynx, as the laryngeal nerves and arteries.

LARYNGIS'MUS, a genus of disease formed by Dr. M. Good to include the affection commonly called spasmodic croup, which he, in connection with most others, regards as depending on spasm of the muscles which close the larynx.

LARYNGI'TIS, inflammation of the larynx, a dangerous disease.

LARYNGOPH'ONY, from *larynx*, and φωνη, the voice. The sound of the voice as heard through the stethoscope applied over the larynx.

LARYN'GOTOMY, from *larynx*, and τεμνω, to cut. The same as bronchotomy (q. v.).

LA'RYNX, λαρυγξ. A cartilaginous cavity, situated behind the tongue, in the anterior part of the fauces. It is the organ of voice.

LAS'CAR, in the *East Indies*, a camp-follower. The term is employed by Europeans to designate native seamen.

LASERPI'TIUM, a genus of perennial plants. *Pentandria—Digynia*. Hercules'-all-heal, or wound-wort, heart-wort, or sermountain, the white gentian, &c., are species, and by some the popular name laser-wort is applied to all the species. Europe.

LAST, a load; hence a certain weight or measure. The last, however, varies with respect to different articles. Thus a *last* of codfish, white herrings, meal and ashes, is 12 barrels, a *last* of corn is 10 quarters, of gunpowder, 24 barrels, of red herrings, 20 cades, of hides, 12 dozen, of leather, 20 dickers, of pitch and tar, 14 barrels, of wool, 12 sacks of flax, and feathers, 1700 lbs.

LATEE'N. A *lateen sail* is a triangular sail, extended by a *lateen yard*, which is slung about a quarter the distance from the lower end, which is brought down at the tack while the other end is elevated at an angle of 45°: used in zebecs, polacres, and setees, in the Mediterranean.

LA'TENT, Lat. *latens*, hidden. When any body is in equilibrium with the bodies which surround it with respect to its heat, that quantity which it contains is not perceptible by any external sign, and is therefore termed combined caloric or *latent heat*. *See* HEAT and CALORIC.

LATERAL OPERATION. A surgical term applied to one of the methods of cutting for the stone.

LA'TERAN COUNCILS, those councils held in the basilica of the Latin Church at Rome.

LAT'ERE. A legate *à latere* is a pope's legate or envoy: so called, because sent from his *side* from among his assistants and counsellors.

LATERIFO'LIOUS, from *latus*, a side, and *folium*, a leaf. An epithet for flowers which grow on the side of a leaf at the base.

LATH. 1. From Celtic, *llath*, a rod. A thin narrow slip of wood nailed to the rafters of a roof, &c., to receive the plaster. Runners used to support tiles are also called *laths*. *Sap* and *deal* laths are used for the former purpose, *heart-of-oak* laths for the latter.——2. From Sax. *lew*, from *lewian*, to call together; a part or division of a country. According to the laws of Edward the Confessor, the *lath* in some countries answered to the *trithing* or third part in others.

LATH-BRICKS, a peculiar sort of bricks made in some parts of England of 22 inches in length and 6 inches in breadth. They are used in place of laths or spars, supported by pillars in oasts, for the drying of malt, and are vastly superior to wood.

LATHE, a very useful engine or machine for the turning of wood, ivory, iron, &c.

LATH-FLOATED AND SET-FAIR. In *architecture*, three-coat plaster work. The first is called pricking up, the second, floating, the third or finishing is done with fine stuff.

LATH-LAID AND SET, two-coat plaster work. The first coat is called laying.

LATH-PLASTERED, SET, AND COLOURED. The same as *lath-laid*, *set*, and *coloured*.

LATH-PRICKED UP, FLOATED, AND SET

FOR PAPER. The same as lath-floated and set fair.

LATH'YRUS, the *vetch*; an extensive genus of herbaceous plants. *Diadelphia—Decandria.* Name adopted from Theophrastus, whose λαθυρες appears like curs to be something of the pea or vetch kind. There are seven indigenous species.

LAT'ICLAVE, Lat. *laticlavium.* The ornament of dress worn by the Roman senators: from *latus*, broad, and *clavus*, a stud. It is supposed to have been a broad stripe of purple on the forepart of the tunic, set with knobs or studs.

LATIF'OLIATE, } from *latus*, broad, and
LATIF'OLIOUS, } *folium*, a leaf. Broad-leaved: applied to plants.

LATIS'SIMUS DORSI. A broad muscle of the back which acts upon the os humeri.

LAT'ITAT. In *law*, a writ which presupposes that the defendant lurks (*latitat*), and cannot be found in the county of Middlesex, but is gone to some other county to the sheriff whereof the writ is directed.

LAT'ITUDE, breadth, from *latus*, broad. 1. In *geography*, the distance of any place on the globe north or south of the equator; a particular degree reckoned from the equator either north or south. The small circles parallel to the equator are hence called *parallels of latitude*, and show the latitude of places by their intersections with the meridians. The *difference of latitude* is an arc of the meridian, or the nearest distance between the parallels of latitude of two places.——2. In *astronomy*, the latitude of a star is its distance from the ecliptic, being an arc of latitude of a circle of the same, reckoned from the ecliptic towards the poles, either north or south. The *circle of latitude* is a great circle passing through the poles of the ecliptic, and consequently perpendicular to it. *Latitude of the moon:* this is called *north ascending* when she proceeds from the ascending node towards her northern limit or greatest elongation; and *north descending* when she returns from her northern limits towards the descending node. It is similarly called *south descending* when she proceeds from her descending node towards her southern limit; and *south ascending* when she returns from her southern limit towards her ascending node. The same is applicable to the planets. The *heliocentric latitude* of a planet is its distance from the ecliptic, such as it would appear from the sun, in contradistinction to its *geocentric latitude*, which is its latitude as seen from the earth.

LATITUDINA'RIANS. In *ecclesiastical history*, a sect of divines in the time of Charles II., opposed equally to high churchmen and dissenters. It is now applied to those who do not adopt the more rigid interpretation of Scripture, or merely as a party term.

LAT'RIA. Among *Catholics*, the higher worship, or that paid to God, as distinguished from *dulia*, which is paid to saints.

LAT'TEN, Fr. *leton*, or *laiton*. A name sometimes given to tin-plates, that is, thin plates of iron tinned over. *See* TIN.

LAT'TEN-BRASS, plates of milled brass, reduced to different thicknesses, according to the uses they are intended for.

LAT'TER-MATH. In *agriculture*, the second math or mowing.

LA'TUS RECTUM. In *conic sections*, the parameter. *Latus traversum*, the transverse axis.

LAUD'ANUM, Lat., from *laudare*, to praise. A pharmaceutical preparation, thus named on account of its valuable properties. It is simply a spirituous tincture of opium.

LAUDS, Lat. *laudes*, praise. In *Roman Catholicism*, the prayers formerly used at day-break. They are now confounded with *matins*.

LAUNCE. In *ichthyology*, a name common to two species of *ammodytes*, or sand-eels. (1.) The *A. lancea*, Yarr., called also the riggle, or small-mouthed launce. (2.) The *A. tobianus*. Yarr., called also horner, or wide-mouthed launce. These inhabit the British coasts, in sandy localities. They are much valued by fishermen for bait.

LAUNCH. 1. A particular kind of long-boat.——2. The movement by which a ship or boat descends from the stocks into the water: hence to *launch*.

LAUNCH HO, the order to let go the top-rope when the top-mast is fidded.

LAUNDER, a name given in metallurgy to a long shallow trough, which receives the powdered ore after it comes out of the stamping-mill.

LAU'REATE, Lat. *laureatus*, laurelled. The poet-laureate was formerly an officer of the royal household, whose business was to compose a birth-day ode for the monarch, and another for the new-year; but these obligations are now dispensed with. The title was conferred by Edward IV.

LAUREA'TION, the act of taking a degree in a university. The symbol used to be a wreath of laurel, and the grand distinction, *excellence* in writing verse!

LAU'RIN, a peculiar acrid and bitter vegetable principle, obtained from the berries of the *Laurus nobilis*, a beautiful evergreen shrub, a native of Italy, but much cultivated in the shrubberies of this country. Laurin is insoluble in water, and but slightly soluble in alcohol. It crystallises in needles resembling asbestos.

LAURUS, the laurel or bay tree. A genus of trees of about twenty species. *Enne-*

andria—Monogynia. Name from *laus*, praise, it being the custom to crown the heads of eminent men with wreaths of laurel. The logwood of Jamaica, the benjamin-tree of Virginia, the sassafras-tree of North America, the alligator-pear of the West Indies, and the sweet-bay of Europe, are the most interesting species. The cinnamon and camphor trees are now referred to the genus *Cinnamomum* (q.v.).

Lau'rustine, a fine evergreen shrub, the *Viburnus tinus*, a native of the South of Europe.

La'va, the matter which flows in a melted state from a volcano. Kirwan derives the word from Gothic *lopa*, but it seems more probably to be an Italian word from Lat. *lavo*, to purge, or wash away. Felspar usually composes half the mass of modern lavas, and when this is in great excess they are said to be trachytic. On the other hand, when augite prevails, they are basaltic. Lava is distinguished, according to the circumstances which accompany its consolidation, into compact, cellular, and cavernous lava. In issuing from the crater, it has commonly the consistence of honey, but it is sometimes so liquid as to penetrate the fibre of wood. It is a bad conductor of heat, and therefore retains its heat, when in masses, for an astonishing length of time.

Lavan'dula, } Lavender, a genus of
Laven'dula. } plants, *Didynamia — Gymnospermia.* Name from *lavo*, to wash, because, on account of its fragrance, it was wont to be used in baths. The common lavender, *L. spica*, cultivated in our gardens, is a native of the South of Europe. The essential oil, called *lavender*, is obtained from its flowers by distillation, and possesses all their fragrance.

Lav'ender. 1. In *botany*, *see* Lavandula. ——2. An essential oil, obtained from the flowers of the *Lavandula spica*. The alcoholic solution of this oil is sold under the name of *lavender-water*.

La'ver, Fr. *lavoir*, from *laver*, to wash. 1. In *antiquity*, a basin placed in the court of the Jewish tabernacle, where the officiating priests washed their hands, and the entrails of victims.——2. In *botany*, the brook-lime, *Veronica beccabunga*; also a species of ulva, eaten as a delicacy.

La'verbread, a sort of food made of a marine plant, otherwise called *oyster-green* and *sea-liverwort*.

Law, Sax. *laga* or *lak*, from *lecgan*, Goth. *laggan*, to lay, set, or fix. 1. An established rule, prescribed by the supreme power of a state to its subjects, for regulating their actions, particularly their social actions. Laws are of four kinds—*declaratory* or *permissive*, when they simply declare what may be done without incurring a penalty; *prohibitory* or *penal*, when they forbid certain things to be done or omitted; *imperative* or *mandatory*, when they command what is to be done; and *remedial*, when their object is to redress some injury done, or remove some inconveniency. *Municipal* or *civil laws* are rules of conduct established by decrees, edicts, or ordinances enacted by the supreme power of the state; *natural law* comprehends those rules of conduct arising out of the natural relations of human beings, established by the Creator, and existing prior to, and independent of, any positive precept. The *laws of nations* regulate the mutual intercourse of nations, and depend on natural law, or the principles of justice, which spring from the social state. *Written law* is that promulgated and recorded in statutes, &c. *Common law* is that established by use and wont, but which can be traced to no positive statute. *Ecclesiastical law* has for its object the government of a church, otherwise called *canon law*. The code of laws prescribed by Moses to the Jews is denominated the *Mosaic law*, and that part of the Mosaic institutions which prescribes the ceremonies to be observed, is termed the *ceremonial law*. There are also *martial laws* for the government of an army; *marine laws* for the regulation of the commercial intercourse of nations; *moral laws* prescribing to men their religious and social duties.——2. *Physical laws*, or *laws of nature*. The invariable tendency or determination of any species of matter to a particular form, with definite properties, and the determination of a body to certain motions, changes, and relations, which uniformly take place in the same circumstances, is called a *physical law*. These tendencies or determinations, whether called laws or affections of matter, have been established by the Creator, not by enumerating all individual contingencies, and laying down particular laws, but by enduing the elements of the material universe with certain fixed qualities and powers, of which all their subsequent relations shall be inevitable consequences.

Law Language, the language used in legal writings, particularly the Norman dialect, or old French, which was used in England in judicial proceedings, from the days of William the Conqueror to the 36th year of Edward III.

Lawn, Fr. and Ger. *linon*, from *lin*, flax. In Celtic, *llan*. A sort of clear or open linen fabric, formerly only manufactured in France and Flanders, but now extensively manufactured in Scotland and the north of Ireland. The name is also given to an imitation fabric of cotton.——2. In *gardening*, a surface of turf in pleasure grounds kept smoothly mown.

Laxa'tor, from *laxo*, to loosen. A name applied to muscles, &c., the office of which

is to relax parts into which they are inserted.

Lay, an epithet in ecclesiastical law for whatever relates to the laity or people. In *agriculture, see* Lea.

Lay-brothers. Persons received into convents of monks under the three vows, but not in holy orders.

Lay-clerk, a vocal officiate in a cathedral.

Lay Elders. In *Presbyterian churches*, persons who assist the pastor of each congregation, but not ordained as clergymen.

Lay'er. 1. A stratum.——2. In *horticulture*, a twig or shoot of a plant bent down and covered with mould for growth or propagation.

Lay'ing. In *architecture*, the first coat on lath of plasterers' two-coat work.

Lay'man, λαϊκος. 1. The appellation by which the people are distinguished from the clergy.——2. In *painting*, a small statue (called also lay figure), with flexible joints, to be put into any attitude for the purpose of adjusting the drapery.

Lazaret'to, Ital. from *Lazarus*. A pest-house or establishment to facilitate the performance of quarantine, and particularly the purification of goods.

Laz'arists. In *ecclesiastical history*, a body of missionaries founded by St. Vincent de Paul, in 1632, named after their head-quarters in the priory of St. Lazarus, at Paris.

Laz'arus, order of Saint. A military order of religious persons for the purpose of maintaining lepers, &c. in hospitals.

Laz'ulite, a mineral of a light blue colour, supposed to be a sub-species of lapis lazuli. The name is used by some mineralogists for the lapis lazuli itself.

Lazzaro'ni, the poorer classes at Naples, named after the hospital of St. Lazarus, where Lazars went for refuge.

Lea, arable land which has remained for two or more years out of crop or in pasture. The word is Saxon, and signifies a field.

Lead, Sax. *laed*. A well-known metal of a bluish grey colour, with considerable lustre, but soon tarnished by exposure to the atmosphere. Sp. gr. 11·35; fuses at 612° F. It is found in considerable quantities in many parts of the earth, in different states, but rarely in the metallic state. It is found in that of oxide, *red lead ore*, mixed with iron and some earths; in the state of carbonate forming *sparry lead ore*, and lastly mineralised with sulphur forming *galena*, which is by far the most abundant ore. Its protoxide precipitated by potash, when simply dried, is *massicot*, but when somewhat vitrified it constitutes *litharge*, and combined with carbonic acid, *ceruse*, or *white lead*. Massicot exposed for about 48 hours to the flame of a reverberatory furnace becomes *red lead* or *minium*. The oxides and salts of lead are poisonous.——2. In *hydrography*, the *lead* is an instrument for discovering the depth of water. It consists of a large piece of lead attached to a long line called the *lead-line*, which is marked off into fathoms. The *deep-sea lead* differs in nothing except its size and the greater length of its line from the common lead.

Leading Note. In *music*, the sharp seventh of the scale.

Lea'ding Wind, a free or fair wind, in distinction to a scant wind.

Leads, or Space Lines. In *composing*, pieces of type metal employed to fill up the blank spaces in a page of type.

Leaf-bridge. *Hoist Bridge*. A description of draw-bridge consisting of two opening leaves, now little used.

League, a measure of length containing more or fewer geometrical paces according to the usages of different countries. A league at sea is 2000 geometrical paces = 3 English miles. The French league varies from 3000 to 3500 paces; the mean or common league consists of 2400 paces, and the little league of 2000 paces; 17 Spanish leagues make a degree. The Dutch and German leagues are the same, and measure four geographical miles. The term is of Celtic origin, and primarily meant a stone erected on the public roads in the manner of the modern mile-stones.——2. In *politics*, from *ligo*, to bind; a confederacy between states for their mutual aid and defence: a national contract or compact. A league may be *offensive*, as when the parties unite in attacking a common enemy, or *defensive*, as when the parties agree to defend each other against a common enemy; or it may be both.

Leak'age, the quantity which runs out of a cask through a leak.——2. An allowance in the customs granted to importers of wines, &c., for the waste and damage supposed to be incurred by keeping.

Lean-to. In *architecture*, a small building whose side-walls and roof project from the wall of a larger building.

Leap-year. *Bissextile*. Every fourth year is so called, from its *leaping* a day more than in common years. In leap-year February has 29 days instead of 28. *See* Bissextile.

Lease, from Fr. *laisser*. A demise or letting of lands, tenements, or hereditaments, to another for life, for a term of years or at will, for a rent or compensation reserved; also the contract for such letting. The party letting the lands, &c. is called the *lessor*, and the party to whom they are let, the *lessee*.

Leas'ing-making. In *Scottish law*, verbal sedition: the uttering of words tending to excite discord between the sovereign and the people.

Leat, Sax. *laet*. An artificial channel

for conducting water for the working of waterwheels and other purposes.

Leath'er, Ger. and Dut. *leder*. The skin of animals, so modified by chemical means as to remain unaltered in circumstances where it would be decomposed if in its natural state. The chemical process employed is tanning; and tanning consists in bringing tannin to act upon the gelatinous substance of the skin with which it forms really a compound, and in some measure a new substance, and this substance is leather.

Lec'tionary, from *lectio*, a reading; the Romish service-book.

Lectister'nium, Lat. *lectus*, a couch, and *sternere*, to prepare. A religious ceremony among the ancient Romans, celebrated in times of public calamity.

Lec'tor. In the early church, one who read the Bible and other religious writings to the people.

Ledge, Ledge'ment, a longitudinal projection from a plane.——2. A small piece of timber placed athwart ships under the deck between the beams.——3. A ridge of rocks near the surface of the sea.

Ledger 1. From *leger* (q.v.), the principal book of accounts kept by merchants and tradesmen, wherein each person's account is placed by itself, from the journal. ——2. In *architecture*, &c., the horizontal pieces fastened to the standard poles or timbers of scaffolding, raised around buildings during their erection, are termed, *ledgers*; and those which rest upon the ledgers are called *putlogs*; and on these the boards for working upon are laid.——3. In music, *ledger-lines*, (from the Dutch, *legger*, to lie,) are short lines placed above or below the staff, to indicate the higher and lower notes.

Le'dum, a genus of shrubby plants. *Decandria—Monogynia*. The Labrador tea (*L. latifolium*) is a species; and the marsh ledum (*L. palustre*) is extensively used in Prussia to tan the skins of goats, calves, and sheep, into a reddish leather of an agreeable smell; also in the preparation of the oil of birch, for making Russia leather. The species are all hardy.

Lee. In *nautical language*, the side opposite to the wind. The *lee-shore* is that on which the wind blows. A *lee-tide* runs in the same direction that the wind blows.

Lee-board, a frame of timber fixed to the side of a flat-bottomed vessel, to prevent it from falling to leeward when close hauled.

Leet. *Court Leet*. A court of record ordained for punishing offences against the Crown, and said to be the oldest in the land.

Lee'ward, in the direction towards which the wind blows.

Lee'way, the lateral movement of a ship to the leeward of her course, or the angle which the line of her way makes with her keel.

Leg'acy (Lat. *legatum*, from *lego*, to bequeath); a bequest or gift by will. The person bequeathing is the *testator*; and he to whom the effects are bequeathed is the *legatee*. When no time is specified, legacies are payable one year after the death of the testator.

Lega'lis Ho'mo (Lat.), a lawful man, or one who stands *rectus in curia*, not outlawed, excommunicated, or infamous.

Leg'ate (Lat. *legatus*, from *lego*, to send); a kind of spiritual ambassador from the pope.

Lega'tion (Lat. *legatio*, from *lego*, to send); an embassy or deputation.

Lega'to. In *music*, an Italian word, used in an opposite sense to *staccato*, and implying that the notes of a movement or passage, to which it is affixed, are to be performed in a close, smooth, and gliding manner.

Le'gend (Lat. *legenda*), primarily, a chronicle or register of the lives of saints, formerly read at matins and at the refectories of religious houses. Hence any extravagant story or unauthentic narrative.——2. In *numismatics*, &c., that which is written *round* the field of a medal, the *inscription* being written across.

Le'ger (Dut. *legger*); anything that lies in a place. Thus *leger ambassador* is a resident one. A *leger-line* in music is a line added to the staff of five lines, when more are wanted to designate notes either ascending or descending. A *leger-book* is now usually called a *ledger* (q.v.).

Leg'gers, men employed in conveying a barge through a canal tunnel, by means of pushing with their legs against the side walls.

Leggiadro. In *music*, an Italian term signifying lively, gaily, &c.

Legion of Honour. An order instituted for merit, both civil and military, by Napoleon, when first consul of France.

Le'gion. In *Roman antiquity*, a body of infantry, consisting of different numbers of men at different periods, from 3000 to 5000. Each legion consisted of 10 cohorts, each cohort of 3 maniples, and each maniple of 2 centuries.

Legisla'ture, the supreme power of a state. The legislature of Great Britain consists of the Lords and House of Commons, with the Sovereign, whose sanction is necessary to every bill before it becomes a law.

Leg'ume, (Lat. *legumen*, from *lego*, to gather); seeds not reaped but gathered by the hand: in general all large seeds. The term is used by botanists to denote a peculiar solitary kind of fructification, formed by two oblong valves, without any longitudinal partition, and bearing

the seeds along one of its margins only. It is the pod proper to the pea or papilionaceous tribe of plants, thence named *leguminous*, and constitutes a natural order called *Leguminosæ* (q.v.).

Leg'umine, a principle extracted from dry peas, somewhat like starch, but differing in being insoluble in boiling water.

Legumino'sæ. *Leguminous plants. See* Legume.

Lem'ma. Λημμα. A proposition previously assumed.——2. In *geometry*, a previous proposition demonstrated for the purpose of being employed in the demonstration of some other proposition.

Lem'ming. In *zoology*, the popular name of a genus of gnawers, the *Georychus*, Illiger. The Lemming, properly so called (*G. lemmus*,) is a northern species as large as a rat, with black and yellow fur, celebrated for its occasional migrations in innumerable bodies. At these periods they are said to march in a straight line, regardless of rivers and mountains; and while no obstacle can impede their course, they devastate the country through which they pass. Their usual residence appears to be the shores of the Arctic Ocean. The Lemming of Hudson's Bay (*G. Hudsonius* or *Mus Hudsonius*, Gm.) is of a light pearly ash colour, without tail or external ears, of the size of a rat, and lives under ground, in North America.

Lem'nian Earth. *Sphragide.* A mineral found in the island of Lemnos, in the Egean Sea. Colour reddish yellow; fracture fine, earthy, adheres slightly to the tongue, and has a soapy feel. Constituents, 66 silica; 14·5 alumina; 3·5 soda; 6 oxide of iron; 8·5 water, with slight portions of lime and magnesia.

Lem'on, the fruit of the lemon-tree (*Citrus medica*). A native of Persia, &c., but now cultivated in Europe. Lemons are brought into this country from Spain, Portugal, and the Azores, packed in chests, each lemon being separately rolled in paper.

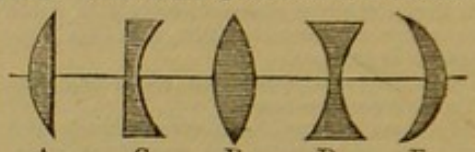
Lemona'de, water to which a little lemon-juice and sugar are added. It is much improved by being charged with carbonic acid.

Lem'ons, Essential Salt of. The binoxalate of potash is frequently sold under this name. Its use is to remove mould and stains from linen.

Le'mur. In *zoology*, a genus of the order *Quadrumana*. The *L. makis* are active animals, which from their pointed heads have been called *fox-nosed monkeys*. Their food is fruit. Their species are very numerous, but only met with in the island of Madagascar, where they replace the monkeys, none of which it is said are to be found there.

Lem'ures. In *antiquity*, restless ghosts of departed persons, who returned to terrify and torment the living; the same with the *larvæ*.

Lens, Lat. *lens*, a lentil. A piece of glass or other transparent substance, having its two surfaces so formed that the rays of light, in passing through it, have their direction changed, and made to converge or diverge. Lenses receive particular denominations according to their form. Thus A is a *plano-convex* lens, one



side being plane and the other convex; B is a *convexo-convex* lens, or *double convex* lens, both sides being convex; C is a *plano-concave* lens, one side being plane and the other concave, and D is *concavo-concave*, both sides being concave. When one side is concave and the other convex, as E, the lens is called a *meniscus*.——2. In *anatomy*, an important part of the eye. *See* Eye.

Lentic'ular, shaped like a lens: applied in botany, conchology, anatomy, &c., to round bodies, having the opposite sides convex and meeting in a sharp edge.

Len'tisk, the mastic-tree (*Pistacia lentiscus*), common in the south of Europe, Named from *lentesco*, to become sticky, in allusion to the gumminess of its juice.

Len'to. In *music*, an Italian word meaning "slow," and used to denote a movement between largo and grave.

Leo, the Lion. In *astronomy*, the fifth sign in the order of the zodiac, and the second of the summer signs, marked ♌. The chief star is *Regulus*, situated on the ecliptic, and sometimes called *Cor leonis*, the lion's heart. In the tail of the lion is *Denebola*, also a star of the first magnitude. *Leo minor*, or the little lion, is said to owe its place in the heavens to the fable of Hercules killing the Nemæan lion. The constellation is composed of the *stellæ informes* of the ancients.

Le'onine Verse, a sort of Latin verse consisting of hexameters and pentameters, of which the final and middle syllables rhyme, as—

"Gloria *factorum*, temer conceditur *horum*."

Some attribute the invention to Pope Leo I., and others to Leonius, a poet of the 12th century.

Leon'todon, the dandelion. A genus of perennial plants. *Syngenesia—Polyæqualis*. Name from λεων, the lion, and ὀδους, a tooth, from its supposed resemblance. The pissabed (*L. taraxacum*) and the marsh dandelion (*L. lividus*) are British species. All the species are hardy.

Leop'ard. In *zoology*, the *Felis leopardus*, Lin., from Africa. Similar to the panther, but has ten rows of smaller spots. It is also smaller than the panther, but larger than the ounce.

Lep'aditis, the goose-barnacle; subgenus of Cirripedes, the species of which are distinguished by a tendinous and contractile tube, fixed by its base to some solid marine substance, supporting a compressed shell, consisting of valves united to each other by membrane.

Le'pas, a genus of multivalve marine shells, inhabited by a triton, known popularly by the name of barnacles. Name λεπας, a limpet. The genus is subdivided into *balanites*, or acorn-barnacles, and *Lepadites* or goose barnacles. Thirty-two species are described.

Lepid'ium, the *Dittander* or *Pepperwort*: a genus of herbaceous plants. *Tetradynamia—Siliculosa*. Name from λεπις, a scale, in allusion to its supposed usefulness in cleansing the skin from scales and impurities. Most of the species are hardy.

Lepid'oids, a family of extinct fishes found in the oolitic series, remarkable for their large rhomboidal bony scales, which were of great thickness, and covered with enamel: hence the name from λεπις, a scale, and ειδος, like. The scales appear to have been fitted together like roofing tiles.

Lepidop'tera, from λεπις, a scale, and πτερον, a wing; scaly-winged insects. The tenth order of insects in Cuvier's arrangement, comprising butterflies, moths, and sphinxes. The scales are attached so slightly to the wings, that they are removed by the slightest touch of the finger, to which they adhere like farinaceous dust. Epithet *Lepidopterous*.

Lepis'ma, a genus of apterous insects of the order *Thysanoura*, Cuv., and the type of the family *Lepismenæ*, Latr. Subgenera, *Machilis*, Lat., and *Lepisma*, Lin. Several of the species conceal themselves in cracks and in the framework of windows, wardrobes, &c. Name from λεπις, a scale, the body being covered with small shining scales.

Lep'rosy, from λεπρος, scaly. This name has been given to several diseases, but is now restricted to a common form of cutaneous disease, characterised by scaly patches, generally of a circular form.

Leptocephali'dæ, Leptocephalus the type. A family of fishes remarkable for the smallness of the head.

Leptoceph'alus, a genus of anguilliform fishes, the *L. morisii*, Gm., inhabits the coast of France and England, but all the other known species inhabit the seas of hot climates, and are all thin as paper and transparent as glass, so that even the skeleton is not visible. Name from λεπτος, slender, and κεφαλος, head, the head being in particular remarkably small.

Le'pus, the *hare*. 1. In *zoology*, a genus of *Mammalia*; order *Rodentia*. The genus comprehends the hares and rabbits.——2. In *astronomy*, a constellation of the southern hemisphere.

L'Ermite (Oiseau), a constellation formed by M. Monnier under the southern scale of the celestial balance.

Le roi le veut, Fr. the sovereign assents. The form of royal assent to the passing of bills in parliament, pronounced by the clerk.

Le'se-majesty. Any crime committed against the sovereign power in a state.

Les'tris, a genus of birds separated from the gulls of Illiger, and named from λῃστης, a robber, because they pursue the small gulls with singular ferocity to rob them of their food. *See* Larus.

Le'the, λῃθη, oblivion; a mythological name of one of the rivers of hell. Its waters, according to the fictions of the poets, make those who drink it entirely forget whatever is past.

Let'ter, Lat. *litera*. 1. A mark or character written, printed, or engraved; used as the representative of a sound or articulation of the human organs of speech. Hence a letter is the first element of written language, as a simple sound is the first element of spoken language. Sounds are addressed to the ear, letters to the eye.——2. A written communication from one person to another at a distance: the medium of epistolary correspondence.——3. A type, or collectively, types.

Letter of Attorney, a document or writing, whereby a person constitutes another to do a lawful act in his stead, as to receive debts, &c.

Letter of Credit, a letter written by a merchant or banker to his correspondent abroad, requesting him to credit the bearer to a certain specified amount.

Letter of Licence, an instrument or writing granted by a person's creditors, allowing him a certain time for the payment of his debts, by which means he is enabled to prosecute his business without legal molestation.

Letter of Marque, an extraordinary commission granted to commanders of merchant-ships, or so commissioned, is called a *letter of marque*.

Letter Missive, a letter sent out of Chancery in a process of law against a peer.

Letters-patent (*overt* or *open*), writings sealed with the Great Seal of England, and so called because they are open with the great seal affixed to them. Letters-patent are granted to authorize a man to do some act or enjoy some right. *See* Patent

Leu'cadendron, the silver-tree. A genus of trees. *Diœcia—Pentandria.* Name from λευκος, white, and δενδρον, a tree, in allusion to the silvery foliage of some species.

Leuc'æthiop, from λευκος, white, and αἰθιοψ, black. An albino, or white man of a black race.

Leu'ce, from λευκος, white A disease characterised by white patches on the skin, on which the hairs turn white and silky. It is peculiar to warm climates, as the East Indies.

Leu'cite, from λευκος, white. A mineral of a white colour, found in volcanic rocks. It is a silicate of ammonia and potash, and occurs regularly crystallised in granular concretions, and in roundish grains.

Leuco'ma (Lat.), from λευκος, white. A white opacity of the cornea of the eye; often synonymous with *albugo.*

Leucope'trians. In *ecclesiastical history*, a sect of fanatics who sprung up in the twelfth century, and spent their whole time in prayer.

Leucophlegma'sia (Lat.), from λευκος, white, and φλεγμα, phlegm. A state of the body in which there is a redundancy of serum in the blood, symptomatic of dropsy.

Leu'thrite, } A mineral of a grayish
Leut'trite. } white colour, tinged in places with an ochreous brown; thus named from its being found at Leuthra or Leuttra in Saxony. It is a recomposed rock.

Levan'tine. 1. An epithet for things pertaining to the Levant.——2. The name of a particular kind of silk manufacture.

Leva'tor, Lat., from *levo*, to lift up. A term common to several muscles, the office of which is to elevate the parts into which they are inserted.

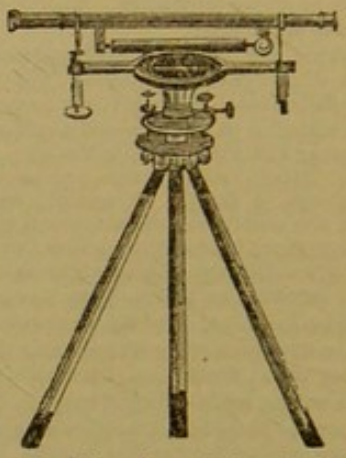
Leva'ri Fa'cias. In *law*, a writ directed to the sheriff, to levy money upon the estate of a person who has forfeited his recognizance.

Lev'ee (Fr.), from *lever*, to raise. 1. A bank, especially along a river, to prevent inundation.——2. A concourse of gentlemen, paying their respects to some great personage in the morning. A similar visit of ladies, or ladies and gentlemen, is called a *drawing-room.*

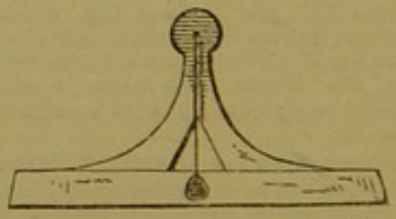
Lev'ee-en-masse, a military expression for the patriotic rising of a whole people to oppose an enemy: called in Germany the *landsturm*, in distinction from the *landwehr*, or militia.

Lev'el. The term *level* is applied primarily to designate a horizontal plane or line, and hence a canal, or any particular portion of one, a tract of low marshy land or morass, a gallery in a coal-mine, &c. are, by analogy, termed *levels.* There are also various instruments called *levels*, for finding a horizontal line. A *spirit level* consists essentially of

a glass tube, hermetically sealed at both ends, and nearly full of some liquid, as spirit of wine: it contains a bubble of air, which, when the tube is exactly horizontal, remains at the middle of the tube, but, under all other circumstances, is found at the higher end. This is fitted into a *stock*, adjusted with great care, and the instrument is then complete for the purposes of the mechanic. But for the purposes of the surveyor it is affixed to a telescope, with micrometer



screws to adjust it, and the whole instrument, so fitted up, is termed a *level.* The *Y level* is the oldest instrument of this sort; *Troughton's improved* is the same somewhat improved; and *Gravatt's level*, the favourite instrument among civil engineers, has some advantages over the others. The *plumb-level* is used by ma-



sons, &c., and shows the horizontal line, by means of another line perpendicular to that described by a plummet. The principle is, that, as all bodies gravitate towards the centre of the earth, the plumb-line being a truly vertical line, any line perpendicular to it must be a truly horizontal line. These lines are, in fact, the radii of a sphere.

Lev'elling, the finding of a line parallel to the horizon, at one or more stations, to determine the height or depth of one

place with respect to another; usually performed by means of an instrument called a *level*, with levelling-staffs, &c. The line parallel with the horizon is called *datum line*, and is generally on a level with the high-water spring tides, low-water spring tides, or some other fixed mark.

Level'ling-staff, a graduated rod or staff, advanced alternately with the spirit-level, denoting the gradations bisected by the latter, the rise or fall between any two points.

Lever. In *mechanics*, a bar of metal, wood, or other inflexible substance, turning on a fulcrum, or prop, and usually regarded as one of the simple mechanical powers. The lever is of three kinds: (1.) When the fulcrum is between the weight and the power, as the crowbar. (2.) When the weight is between the power and the fulcrum, as nut-crackers. (3.) When the power is between the weight and the fulcrum. The forearm is a lever of this kind, as, indeed, are all the limbs of animals.

Levigation, from *lævigo*, to make smooth. The reduction of a hard substance, by trituration, to an impalpable powder.

Le'vites. In *scripture*, the tribe of Levi, the hereditary priests of the Jews.

Levit'icus, the third book of the Pentateuch; so called from its containing the laws and regulations relating to the priests, Levites, and sacrifices. These duties and ceremonies constitute what is termed the *Levitical law*.

Lew'is, a sort of shears used in cropping woollen cloth.

Lex, the Latin word for *law*. Hence *lex mercatoria*, commercial law; *lex non scripta*, the common or unwritten law; *lex scripta*, the written law; *lex talionis*, the law of like for like; *lex terræ*, the law of the land, or common law, as distinguished from civil law.

Lexicol'ogy, from λεξικον, a lexicon, and λογος, discourse. The science of words, their meaning and just application.

Lex'icon. Λεξικον. A Dictionary. A very useful tool when well made.

Ley, Lat. *lixivium*, the liquor in which saline and soluble particles of the residues of distillation and combustion are dissolved. The solution made by levigating ashes which contain alkali.

LEYDEN JAR.

Ley'den Jar, } A glass jar or phial,
Ley'den Phial. } employed in electrical experiments. It is coated inside and outside, usually with tin-foil, to within one third of the top, so that it may be readily charged and discharged by means of a metallic rod, which is in connection with the interior coating. It is the invention of M. Vankleigh of Leyden.

Li, an itinerary measure of China, equal to 1897 English feet.

Li'as, a provincial name, adopted by geologists, to designate a bluish coloured clayey limestone, which, with its associate beds, forms a group of the secondary series. When the lias beds, (says Bakewell,) are fully developed with their associate beds of clay, they form a mass of stratified limestone and clay, several hundred feet in thickness, which rests upon the red marl.

Liba'vius, (liquor of;) the bichloride of tin, prepared by dissolving that metal in *aqua regia*, with the aid of heat. This preparation is used in calico-printing; but the proper fuming liquor of Libavius is prepared by mixing four parts of corrosive sublimate with one part of tin, previously amalgamated with just so much mercury as renders it pulverisable, and distilling with a gentle heat when a colourless liquid comes over.

Li'bel (Lat. *libellus*, a little book.) A defamatory writing, *libellus famosus*, and, the epithet being omitted, *libel* expresses the same thing. Any book, pamphlet, writing, or picture, containing representations, maliciously made or published, tending to bring a person into contempt, or expose him to public hatred and derision. It is immaterial, with respect to the essence of a libel, whether the matter of it be true or false, since the provocation and not the falsity is the thing to be published *criminally*. But in a *civil* action, a libel must appear to be false as well as scandalous.——2. In *civil law*, a charge in writing, exhibited in court, particularly in a court of admiralty, against a ship or goods for violation of laws of trade or of revenue.

Libel'lula, the *Dragon-fly*. A genus of neuropterous insects, characterised by their light and graceful figure, beautiful and variegated colours, large wings resembling lustrous gauze, and the velocity with which they pursue the flies, &c., which constitute their food. Cuvier places them among the subulicornes.

Lib'eral Arts. Such as are fit for gentlemen and scholars. The *liberal arts* are distinguished from the *mechanical arts*; the first being more especially depending on exertion of the mind; the latter depending on manual dexterity. Grammar, rhetoric, painting, sculpture, architecture, music, &c., are liberal arts.

Li'ber, a Latin word. 1. The inner

bark of a tree.——2. A book, originally made of bark.——3. In *mythology*, a surname of Bacchus.

Lib'eri, Liber'ti. In *law*, the *liberi* were freemen born; the *liberti* such as were made free by manumission.

Lib'erty, Lat. *libertas*, freedom. *Natural liberty* consists in the power of acting as one thinks fit. *Civil liberty* is that which exempts a man from the arbitrary will of others, which exemption is secured by established laws. Hence the restraints of law are necessary to civil liberty. *Political liberty* designates the liberty of a nation, as civil liberty does that of an individual, and is secured by the laws of nations. *Religious liberty* is the freedom of adopting and enjoying opinions on religious subjects without external control. The *liberty of the press* consists in the free power of publishing what one pleases, subject, however, to punishment for publishing what is mischievous to the public morals, or injurious to individuals. The *cap of liberty* is used in England as a symbol of the constitutional liberty of the nation. It is blue with a white border, and is sometimes borne by Britannia on the point of a spear.

Li'bertines. In *ecclesiastical history*, the early anabaptists in England, in the 16th century.

Li'bra (Lat.), the balance. In *astronomy*, the seventh sign of the zodiac; thus named because when the sun is in this sign, at the autumnal equinox, the days and nights are equal. Symbol ♎

——2. The Roman pound, equal to 5040 troy grains; also a Roman gold coin, equal to 20 denarii.

Libra'tion, from *libra*, a balance; a state of equipoise. The *libration of the earth* is that motion whereby the earth is so retained within its orbit as that its axis continues constantly parallel to the axis of the world. The *libration of the moon* is an apparent irregular libratory motion of that body about its own axis, whereby we see a little more than one-half of the lunar disc; or, rather, it is in consequence of our seeing a little more than one-half of the disc that the moon appears to have such a motion.

Li'cense, } Fr. from Lat. *licentia*; per-
Li'cence. } mission. A license may be verbal or written; when *written*, the paper containing the authority is called a *license*. A license cannot be transferred.

Licen'tiate, from *licentia*, a license. One who has a license to practise any art or faculty.

Lich'en, λειχην, a roughness of the skin. 1. In *pathology*, the lichen, a disease characterised by an extensive eruption of papulæ affecting adults, connected with internal disorder, usually terminating in scurf. It is not contagious.——2. In *botany*, an extensive genus of cryptogamic plants; order *algæ*. The name was applied by the Romans to a plant, supposed by them to cure the lichen or tetter. The Iceland moss or liverwort, the tree liverwort, the tree lung-wort, oak-lungs, or hazel croteles, the cup-moss and canary, or herb archil, are species. This last yields archil and litmus.

Licks, the name of sandy tracts in North America, on which common salt effloresces, which is licked by graminivorous animals.

Lic'tors, officers among the Romans, who carried the fasces before the chief magistrates when they appeared in public. The lictors were also the public executioners in beheading, scourging, &c.

Lie'ge, Lat. *legius*. 1. In *law*, a vassal bound by feudal tenure. By *liege homage* a vassal was bound to serve his lord against all, not excepting his sovereign. ——2. The word has been falsely used in the sense of superior, probably by transferring the word from the vassal to the lord, the lord of *liege men* being thereby termed *liege lord*.

Li'en, Fr. *lien*, bond. In *law*, the right of a creditor to retain the property of a debtor until the debt be paid.

Li'entery, from λειος, soft, and εντερον, the intestine; diarrhœa.

Lieuten'ant, Fr. from *lieu*, place, and *tenant*. An officer who supplies the place of a superior in his absence. Officers of this kind are civil, as the *lord-lieutenant* of a county, and military, as a *lieutenant-colonel*.——2. In the *navy* and *army*, the officer next in rank to the captain.

Life, a term used to denote (1.) The aggregate phenomena resulting from the activities of an organised body. (2.) The cause of these activities; the vital principle or unknown cause of life. Many theories of life have been advanced by physiologists, but none of a satisfactory nature.

Life Annuities, are such periodical payments as depend on the continuance of some particular life or lives. *See* Annuity.

Life-boat, a boat constructed expressly to save shipwrecked persons. There are various contrivances of this kind, usually of the form of a boat, rendered highly buoyant by means of cork-wood, air-tight tubes, &c.

Life-buoy, a buoy, with a mast, to render it conspicuous, thrown into the sea upon a man's falling overboard.

Life-estates, are such as are not in inheritance, but continue only during the lives of the possessors.

Life-line. In a *ship*, any rope stretched along for the safety of the men in bad weather.

Life-preserver. Scheffer's life-preserver is a hollow cylindrical ring formed without a seam, and perfectly air-tight. It is distended with air, and is therefore well adapted to the place which it occupies, being placed under the arms.

Life-rent. In *Scottish law*, the right of enjoyment of an heritage or sum of money for life.

Lifts. In a *ship*, certain ropes at the yard-arms, used to make the yards hang higher or lower as wanted.

Lift-wall, the cross-wall of a lock chamber.

Lig'ament. In *anatomy*, a strong elastic and compact substance, serving to join two moveable bones together: hence the term *ligamentum*, from *ligo*, to bind. The ligaments are harder than membrane, and softer than cartilage.

Lig'ature, a thread, *ligatura*, from *ligo*, to bind; anything which binds. In *music*, a line connecting notes. In *printing*, a double character or type consisting of two letters, as *fi*, *fi*, &c.

Light, Sax. *leoht*, that which renders bodies perceptible to our sense of seeing. Some regard light as a substance, or fluid *per se*; others consider it merely as a principle, and attribute it to a sort of undulation or vibration, propagated from the luminous body through a subtle ethereal medium. The great source of light is the sun, from which it radiates with a velocity of 164,000 miles in a second of time.——2. In *painting*, those parts of a piece which are illuminated, or that lie open to the luminary by which the picture is supposed to be enlightened, and which for this reason are painted in bright colours, are termed *lights*. In this sense the term is opposed to *shadow*.

Light'er, a large and flat-bottomed boat, used in loading and unloading ships. A *covered* or *close lighter* is one furnished with a deck. A *ballast lighter* is a vessel fitted up to heave ballast from the bottom of a river or harbour, and carry it to and from ships.

Light-house, a certain erection, usually in the form of a tower, built upon or adjacent to dangerous rocks, for the purpose of warning ships of their situation; or along the sea-coast as landmarks, lights of various descriptions being introduced upon the top at night. There are also *floating lights*, or lights placed on board vessels moored in certain situations, and intended for the same purposes as those on shore. *Harbour lights* are such as are placed at the extremity of one of the arms forming the entrance to a harbour, for the purpose of guiding vessels in and out during the night, &c.

Li'ghtness, Teut. *leicht*. In the *fine arts*, a quality indicating freedom from weight or clumsiness.

Light'ning, a sudden discharge of electricity from a cloud to the earth, or *vice versâ*, or from one cloud to another, producing a vivid flash of light, and frequently the report called *thunder*.

Light'room. In a *ship of war*, a small apartment having double glass windows towards the magazine, and containing lights by which the gunner fills cartridges, &c.

Lignifica'tion, from *lignum*, wood, and *facio*, to make. The process of being converted into wood.

Lig'nin, the name given by chemists to the fibrous portion of wood freed by digestion in water, alcohol, ether, hydrochloric acid, alkaline ley, and chlorine, from everything which these reagents are capable of taking up. Lignin constitutes the skeleton of the trunk and branches of trees. Dressed flax is nearly pure lignin. Constituents, carbon 50, oxygen 44·45, hydrogen 5·55.

Lig'nite, from *lignum*, wood; wood-coal. One of the most recent geological formations, being the carbonised remains of forest trees, &c. The lignites mostly burn with flame, but they neither cake nor smell like coal.

Lig'num-vi'tæ, wood of life. The guaiacum or pockwood (*see* Thuya). The common lignum-vitæ tree is a native of the warm latitudes of America. It is a large tree, and the wood is hard, ponderous, very resinous, of a blackish-yellow colour in the middle, and of a hot aromatic taste.

Lig'ula, a strap. The name given by Bloch to a genus of Entozoa. Order *Parenchymata*: family *Cestoideæ*. The body resembles a long ribbon, and no external organ whatever is perceptible. The species inhabit certain birds and fresh water fishes, enveloping and constricting the intestines to such a degree, as to cause death.

Lig'urite, a mineral of an apple green colour which occurs in oblique rhombic prisms. It ranks as a gem. It takes its name from Liguria in Italy.

Ligus'trum, the privet. A genus of permanent plants. *Diandria—Monogynia*. Name from *ligo*, to bind, on account of its use in making bands. There are two species, Europe and China.

Lilia'ceæ, a natural order of plants consisting of such as have liliaceous corollæ.

Lilia'ceous, Lat. *liliaceus*, from *lilium*, a lily. Resembling the lily; an epithet for plants of the lily tribe.

Li'lium, the lily. A genus of perennial plants. *Hexandria—Monogynia*. There are 21 species, mostly hardy.

Lily En'crinite. The *encrinites moniliformis*, so called because the arms when folded resemble the head of a lily. It is one of the most beautiful of the fossil

crinnoidea. Its position is the muschelkalk of the new red sand-stone group.

Limaci'na, a genus of mollusca separated from the *Clio*, Lin., by Cuvier. The animal uses its shell as a boat, and its wings as oars whenever it wishes to navigate the surface of the deep arctic seas.

Limax, the slug. A genus of terrestrial pulmonea, having no apparent shell. This genus in the system of Linnæus comprises the Limax, Arion, Lima, Vaginulus, Testacella, and Parmacella of Cuvier. Name *limax*, a snail, so called from its sliminess.

Limb, Lat. *limbus*. An edge or border, as the sun's limb. —2. The graduated edge of a quadrant, astrolabe, &c.—3. The upper spreading part of a monopetalous corolla.—4. An extremity of the body, as an arm or leg.

Lim'bat, a cooling periodical wind in the island of Cyprus, which blows from the north-west from 8 o'clock a.m. till noon.

Lim'bers. *Limber holes* are square holes cut through the lower part of a ship's floor timbers, very near the keel, forming a channel for water, and communicating with the pump-well through the whole length of the floor. *Limber boards*, short pieces of plank which form a part of the lining of a ship's floor close to the keelson and immediately above the timbers, for the convenience of keeping a clear passage to the well. *Limber rope*, a long rope frequently retained in the limber holes of a ship, in order to clear them by pulling the rope backwards and forwards. *Limber carriage*, a sort of advanced train joined to the carriage of a cannon while on march, having boxes for ammunition.

Lim'bo, Lat. *limbus*, a hem or edge. The purgatory of the Romanists, supposed to lie on the edge or neighbourhood of hell.

Limbus, that portion of petals of flowers which is supported by the unguis.

Lime. 1. In *mineralogy*, the oxide of calcium, one of the primitive earths, much used in building and for other purposes, being the most essential ingredient in all cements. It is never found native or in a state of purity, but is always combined with acids, particularly in the state of carbonate, as marble, limestone, and chalk, from which it may be obtained nearly pure by simple calcination. When any carbonate of lime is properly calcined, the result is *quick lime* and this *slacked* with water forms *hydrate of lime* or *slack lime*. Lime is also found combined with sulphuric acid, forming *gypsum* and *anhydrite*, and with the fluorine forming *Derbyshire spar*. It likewise combines with phosphoric acid, and forms bones and shells.—2. In *botany*, a fruit like a small lemon, that of the *Citrus limetta*, which grows abundantly in the West India Islands, and in other warm climates.

Lime'stone. *Calcareous stone*. A genus of mineral, comprehending, according to Jameson, four species:—(1). Rhomb-spar; (2). Dolomite; (3). Arragonite; (4). Limestone. The same mineralogist divides this last into 12 sub-species:—(1). Foliated limestone, comprehending calcareous spar and marbles; (2). Compact limestone, comprehending the common compact limestone (usually burned to produce lime), blue Vesuvian limestone and roestone; (3). Chalk; (4). Agaric mineral or rockmilk; (5). Fibrous limestone, comprehending satin-spar and calc-spar; (6). Calc-tuff; (7). Pea-stone; (8). Slate-spar, (9). Aphrite; (10). Lucullite, comprehending the *Nero antico* of the Italians, slinkstone or swinstone, and madreporite; (11). Marl; (12). Bituminous marl-slate.

Lime-tree, the *Tilia europæa*, called also the linden-tree. *See* Tilia. The *lime-tree* of the West Indies is the *Citrus americana*.

Lime'-water, an aqueous solution of lime. Lime is very slightly soluble in water, and less so in hot than in cold water.

Lim'it, from *limes*, border. In *mathematics*, a determinate quantity, to which a variable one continually approaches. Thus a circle is the limit of all its inscribed and circumscribed polygons.

Limnæ'us, a genus of Molluscs, inhabiting stagnant water in great numbers; placed by Cuvier, order *Pulmonea*, and class *Gastropoda;* and by Lamarck in the family Limnacea. The shell is a turreted univalve, with an oblong spire, and of a light amber colour. It abounds as a fossil in calcareous strata.

Limo'sa, the godwit. A genus of birds. Order *Grallatoriæ*, family *Longirostres*. Their form is more slender, and their legs are longer, than those of the snipes; they frequent salt-marshes and the sea-shore.

Limo'sis, a genus of diseases characterised by depraved, excessive, or defective appetite.

Lim'ulus, the Molucca crab. A genus of Crustaceans. Order *Pœcilopoda*, family *Xyphosura*. The limuli are sometimes found two feet in length; they inhabit the seas of hot climates, and most frequently their shores. The *L. cyclops* is found in France, and is commonly called *casserole*, from its shape. It is the *king-crab* or *horse-shoe* of our fishermen.

Lina'ria. 1. In *botany*, the toad-flax, from *linum*, flax, so named from the resemblance of its leaves to those of flax. —2. In *ornithology*, a sub-genus of the sparrow-tribe of birds, comprehending the linnets and canary-bird.

Linch-pin, the small pin which is put

at the end of the axle-tree of carts, &c. to confine the wheels on them. *Linch* is the Sax. *lynis*, an axle-tree.

Lin'den-tree, the European lime-tree, *Tilia Europæa*.

Line, Lat. *linea*. 1. In *geometry*, a quantity extended in length without breadth or thickness, and is either curved or straight.——2. A measure of length, the twelfth part of an inch.——3. In *fortification*, whatever is drawn upon the ground of the field, as a trench.——4. In *geography*, another name for the equator.——5. In *military affairs*, regular troops, in contradistinction to militia, volunteers, yeomanry, &c.——6. A *ship of the line* is any vessel of war large enough to be drawn up in the line of battle.——7. *Line of battle*, the disposition of an army in battle.——8. In *geology*, &c., strata almost always form some angle with the horizon, declining at one point, and rising towards the opposite point: a line drawn through these points is called the *line of dip*, and their longitudinal direction is called their *line of bearing*.——9. In *ships*, a general name for small ropes. The *concluding line* is a small rope, which is hitched to the middle of every step of a stern ladder. The *knave-line* is a rope fastened to the cross-trees, under the main-foretop, brought down to the ship's side, and then hauled up taut to the rails. The *naval-line* is a rope depending from the heads of the main and fore masts, and fastened to the middle of the truss. The *spilling-lines* are ropes occasionally fixed to the square-sails, for convenience in reefing and furling them. A *white line* is one which has not been tarred. A *mar-line* is composed of two strands very little twisted. There are also *deep-sea-lines* and *hand-lines*, marked at different distances, for taking soundings. There are also *hauling-lines*, *fishing-lines*, and *life-lines*, extended in situations for persons to lay hold of, to prevent their falling.——10. The term *line* is also used figuratively, as a *line* of ancestors, a *line* of business. Printers and poets make *lines*, and receive *lines* by the post.

Lin'ear, Lat. *linearis*, strap-shaped. 1. In *botany*, &c. narrow and of equal breadth throughout the length, as a *linear* leaf.——2. In *conchology*, &c. for *lineate* (q. v.).

Lin'ear Equations, in the *integral calculus*, are those in which the unknown quantity is only of the first degree.

Linear Perspective is that which regards only the positions, magnitudes, and forms of objects.

Lin'eate, Lat. *lineatus*, streaked.

Lin'en, from *linum*, flax. A species of cloth made of thread, flax, or hemp. *Fossil-linen*, an old name for amianthus.

Lines (of Growth). Those concentric lines or markings in a shell, trunk of a tree, &c., which mark the growth of the individual, are thus named.

Ling. 1. In *ichthyology*, the *Gadus molva*, Lin., the *Lota molva*, Yarr., a fish which is common on the English, Irish, and Scottish coasts, and, like the cod and hake, forms a considerable article of commerce.——2. In *botany*, a species of bent-grass.

Lin'gua Fran'ca, the mixed dialect. A species of corrupt Italian, spoken chiefly along the coasts of the Mediterranean.

Lin'gual, from *lingua*, the tongue. Appertaining to the tongue, as the lingual arteries, veins, muscles, &c.

Lin'guiform, from *lingua*, the tongue, and *forma*, form, tongue-shaped.

Lin'gulate, Lat. *lingulatus*, tongue-shaped, from *lingua*, the tongue.

Lin'iment, from *lin*, to anoint. A medicament of a mediate consistence between an ointment and an oil, used to rub upon diseased parts.

Li'ning. In *architecture*, any covering of an interior surface.

Link, a certain portion of a chain; e.g. Gunter's chain consists of 100 links, each measuring 72·92 inches.

Lin'net, a small singing-bird of the finch tribe, the *Fringilla linota*, Lin. According to Cuvier's arrangement, the linnets, including the canary-bird, make the sub-genus *Linaria*.

Lin'seed, lint-seed. The seed of the common flax, *Linum usitatissimum*. It yields *linseed-oil* by expression. The cake which remains after expression of the oil is called *oil-cake*. The seeds are also ground into *linseed-meal*. Much used in medicine

Lin'sey-wool'sey, cloth made of lint and wool; the warp being lint, and the weft wool.

Lin'stock. *Lint-stock*. A staff of wood, with a fork at one end, to hold a lighted match. Used by gunners in firing cannon.

Lint. 1. In *botany*, another name for flax; but sometimes applied especially to dressed flax.——2. In *surgery*, linen scraped into a soft woolly substance, fit for applying to wounds.

Lin'tel, the horizontal or head-piece which covers the opening of a door or window: the part of the frame which lies on the side pieces. The term is Spanish *lintel* for *dentel*.

Li'num. The *Flax*. A genus of herbaceous plants. *Pentandria — Pentagynia*. Name, Λινον, anciently applied generally to all stuffs fit to be woven. The *L. usitatissimum* is the species commonly cultivated in this country; but there are other indigenous species, among which is the purging flax, or mill-mountain (*L. catharticum*.) *See* Flax.

Liny'phia. The name given by La-

treille to a sub-genus of Arachnides, characterised by the disposition of their eyes; four in the middle form a trapezium. *See* ARANEA.

LI'ON. The *Felis leo*, Lin. Reckoned the strongest and most courageous of all the beasts of prey. The lion is now confined to Africa, and the neighbouring parts of Asia.

LION OF ENGLAND. A lion passant regardant, being the bearing of England, is frequently so termed in heraldry.

LION-ANT. In *entomology*, the *Formica leo*, or Myrmeleon.

LI'ONCEL. In *heraldry*, a small lion; the name by which lions are emblazoned when there are several to one escutcheon.

LIP, the border or edge of the mouth of anything, as a shell.

LIP'OGRAM, from λειπω, to leave, and γραμμα, a letter. A writing (poem, &c.) in which some particular letter is entirely omitted.

LIQUA'TION, from *liquo*, to melt; the process of melting.——2. The process of weating out, by a regular heat, an easily fusible metal from the interstices of a metal of difficult fusion, with which it had been previously melted.

LIQUEFAC'TION, from *liquidus*, liquid, and *facio*, to make. Conversion of a solid into a liquid. The word is sometimes synonymous with *fusion*, sometimes with *deliquescence*, and frequently with *solution*. The first is the common signification.

LIQUEUR, the French name for any liquor. Applied most commonly to medicated and aromatised liquors.

LIQ'UID, a non-elastic fluid, as water. *See* FLUID.——2. In *grammar*, a letter which has a smooth flowing sound, or which flows smoothly after a mute, as *l* in *bla*, and *r* in *bra*.

LI'QUIDAM'BAR, the *liquid-amber*, or *sweet-gum*. A genus of trees. *Monœcia —Polyandria*. Name from *liquidum*, fluid, and *ambar*, a fragrant substance, alluding to the liquid gum which distils from the *L. styraciflua*, by wounding the bark. This tree grows in the warm parts of North America; but the *L. imberbe* is a native of the Levant.

LIQUID-AMBER. 1. The juice of the *L. styraciflua*, an American tree. It is transparent, of an amber colour, an agreeable and powerful smell, and an aromatic taste. It contains benzoic acid, which effloresces when the liquid amber hardens by keeping.——2. In *botany*. *See* LIQUIDAMBAR.

LIQ'UORICE (Ital. *liquirizia*.) 1. Roots of the *Glycirrhiza glabra*, a perennial plant, common in the south of Europe. ——2. A name common to all the plants of the genus *Glycirrhiza*, (q.v.)

LIQ'UORICE JUICE, popularly *black-sugar*. The inspissated juice of the liquorice-root.

LI'QUOR SIL'ICUM. The *liquor of flints*. A solution of silica in alkaline lixivia.

LIRIODEN'DRON. The *Tulip-tree*. A genus of coadunate plants. *Polyandria—Polygynia*. The species, North America. Name from λειριον, a lily, and δενδρον, a tree. The tree often attains a great height.

LIST (Sax. *list*.), a border, as the selvage of cloth, the line inclosing a field of combat.——2. A catalogue of names, articles, &c. The *civil list* comprehends the names of the civil officers of government, as judges, ambassadors, secretaries, &c. Hence the term civil list is used for the appropriations of public money for the payment of the civil officers.

LIST, LIS'TEL. In *architecture*, a little square moulding, serving to crown or accompany a larger one; also termed a *fillet*.

LISTING. In *joinery*, the cutting the sapwood out from both edges of a board.

LIT'ANY, λιτανια, supplication. A form of supplicatory prayer in the church rituals.

LITERA'TI. Among the *ancients*, individuals branded with certain letters by way of ignominy.——2. In *modern usage*, men of learning.

LITERA'TES. In *church matters*, individuals admitted to ordination by the bishop without having taken a university degree.

LIT'ERATURE (Lat. *literatura*, from *litera*, a letter); the whole amount of written knowledge of some specified period or country, or of some particular science. Thus we speak of the literature of the middle ages, of British literature, of medical literature, &c.

LITH'AGOGUE, from λιθος, a stone, and αγω, to drive away. Having the power to expel calculi from the kidneys or bladder, formerly applied to many medicines.

LITH'ANTHRAX, pit-coal, in distinction from *xylanthrax* or wood-coal, as bovey-coal.

LITH'ARGE, an oxide of lead in an imperfect state of vitrification, named from λιθος, stone, and αργυρος, silver; because when silver is refined by cupellation with lead, this latter metal is scorified, and causes the scorification of the other imperfect metals alloyed with the silver. Litharge is more or less white or red, according to the metals with which the silver is alloyed: the white is called *litharge of silver*, the red, *litharge of gold*.

LITH'IA, from λιθος, stone. An alkali discovered in 1818 by Arfwedson in the mineral called *petalite*. Like soda and potash it is a metallic oxide: base, *lithium*.

LITHI'ASIS, from λιθος, a stone. A disease of the eyelids in which their margins are beset with small hard tumours.

—2. In *pathology*, the formation of stone or gravel.

Lith'ic Acid. A peculiar acid, which constitutes great part of all human calculi, and is likewise present in urine, whence it has obtained the name of *uric acid*.

Lithochromat'ics, from λιθος, stone, and χρῶμα, colour. The art of painting in oil upon stone, and taking impressions on canvas: the invention of a French artist.

Lithoden'dron from λιθος, stone, and δενδρον, a tree. Coral, from its resemblance to petrified wood.

Lithoder'mis. The name given by Cuvier to a genus of zoophytes, from λιθος, stone, and δερμα, the skin; because the surface has the appearance of being covered with a layer of stony granules, which form an extremely indurated crust. Class *Echinodermata*: order *Apoda*.

Litho'domus, a cylindrical marine equivalve shell fixed by byssus to rocks, which it ultimately penetrates, and remains always after in the cavity; hence the name from λιθος, stone, and δωμος, a house. The lithodomi are littoral molluscs found to depths of ten fathoms.

Lithog'lyphite, from λιθος, stone, and γλυφω, to engrave. A fossil which presents the appearance of being engraved or shaped by art.

Lithog'raphy, from λιθος, stone, and γραφω, to write. The art of taking impressions upon paper, from stone, of writing and figures previously traced upon the stone. The stone used for this process is a fine-grained and hard limestone; (the best are obtained from the quarry of Solenhofen, near Munich). The ink with which the lines are traced on the stone is essentially composed of some fatty matter, usually wax, tallow-soap, lac and lamp-black. It firmly adheres to the smoothly-polished surface of the stone, and attracts the printing-ink from the inking roller, as it is passed with some force over the surface of the stone. The stone during the operation of printing is constantly kept in a damp or moist state, which prevents the adhesion of the ink to those parts of the surface of the stone which are not impregnated with the encaustic ink.

Lith'omancy, from λιθος, and μαντεια, prophecy. Divination by stones—a foolery practised by the ancients.

Lith'omarge, from λιθος, stone, and *marga*, marl. Stone-marrow: a variety of talc. It has an unctuous feel, adheres to the tongue, and in water falls to a powder, but does not form a paste.

Lithontrip'tic, from λιθος, a stone, and τριβω, to wear away. A term formerly applied to various medicines, supposed to have the power of dissolving calculi; but as it is now thought that there is no such medicine, the term has been transferred to such as have a power of obviating the calculous diathesis.

Lithontrip'tor, λιθος, and θρυπτω, to break. An instrument for breaking calculi in the bladder, so as to allow them to pass with the urine.

Litho'phagi, from λιθος, a stone, and φαγω, to eat. Molluscs which eat holes into stones and rocks, formed into a family by Lamarck, under the name of *Lithophagidæ*.

Lithoph'ila. A genus of plants, thus named from λιθος, a stone, and φιλεω, to love, because they grow in barren stony places.

Lithot'omy, from λιθος, a stone, and τεμνω, to cut. The operation of cutting into the bladder, in order to extract a stone; a most delicate operation in surgery.

Lithot'rity, from λιθος, a stone, and *tero*, to break The operation of breaking and comminuting a vesical calculus, so that its fragments may be discharged by the urine.

Lit'mus. A blue colouring matter, obtained from the *Lichen roccella*, or canary archil. The plant, gathered in quantities, is thoroughly ground between stones, so as to bruise, but not to grind it to powder; it is then moistened with strong spirit of urine (urine mixed with quicklime): in a few days it acquires a purplish red, and at length a blue colour; in the first state it is called *archil*, and in the latter *lacmus* or *litmus*. Litmus is not affected by alkalies, but is immediately converted to a beautiful red by acids: hence chemists use it as one of their most delicate tests for the presence of free acid. It has with much impropriety been called *tincture of turnsole*.

Lit'otes, λιτοτης. In *rhetoric*, a figure in which an affirmation is expressed by the negative of the contrary.

Litre. A French measure of capacity, equal to 1 thirty-fifth of an English bushel.

Lit'tle, Sax. *litel*. In the *fine arts*, a condemnatory word implying that a work is void of qualities that tend to raise the feelings of a spectator.

Lit'urgy, from λειτος, public, and ἐργον, work. In a general sense, all public ceremonies that belong to divine service; hence, in a restricted sense, among the Romanists the mass, and among Protestants the common prayer, or the formulary of public prayers.

Lit'uus. 1. A military musical instrument of the Romans; also a crooked staff

made use of by augurs in quartering the heavens.——2. A genus of chambered shells, supposed to resemble the ancient lituus in form.——3. In *geometry*, the name of a spiral, in which the squares of any two radii vectores are reciprocally as the angles which they make with a certain straight line (an asymptote), given in position.

Liv'er, Sax. *lifer*. In *anatomy*, a large abdominal viscus, of a deep red colour, situated under the diaphragm, in the right hypochondrium: its use is to secrete the bile. Epithet, *hepatic*.

Liv'erstone. A native sulphuret of barium, so named from its similarity to liver of sulphur.

Liver of Sulphur. Sulphuret of potash, or other alkaline sulphuret.

Liv'erymen (of London). A number of men chosen from among the freemen of each company. Out of this body the common council, sheriff, and other superior officers, are elected.

Livery of Seisin. In *law*, a delivery of possessions to one that has a right to them.

Lixivia'tion, from *lix*. The process employed for dissolving, by means of warm water, the saline and soluble particles of cinders, the residues of combustion and dry distillation, coals, ores, and earths: salts thus obtained are termed *lixivial salts*.

Lixiv'ium. A ley, from *lix*, wood-ash; the liquor obtained by lixiviation.

Liz'ard, corrupted from *Lacerta* (q. v.).

LL. D., *Legum Doctor*. Doctor of laws.

Lloyd's. *Lloyd's List* is a London periodical, in which the shipping news received at *Lloyd's Coffee-house*, London, are regularly published. At this coffee-house there is a subscription room, under the management of a committee, for the convenience of underwriters and other subscribers interested in shipping. Agents, commonly styled *Lloyd's agents*, are appointed to all the principal ports of the world, who forward regularly to Lloyd's, accounts of the departures from and arrivals at their ports, as well as of losses and other casualties, and all such information as may be supposed of importance towards guiding the judgments of the underwriters.

Loach, *Beardie*. A small river fish, the *Cobitis barbatula*, Yarr., Lin., occasionally prepared in the same manner as Anchovies, and considered superior in flavour and richness.

Loads'man. In *marine affairs*, a person who conducts vessels into or out of port: a pilot.

Load'stone, corruption of *lode-stone* (*see* Lode), magnetic iron-stone. An ore of iron containing protoxide and peroxide of iron in a state of combination. According to Haüy, the ores in which the iron is combined with the least oxygen, without being engaged in other combinations, form natural magnets. These he terms *oxidulated iron*, and they are found in considerable masses in most countries of the Old World. Their colour is gray, with a metallic lustre; primitive form, the regular octahedron; insoluble in nitric acid, attract iron, and have all the other properties of the artificial magnet in small degree.

Loam, Sax. *lam*. A natural mixture of clay, quartz-sand, and iron ochre, usually with some carbonate of lime; when this last preponderates, the mixture is usually termed marl. Any soil, which does not cohere so strongly as clay, but more strongly than chalk, is designated loam: a mixture of sand and clay.

Lo'bate, } Lat. *lobatus*. Having lobes;
Lobed, } from *lobus*, a lobe. Applied to leaves, &c., when the margins of the segments are rounded.

Lob'by, Germ. *laube*. 1. An open space before a room, or surrounding a range of chambers, or seats in a theatre; also a small hall or waiting-room.——2. A confined place, for cattle formed by hedges or other fencing, near the yard of a farm.

Lobe, Lat. *lobus*, from λοβός. 1. A rounded portion of certain bodies, as the lobes of the brain, the lungs, the liver, a leaf, &c.——2. The cotyledon of a seed. Epithet, *lobed* or *lobate*.

Lobe'lia. The *cardinal's-flower*: an extensive genus of herbaceous (mostly) plants. *Pentandria—Monogynia*. Named in honour of Lobel, a celebrated botanist. The species are found in almost all parts of the world: the water-gladiole is the British type. Some of the species are highly poisonous.

Lob'ster. A crustaceous fish, the *cancer gammarus*, Lin., found on the rocky coasts of England, and considered a delicate article of food. The animal is said to change its shell annually, and only to increase in size while in a soft state.

Lo'cal, Lat. *localis*. Relating to a limited portion, and not the whole, as a *local* disease, custom, &c. *Local colours* are such as are natural and proper for particular portions of a picture. *Local medicines* are designed to act on particular parts. *Local actions* must be brought in a particular county, where the cause arises. *Local militia* are exercised within prescribed limits of the country. *Local problems* admit of innumerable solutions.

Loch. The Scotch name for lake.

Lock, Sax. *loc*. 1. In a primary sense, anything that fastens, but now appropriated to the well-known instrument consisting of a spring, wards, and a bolt of iron, used to fasten doors, chests, &c., and by analogy to that part of a musket, &c., by which fire is produced for the discharge

of the piece ——2. The barrier or works of a canal, which confine the water where a change of level takes place, and for passing the boats from one level to another. Canal locks are provided with gates at each end, and are made sufficiently large to receive the largest boats navigating the canal upon which they are constructed. The upper portion of the canal is generally termed the *upper pond*, and the other the *lower pond;* the difference between the levels is the *lift of the lock;* the portion of the lock inclosed by the gates is the *lock-chamber;* the recesses into which the leaves of the gates turn are termed *gate-chambers;* the gate-post hung in the hollow quoin is called the *quoin* or *heel-post*, and the other the *mitre-post;* the bottom framings against which the gates shut are termed *mitre-sills*, and are either *upper* or *lower;* the *bays* are the portions of a lock at each extremity of the lock-chamber: they are either *fore* or *tail bays* accordingly.

Lock'er. A kind of strong-box or chest made along the side of a ship, to stow anything in.

Lock-gates. The framed gates employed on rivers and canals, for penning back the water and forming locks. They consist commonly of two leaves, and are opened either by means of balance-beams, situated on the top of the gates, or by boat-hooks; a large gate, running upon wheels, is opened by means of a windlass and chain. They are termed *upper* and *lower gates*, according to their situation.

Lock-paddle. A small sluice, by which an empty lock is filled.

Lock-sill. An angular piece of timber at the bottom of a lock, against which the gates shut. *See* Lock.

Lock-weir, *paddle-weir*. 1. An overfall behind the upper lock-gates, by which the waste water of the upper pond is let down through the paddle-holes into the lock-chamber.——2. A weir furnished with a lock.

Lo'cofo'cos. The designation of the ultra-democratical party in America, since 1834.

Locomo'tive Engine. A motive steam-engine, usually constructed on the high-pressure principle, employed in land-carriage, chiefly of railways.

Locomo'tive Power is any power applied directly to the transport of goods, in distinction from stationary power.

Loc'ulament, Lat. *loculamentum*. A lodgment. A term, in *botany*, for the cell of a pericarp in which the seed is lodged.

Loculi'cidal. In *botany*, a particular kind of dehiscence. Some fruits open by the dividing of each carpellum at its mid-rib, so that the dissepiments stick together, and to two halves of contiguous carpella: this is called *locuicidal dehiscence*

Lo'cum Te'nens. One who *holds the place* of another; a deputy.

Lo'cus, a place. *Locus in quo*, the place where anything is alleged to be done in legal pleadings, &c. *Locus partibus*, a division made between two counties, &c. to make trial where the place in question lies.

Lo'cust. 1. In *botany*, a name applied to the spikelet of grasses.——2. In *entomology*, *see* Cicada and Acrydium.

Lo'cust-tree. The pseud-acacia, or common robinia, a tree of North America.

Lode. In *mining*, a vein of ore, from Sax. *lædan*, to lead. The term is used to signify a regular vein or course, whether metallic or not; but most commonly it is applied to a metallic vein. The lodes are said to be *alive* when the ores are good, and *dead*, when the gangue is the only material found.

Lodge, Fr. *logis*. In *architecture*, a small house in a park or domain, subordinate to the mansion; also, the cottage at the gate of the avenue.

Lodged. In *heraldry*, a term for a buck, hart, &c., when lying on the ground; answering to *couchant*, which is applied to beasts of prey, as a lion.

Lodg'ment. In *fortification*, a work raised with earth, gabions, fascines, &c., to cover the besiegers from the enemy's fire, and enable them the better to hold a position which they have taken.

Loess. A German word, used by geologists to designate an alluvial tertiary deposit, consisting of calcareous loam. It is exemplified between Cologne and Basle.

Log. A machine for measuring the rate of a ship's velocity through the water. The common log is a piece of board, forming the quadrant of a circle, about six inches radius, balanced by a small plate of lead, nailed on the circular part, so as to swim perpendicularly in the water, with the greater part immersed. To this is attached a *log-line*, which, when the log is "heaved," is unwound from its reel by the log, which remains stationary in the water, while the ship moves away: the number of "knots" run off in half-a-minute, denotes the number of miles which the ship is making per hour. The observations are marked on the *log-board*. The log-board consists of two boards, shutting together like a book, and is divided into columns, containing the hours of the day and night, the directions of the winds, the courses of the ship, and what ever material occurrences happen during the twenty-four hours. The contents of the log-board, being written with chalk, are wiped out at noon, having been first transcribed into the *log-book*, which is duly signed by the commanding-officer.

Log'arithm, from λογος, ratio, and αριθμος, number. Ratio of numbers. Lo-

garithms are a series of numbers in arithmetical progression, answering to another series of numbers in geometrical progression; or, more strictly, they are the indices of the powers of a certain radix, which, when involved by the power denoted by the index, is equal to the given number. Thus, if $r^x = a$, $r^y = b$, $r^z = c$, then is x the logarithm of a, y of b, z of c, and r is the radix of the system, and may be any number except 1.

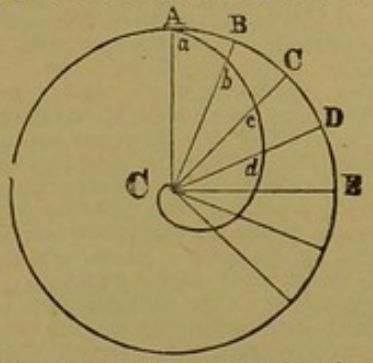
Logarith'mic or Logist'ic Curve. In *geometry*, a curve line, of which the abscissæ are proportional to the logarithms of the corresponding ordinates.

Logarith'mic or Logist'ic Spiral. In *geometry*, a spiral curve, such that the radiants, or distances from the centre of points in the curve, which make equal angles with each other, are continual proportions.

Log'gats, kittle-pins. A game prohibited by Stat. 33 Henry VIII.

Logic, Lat. *logica*, from λογικη, from λεγω, to speak. The art of thinking and reasoning justly.

Logist'ic Spiral. *Logarithmic spiral.* A curve constructed thus: divide the quadrant of a circle into any number of equal parts in the points A, B, C, D, &c.,



and from the radii CA, CB, CC, CD, &c., cut off C*a*, C*b*, C*c*, C*d*, &c., continually proportional; then the curve passing through the points *a*, *b*, *c*, *d*, &c. will be the logarithmic spiral. The several areas are as the logarithms of the ordinates.

Log'ography, from λογος, a word, and γραφω, to write. A method of printing, in which a type represents a word, instead of forming a letter.

Logomet'ric, from λογος, ratio, and μετρον, measure, ratio of equivalents. Wollaston's scale of chemical equivalents has been termed a *logometric scale.*

Log'wood. The wood of the *Hæmatoxylon Campechianum*, a native tree of central America, but grown in Jamaica since the beginning of the last century. It affords a valuable tincture by decoction, extensively used in dyeing and calico-printing.

Lo'lium. The *Darnel-grass.* A genus.—*Triandria—Digynia.* The *L. perenne*, a perennial, of which there are no less than 14 varieties, is the grass usually known among farmers by the name of *Rye-grass.* The other species are annuals, and considered weeds.

Lol'lards. A sect of early reformers in England and Germany; followers of Wickliffe.

Lom'bards. The old name for bankers, because the people of Lombardy first followed that branch of trade. Hence also the name *Lombard Street*, long famous for its banking-houses.

Lo'ment, Lat. *lomentum.* 1. The meal of beans.——2. Bean-meal bread.——3. The name of a pigment now forgotten.——4. In *botany*, an elongated bivalve pericarp, divided into cells by very small partitions, never lateral like those of the legume.

Lomenta'ceæ. The name of the 33rd natural order of plants in Linnæus' Fragments, consisting of plants furnished with loments, as the cassia, ceretonia, mimosa, &c., and not papilionaceous corols. Epithet *Lomentaceous.*

London Clay. A bluish or blackish clay, lying immediately over the plastic clay and sand; varying from 1 to more than 500 feet in thickness. It belongs to the eocene period, and abounds with fossil remains, especially of testaceans, reptiles and fish. It is the *calcaire grossier* of the French.

Long. A musical character, equal to four semibreves.

Longicor'nes, from *longus*, long, and *cornu*, a horn. A family of coleopterous insects in Cuvier's arrangement, so named from the length of their antennæ, which are filiform or setaceous, and most commonly at least as long as the body.

Longipen'nes, from *longus*, long, and *penna*, a wing. A family of birds in Cuvier's arrangement, including those palmipedes of the high seas, which, from their immense length of wing, are to be met with in every latitude; as the petrels, puffins, albatross, gulls, noddies and skimmers.

Longiros'tres, from *longus*, long and *rostrum*, a bill. A family of birds of the order *Grallatoriæ*, Cuv., composed of a multitude of waders, characterised by a long, slender, and feeble bill, the use of which is restricted to searching in the mud for worms and insects; as the ibis, curlews, snipes, &c.

Longis'simus Dorsi, a muscle of the back, which assists others in keeping the spine erect.

Lon'gitude, Lat. *longitudo*, from *longus*, long; properly, length. The *longitude of a celestial body* is its angular distance from the vernal equinoctial point; that is, if a great circle pass through a star perpen-

dicular to the ecliptic, the arc of the ecliptic intercepted between the intersection of it with this circle and the vernal equinoctial point will be the longitude of the star. In *geography* and *navigation*, ongitude is the measure of the angle included between the meridian of any place, the longitude of which is required, and a certain fixed meridian, from which the longitude is reckoned; or it is the number of degrees, minutes, &c., intercepted between a certain fixed point of the equator and the intersection of the meridian of the place with the same circle: thus degrees of longitude vary with the parallels of latitude, being everywhere as the cosine of the latitude.

Lon'gitude Stars. Those fixed stars which have been selected for the purpose of finding the longitude by lunar observations, as *α Arietis*, *Aldebaran*, *α Pegasi*, &c.

Long-primer. The name of a printing type of a size between bourgeois and small-pica.

Lon'gus Col'li. A pair of muscles of the neck.

Lonic'era. The *Honeysuckle*, or *Woodbine*.

Loof. The after part of a ship's bow. This term is also sometimes used for *luff* (q.v.)

Lool. A vessel used to receive the washings of metallic ores.

Loom. A frame of wood or metal, by which the process of weaving is performed.——2. To *loom* is to appear larger than the real dimensions, and indistinctly. Thus, the ship *looms* large, and the land *looms* high, are phrases applicable to similar phenomena to what is otherwise called *mirage*.

Loom-gale. A gentle gale of wind, in which a ship can carry her topsails a-trip.

Loom'ing. The indistinct, magnified appearance of objects seen in particular states of the atmosphere.

Loop. A noose through which a lace or cord may be run for fastening.——2. In *iron-works*, the part of a row or block of cast-iron, melted off for the forge or hammer. *Looping* is also used to express the running together of the matter of an ore in the roasting.

Loop-holes. Certain small apertures formed in the bulk-heads and other parts of a merchant-ship, through which small arms may be fired on an enemy who boards her.

Lophi'odon. A fossil genus of animals allied to the tapir, rhinoceros and hippopotamus, and closely connected with the palæotherium; named from λοφια and οδους, in allusion to certain points or eminences on the teeth. Fifteen species have been discovered, mixed with the remains of the anoplotherium and palæotherium.

Lo'phius. A genus of Acanthopterygious fishes, comprehending the sea-devils or fishing frogs, pig-fish, toad-fish, &c. The *L. piscatorius*, Cuv., Yarr., is a common fish all round the British coasts; it is sometimes taken of the length of five feet, and is remarkable for its voracity.

Lophobran'chii. An order of fishes in Cuvier's arrangement, thus named from λοφος, a tuft, and βραγχος, a gill, being eminently distinguished by the gills, which, instead of resembling as usual the teeth of a comb, are divided into small round tufts, arranged in pairs along the bronchial arches. They are generally small, and almost without flesh. The whole are comprehended in the single genus *Syngnathus*, Lin.

Lord. A title of courtesy given to all British and Irish noblemen, from the baron upward to all sons of marquesses and dukes, and to the eldest sons of earls; and, as an honorary title to certain official characters, as the *lord* mayor of London, the *lord* chief justice, the *lord* chancellor, &c. Archbishops and bishops, as members of the House of Lords, are lords of parliament: thus we speak of *lords* temporal and spiritual. The title is from Sax. *hleford*, usually derived from *hlaf*, loaf, and *ford*, or *afford*, to give; and hence *lord* is interpreted a *bread-giver*. A *lord* in law is one who possesses a fee or manor, and it was in right of their fiefs that lords came to sit in parliament. In scripture language Lord is a name for the Supreme Being; and in the old testament, when printed in capital letters, it is a translation of the name Jehovah.

Lords, House of. One of the three estates of parliament, and composed of the lords spiritual and temporal.

Lore, Lat. *lorum*, strap. In *ornithology*, the space between the bill and the eye.

Lori'ca (Lat.). A coat of mail.——2. A lute of clay, &c., for coating retorts and other chemical vessels which are to be subjected to a high heat: hence *lorication*, the application of such lute or lorica to vessels.

Lorica'ria. A genus of fishes; order *Abdominales*. Name from *lorica*, a coat of mail, the body being covered by plates of mail.

Lor'imer. An old name for a bridle-maker: one who made such articles as were required for the furniture of war-horses. The term is Fr. *lormier*, from Lat. *lorum* a thong.

Lo'ris. A subgenus of Lemurs, comprehending the slow loris or sloth of Bengal (*Lemur tardigradus*, Lin.) and the slender loris (*Lemur gracilis*, Cuv.). also from India.

Lo'ry. A bird of the parrot tribe, the *Psittacus Lorius*, Lin.

LOTE TREE. In *Hindoo mythology*, the symbol of creation.

LOT'TERY, from *lot*, a share. A game of hazard at which small sums are advanced in the hope of gaining a larger. The *state lotteries* were abolished in 1826.

LO'TUS. The bird's foot trefoil. 1. An extensive genus of plants. *Diadelphia—Decandria.* There are three British species, all perennials; but several of the exotic species are shrubby, some biennial, others annual. The name lotus, λωτος, has been variously applied to a small herb, a species of trefoil.——2 Some species of aquatic plants of the water-lily tribe, as the *sacred lotus* of the Egyptians, known at present in India under the name of *Tamara.*——3. To several trees or rather shrubs, as that at present known by the vernacular name of *jujube*, and some tree, the fruit of which was said to be so delicious as to make those who tasted it forsake all other desires, hence the proverb, λωτον εφαγον, *lotum gustavi*, I have tasted lotus. This name is also said to be from the nymph Lotis, who was changed into this tree.

LOUGH. } The first is the Irish, and the
LOCH. } second the Scotch, term for lake.

LOUIS-D'OR. A French gold coin, first struck under Louis XIII. It was reckoned worth 24 livres, or 1*l.* sterling, by which, however, it was under-rated in respect to silver. The new *Louis* is worth 20 francs.

LOUIS (*Knights of St.*). The name of a military order instituted in France by Louis XIV. in 1693.

LOVE'-APPLE. In *botany*, a species of nightshade, the *Solanum lycopersicum*, an annual plant of South America.——2. The fruit of this plant.

LOVE, FAMILY OF. A sect of fanatics in the 16th century, resembling the early anabaptists.

LOVE FEASTS. A religious festival held quarterly by the Methodists.

LOVE'-LIES-BLEEDING. In *botany*, a species of amaranth, the *Amaranthus caudatus*, an annual plant. East Indies.

LOW'ER and UP'PER. In *geology*, the chalk formation or series is generally divided into six members, named the *lower green sand;* the gault; the chalk without flints, called the *lower chalk;* the chalk with flints, called the *upper chalk;* and the Maestricht beds.

LOW PRESSURE ENGINE, *condensing engine.* A steam-engine, in the cylinder of which a vacuum is formed whereby the pistons are worked, being forced to descend by the pressure of the atmosphere.

LOW SUNDAY. The Sunday next after Easter.

LOXOD'ROMY, from λοξος, oblique, and δρομος course. A loxodromic curve or spiral, or a line which a ship makes in sailing on the same point of the compass, thereby cutting all the meridians at the same angle.

LOZ'ENGE, Fr. *losange.* A figure with four equal sides, having two acute and two obtuse angles. In *geometry* this figure is usually called a *rhomb*, and a similar figure, having the sides unequal, is a *rhomboid.*——2. In *heraldry*, a lozenge is a figure resembling a pane of glass in old casements All single ladies must place their arms on lozenges.——3. In *pharmacy* and *confectionary*, a small preparation originally in the form of a lozenge: the figure is now departed from.

LOZ'ENGE'E. In *heraldry*, divided lozenge-wise.

LUB'BER'S-HOLE. In a *ship*, the vacant space between the head of the lower mast and the edge of the top: it is so named from a supposition, that a *lubber* or landsman, not caring to trust himself up the futtock shrouds, will prefer that way of getting into the top.

LUCA'NUS. A genus of pentamerous coleoptera, placed among the *Lamellicornes* by Cuvier. The stag-beetle (*L. cervus*, Lin.) is perhaps the best known species. The larva, which inhabits the interior of the oak for several years previous to its final metamorphosis, is considered as the *cossus* of the Romans, regarded by them as a delicious article of food.

LU'CERES (Lat.). In *Roman antiquity*, a body of horse composed of Roman knights.

LUCERNA'RIA. The name given by Muller to a genus of polypi; order *Carnosi.* They fix themselves to fuci, and other marine bodies, by a slender pedicle, and their superior portion dilates like a parasol, in the centre of which is the mouth.

LU'CERNE. A species of moon-trefoil, the *Medicago sativa*, a perennial cultivated like clover. It is the *medica* of the ancients, and supposed originally from Media.

LU'CIFER, from *lux*, light, and *fero*, to bring. A name of the planet Venus, so called from its brightness; or more strictly, when she appears in the morning before sunrise: called, when she appears as an evening star, *Hesperus.*——2. Satan, "the prince of *darkness.*"——3. Matches tipped with a mixture of chlorate of potash and sulphuret of antimony: inflamed by friction on emery paper.

LUCIFE'RIANS. A religious sect, the followers of Lucifer, bishop of Cagliari, in the 4th century. The sect held the carnal nature of the soul, and that there is no place of repentance for those who fall.

LUCIM'ETER, from *lux*, light, and μετρον, measure. An apparatus for measuring the intensity of light proceeding from different bodies.

LUCUL'LITE. A subspecies of rhomboidal

limestone, named after the consul Lucullus, who admired the compact variety of it so much as to honour it with his name. There are three varieties, the compact, prismatic, and foliated. The compact again is divided into the common or black marble and stinkstone.

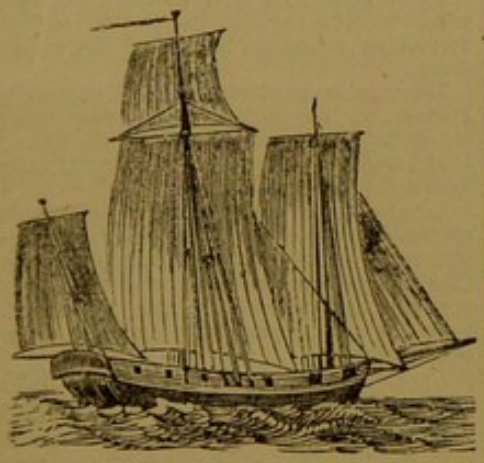
Lu'es. A plague or poison, from λυω, to dissolve, because it produces dissolution.

Luff. 1. In *nautical language*, a *luff* (Arm. *loff*), a weather-gage or part towards the wind.——2. To *luff* (Arm. *loffi*), to turn the head of the ship towards the wind. Hence, in the imperative *luff* is the order of the helmsman to put the tiller towards the lee-side of the ship, in order to make the ship sail nearer the wind. *Luff round*, or *luff a-lee*, is the extreme of the movement intended to throw the ship's head into the wind. A ship *springs her luff* when she yields to the helm by sailing nearer the wind.

Luf'fer Boarding, Fr. *louvre*. In *architecture*, a series of inclined boards for filling an aperture in a wall, which admit air, while they exclude rain.

Luff-tackle. A large tackle, not destined for any particular place in a ship, but is moveable at pleasure.

Lug'ger, Dut. *loger*. A vessel carrying



three masts, with a running bowsprit and long sails.

Lug'-sail. A small square sail, bent upon a yard that hangs obliquely to the mast at one third its length.

Lumachel', Ital. *lumachella*, shell-marble. A variety of common compact limestone, which abounds in the sandstone and coal formations in England and Scotland, and in Ireland, wherever clayslate and sandstone occur. Great part of it is made up of shells and corals conglutinated; its predominant coloured delineations are *red*; whence it is also called *fire marble*.

Lumba'go, from *lumbi*, the loins A troublesome fixed pain about the loins and ligaments of the back.

Lum'bar. Appertaining to the loins (*lumbi*), as the *lumbar-region*: the loins.

Lum'brical, Lat. *lumbricalis*, resembling the earth-worm (*lumbricus*). an epithet of certain muscles, as the small flexors of the fingers and toes.

Lum'bricus. A genus of worms, comprising the common earth-worms (*L. terrestris*, Lin.). Class *Articulata*; order *Abranchiata*, Cuv. Named *lubricate*, from its slipperiness.

Lump'ers. Labourers employed to load and unload merchant ships when in harbour.

Lump'fish, *Lumpsucker*. A fish, the *Cyclopterus Lumpus*, Yarr., called also sea-owl. The male fish, called *cock-padle*, is much smaller than the female or *hen-padle*.

Lu'na. In *astronomy*, the moon. In *alchemy*, silver.

Lu'na Cor'nea, *horn-silver*. Chloride of silver.

Lu'nar, from *luna* (q.v.). 1. Relating to the moon, as the *lunar* orbit.——2. Relating to silver, as *lunar caustic*, or nitrate of silver.——3. *Lunar bone*, one of the wrist bones.——4. *Lunar cycle*, the period of time after which the new moons return on the same days of the year.——5. *Lunar distance* is the distance of the moon from the sun, or from a fixed star or planet, employed at sea in finding the longitude of a ship: this is called the *lunar method*.——6. A *lunar month* is the time in which the moon revolves about the earth.——7. A *lunar year* is 12 lunar months, or 354 days, 8 hours, 48 min., 34 sec.

Luna're, Os. One of the bones of the carpus; so named from its shape.

Lu'nate, Lat. *lunatus*, crescent-shaped. Formed like a half-moon.

Lu'natic. 1. In *law*, a person who is sometimes of a sound mind, and at other times is not: these paroxysms being supposed to be regulated by the moon (*luna*).——2. Applied adjectively to any disease supposed to be regulated by the changes of the moon.

Luna'tion, from *luna*, the moon. The space of time between one new moon and another, named also the *synodical month*. It consists of 29 days, 12 hours, 44 min., 3 sec.

Lunette', Fr. from *lune*, the moon. 1. In *fortification*, an enveloped counterguard, or elevation of earth, made beyond the second ditch, opposite to the place of arms. Lunettes consist of two faces, forming an angle inwards, and differ from a ravelin only in their situation.——2. In *optics*, a description of glasses or spectacles are called *lunettes*.——3. In *architecture*, an aperture for the admission of light in a concave ceiling

Lungs. The organs of respiration in warm-blooded animals. There are two of these organs, each of which occupies its cavity in the thorax. Their substance is of four kinds — vesicular, vascular, bronchial, and parenchymatous. The vesicular substance is composed of air-cells. The vascular invests those cells like a net-work. The bronchial is formed by the ramifications of the bronchia throughout the lungs, having the air-cells at the extremities: and the spongy substance which connects those parts is termed the parenchyma.

Luniso'lar, from *luna*, the moon, and *solaris*, from *sol*, the sun; compounded of the revolutions of the sun and moon. Thus, the *lunisolar year* is equal to 532 common years, found by multiplying the cycle of the sun by that of the moon.

Lu'nistice, from *luna*, the moon, and *sto*, to stand. The furthest point of the moon's northing and southing in its monthly revolutions.

Lu'nular, Lat. *lunularis*, } Crescent-
Lu'nulate, Lat. *lunulatus*. } shaped, or half-moon-like. Applied, in *botany*, to leaves, pods, &c.

Lu'pia. A genus of diseases, including encysted tumours, the contents of which are of a pultaceous-like consistency: from λυπεω, to molest.

Lu'pinose, lupin-like. An epithet for a cutaneous disease, a species of porrigo.

Lupi'nus, the lupine. A genus of leguminous plants of many species. *Diadelphia—Decandria*. Name, according to Martin, from *lupus*, a wolf, because plants of this genus ravage the ground by overrunning it. Lupines are cultivated in this country chiefly as a manure.

Lu'puline. The bitter principle of the hop (*Humulus lupulus*, Lin.), is thus named by Dr. Ives. It is an impalpable yellow powder, obtained by beating and sifting the hops used in brewing.

Lu'pulus. An old name for the hop-plant, from λυπη, on account of its bitterness. *See* Humulus.

Lupus. 1. In *zoology*, the wolf, a species of the genus *Canis*.——2. In *astronomy*, the wolf, a southern constellation.——3. In *nosology*, a disease of the face, otherwise called *noli-me-tangere*, touch-me-not.

Lurch'er. A poacher; a dog more used by poachers than sportsmen. The body is slender, the legs strong, tail straight, and the hair long and rough.

Lu'ridæ, from *luridus*, livid, ghastly. A natural order of plants, the twenty-eighth in the natural method of Linnæus, consisting of such as are highly poisonous, as the datura, atropa, &c.

Lustra'tion, from *lustro*, to purify, a purifying. The lustration was a ceremony of purification, which the Romans performed on their cities, fields, armies, and people, on various occasions, but especially after the numbering of the people by the censors, every fifth year. *See* Lustrum.

Lus'tre. In *mineralogy*, lustre is of five kinds. (1.) *Splendent*, when the lustre can be seen at a great distance. (2.) *Shining*, when the reflected light is weak. (3.) *Glistening*, when observed only at a short distance. (4.) *Glimmering*, when the surface presents only luminous points. (5.) *Dull*, when the surface has no lustre.

Lus'trum, Lat. from *lustro*, to purify. A term, among the Romans, for the space of five years, at the end of which the people paid the census or tribute, and were sprinkled and purified from all prior defilements. *See* Lustration.

Lute. In *music*, a stringed instrument, containing at first only five rows of strings, to which were afterwards added six more, with nine or ten stops.

Lute, } from *lutum*, clay. A compo-
Luting, } sition of clay, or other tenacious matter, for stopping the junctures of chemical apparatus, to prevent the escape or entrance of gas or air.

Lute'oline. The yellow colouring matter of weld (*luteola*). When sublimed it crystallises in needles.

Lu'theran. In *architecture*, a kind of window over the cornice, in the roof of a building, to admit light into the upper story.

Lu'theranism. The doctrines of Martin Luther, an Augustine friar, who separated from the church of Rome about 1515, and took the lead in what is now called the Reformation.

Lu'tra. A genus of carnivorous animals of the digitigrade tribe, comprising the otters, of which there are many species. The European, American, and sea otters are the best known. Name from Lat. *lutra* or *lytra*, probably derived from *lutum*, mud.

Lycan'thropy, Gr., from λυκος, a wolf, and ανθρωπος, a man. 1. A superstitious belief that men were sometimes changed into wolves.——2. A species of madness so called.

Lyce'um, λυκειον. A celebrated school at Athens, where Aristotle taught.

Lych'nis. A genus of hardy perennial plants. *Decandria—Pentagynia*. Europe. The Ragged Robin is a British species. The Greek name λυχνος, a torch, was common to several plants.

Lych'nites, λυχνος. An ancient name of marble, its quarries being worked by lamp-light.

Lycoper'don, the puff-ball. A genus of fungi of many species, as the mollipuf, deerball, truffle, &c. Name from λυκος, a wolf, and πιζδω, pedo.

Lycopodia'cea. The club-mosses. A natural tribe of cryptogamic plants, of which the genus lycopodium is the type.

Lycopo'dium. The club moss. A genus of cryptogamic plants. Order, *Musci*. Name from λυκος, a wolf, and πους, a foot, in allusion to the shape of one of the species. The *L. clavatum*, or wolf's claw, the seed of which is remarkable for its combustibility, &c., is used in theatres to imitate lightning.

Lyco'sa. The name given by Latreille to a genus of arachnides. The lycosæ are extremely voracious. A species of this genus, the *Tarentula*, so called from *Tarentum*, a city of Italy, in the environs of which it is common, is highly celebrated. The poisonous nature of its bite is thought to produce the most serious consequences, being frequently followed by death or *tarentism*, results which can only be avoided by the aid of music and dancing.

Lydian Stone. The *Lydius Lapis*. A flint-slate, used by the Greeks and Romans for the trial of gold and silver.

Lying Panels. In *architecture*, those in which the grain of the wood runs horizontally.

Lying-to. In *navigation*, the situation of a ship when she is retarded in her course, by arranging the sails in such a manner as to counteract each other with nearly equal effect.

Lymph. The liquid contained in the lymphatic vessels of the body. It is transparent and colourless.

Lym'phatic. 1. Of the nature of lymph. ——2. The name of an absorbent vessel, which carries the lymph into the thoracic duct, where it mixes with the chyle. The lymphatics of the body are small and transparent, originate from all the cavities of the body, and form with the lacteals of the intestines the *absorbent system*.

Lynch-law. The irregular and revengeful species of justice which was administered by the populace in some parts of the United States, owing to the difficulty of enforcing regular law. It is named after a Virginian farmer, of the name of Lynch, who took the law into his own hands in flogging a thief.

Lynx. A sub-genus of *felis*, of which there are four or five species, or rather varieties, known in commerce by the qualities and colours of their fur. The most beautiful is the *F. cervaria*, emm., as large as a wolf, and which is found in Asia: the fur is reddish-grey, finely spotted with black. Those of Canada and Sweden (*F. borealis*, Temm.) are ash-coloured grey with few spots. The Bay Lynx (*F. ruffa*, Güld.) of North America is reddish fawn, mottled with brown. The Caracal (*F. caracal*, Lin.) from Persia, Turkey, &c., is the true lynx of the ancients.

Lyra The harp. A constellation of the northern hemisphere, which owes its name to the lyre which Apollo gave to Orpheus.

Ly'rate, from *lyra*; lyre-shaped. Applied to leaves divided transversely into several segments, the segments gradually increasing in size towards the extremity of the leaf.

Lysima'chia. The loose-strife. A genus of herbaceous plants. *Pentandria—Monogynia*. Temperate and cold climates. Named after Lysimachus. There are four British species, among which is the common loose-strife, and money-wort, both perennials, the latter very common in our ditches.

Lysima'chiæ. A natural family of plants, of which the genus *Lysimachia* is the type.

Lys'sa, λυσσα. Hydrophobia.

M.

M, the thirteenth letter of the alphabet, as a numeral stands for 1000, and with a dash over it, $\overline{M}$, it stands for a thousand times a thousand, or 1,000,000. In *astronomical tables*, &c., M stands for meridional, meridian, mid-day, &c. In *law*, M is the brand or stigma of a person convicted of manslaughter and admitted to benefit of clergy. In *medical prescriptions*, it is used to denote a handful (*manipulus*), as of herbs, flowers, &c.; and sometimes it is a contraction of *misce*: thus *m. f. haust.* mix and let a draught be made. M is also an abbreviation of many Roman names, as Marcus, Martius, &c. M. A. *Magister Artium*, Master of Arts.

Mac, } A Scotch prefix to surnames
Mc. } signifying *son*, as McDonald, for Donaldson; synonymous with the English *Fitz*, and the Irish *O*.

Maca'cus, } A genus of mammiferous
Maca'ques. } animals. Order *Quadrumana*. The maned Macaque (*Simia Silenus* and *Conina*, Lin.) from Ceylon, and the Pig-tailed Baboon (*M. rhesus*), from Bengal, are species. The Inui of Cuvier are also macaques without tails.

Macad'amizing. A method of making roads, first publicly introduced by Mr. Macadam. It consists in breaking the stones small, that they may bind with the earthy and pulverised matters of a common road into a firm and smooth mass.

Macandou'. The name given by the natives to a tree of Malacca, the fruit of which is roasted and eaten as a cure for dysenteries, cholera morbus, and other similar complaints.

Macaro'ni, } A kind of biscuit made of
Maccaro'ni. } flour, eggs, sugar and almonds, highly prized as an article of luxury by the Italians. In *commerce*, it is known by the name of Genoese paste

and is usually made up in long tubes of the thickness of a goose-quill.

MACARON'IC, } An epithet for a bur-
MACARO'NIAN. } lesque species of poetry, made up of a jumble of Latin modernized, or of native words with Latin terminations.

MACAS'SAR POISON, *Ippo.* The gum of a tree which grows in the isle of Celebes, in the Indian ocean, with which the Malayans anoint their arrows to make the wound fatal.

MACAW. A name common to those parrots which have a long cuneiform tail. *See* PSITTACUS.

MACE, Lat. *macis*, a spice; the middle bark of the nutmeg. 1. A thick, tough, reticulated, unctuous membrane, of a lively reddish yellow colour, which envelopes the shell of the nutmeg.——2. Fr. *masse*, a club. An ensign of authority borne before some official persons by a *mace-bearer*. Originally the mace was a club or instrument of war, made of iron, and used by cavalry.

MACEDO'NIANS. In *ecclesiastical history*, a sect of Christians who sprung up in the 4th century, denominated after a bishop of Constantinople, who denied the existence of the Holy Ghost.

MACERA'TION, from *macer*, thin. The process of soaking bodies in water or other fluid, in order to extract their virtues. It differs little from *digestion*

MACHE'TES. The *Ruffs*, a genus of birds; order *Grallatoriæ*, family *Lingirostres*, CUV. One species only is known, the *Tringa pugnax*, Lin., somewhat smaller than a snipe.

MACH'IAVELISM. The principles inculcated by Machiavelli, an Italian writer, secretary, and historiographer to the republic of Florence. Political cunning and artifice intended to favour arbitrary power. Hence *Machiavelian*, one who adopts the principles of Machiavel. This word is also used adjectively.

MACHIC'OLATED. In *ancient architecture*, a building whose parapets project beyond the faces of the walls, and are supported by arches springing from large corbels.

MACHINE', Lat. *machina*. An instrument employed to regulate motion, or to increase either its velocity or its force. The term is therefore more particularly significant of the contrivance interposed between the natural force and that employed in fulfilling the end desired, as to a water-wheel, which is situated between the water and the apparatus for grinding corn or pumping water, as the case may be. The tackle connected with most contrivances are also known by the general name of *machinery*.—Machines are classed under different denominations, according to the agents by which they are put in motion, the purposes they are intended to effect, or the art in which they are employed, as hydraulic, pneumatic, magnetic, carding, spinning machines, &c They are simple or complex, according to the number of their parts.

MACHIN'ERY. A general term for combinations of mechanical elements. The word conveys a more extended idea than *machine*, which is a particular piece of *machinery*, applied to a special purpose.

MACK'EREL, } Dut. *mackreel*, Ger. *mack-*
MACKAREL, } *rele*, Ir. *mackreil*, Wel. *macrell*. A fish, the *Scomber Scomber*, Yarr., *S. vulgaris*, Flem., very common on the English coasts, at various periods of the year. The mackerel is easily taken by a variety of baits, particularly so during a gentle breeze of wind, hence termed a *mackerel-breeze* or *mackerel-gale*. The fish is highly esteemed as an article of food. When alive, it possesses great symmetry of form, and much brilliancy of colours.

MA'CLE. In *mineralogy*, the hohl spath of Werner, and hollow spar of Jameson. Macle occurs only in crystals, the form of which is a four-sided prism. It is opaque, sometimes translucent; colours white or gray, often shaded with yellow, green, red, &c. Sp. gr. 2·94. Found in black argillaceous slate.

MACMIL'LANITES. A religious sect in Scotland, descended from the Covenanters in the 17th century. They are more generally known as Cameronians, from their founder, Richard Cameron. The name of Macmillanites they derived from the first preacher of their doctrine in the west of Scotland, whose name was Macmillan: it is confined to Glasgow and its vicinity.

MA'CROCOSM, from μακρος, great, and κοσμος, the world. The universe or visible system, in distinction to *microcosm*, or world of man.

MACRODAC'TYLE. A family of birds; order *Grallatoriæ*, CUV. Name from μακρος, long, and δακτυλος, a finger, the family being furnished with very *long toes* fitted for walking on the grass of marshes, and even for swimming. The jacanas, rails, coots, sheath-bills and flamingos, are examples.

MACROM'ETER, from μακρος, great, and μετρον, measure. A mathematical instrument contrived to measure inaccessible objects, by means of two reflectors on a common sextant.

MAC'ROPUS. The name given by Shaw to a genus of Marsupialia, comprehending the kangaroos, from μακρος, long, and πους, a foot.

MACROSCEL'IDES. An insectivorous mammal, which inhabits the rocky mountains of the western part of the district of Algiers, recently observed by M. Wagner.

Mac'ula (Lat.), a spot; hence *maculated*, spotted; marked with small spots. *Maculæ*. 1. In *nosology*, a detached efflorescence of the skin, or discoloured patches. ——2. In *astronomy*, spots in the luminous faces of the sun and moon.

Mad Apple. The fruit of the *Solanum melongena*, of an oblong egg-shape. It is boiled in soups and sauces in countries where it grows, and is accounted very nutritive.

Mad'der. The root of the *Rubia tinctorum*, extensively used in dyeing red. The colour which it imparts is less bright than that from cochineal, but it has the advantage of being cheaper and more durable. The plant is a native of the south of Europe, Asia Minor, and India, but it is now extensively cultivated in Holland, Alsace, Provence, &c.

Madon'na, Ital. for my lady. An Italian term applied to the Virgin Mary. Pictures representing the Virgin are called Madonnas.

Mad'repores, from Fr. *madré*, spotted, and *pore*, a small cavity. Stony polypi with concentric laminæ resembling stars. In a living state, the stony matter is covered with a skin of living gelatinous matter, fringed with little bunches of tentacula; these are the polypi. Madrepores are sometimes united and sometimes detached; where the laminæ take a serpentine direction, they are called *meandrina* or brain-stones.

Madrep'orite. A variety of limestone, so called because it is composed of numerous small prismatic concretions, resembling the stars of madrepores. It contains 13 silex, 10 alumina, and oxide of iron, 16.

Ma'drier. 1. A flat beam of wood placed at the bottom of a moat, to support a wall.——2. A thick plank used for the platform of batteries, and to support the earth in the galleries and chambers of mines, &c.——3. A plank of wood, covered with some incombustible material, as a defence against fire.

Mad'rigal. A sort of short amorous poem, containing a certain number of free unequal verses, not confined to the scrupulous exactness of a sonnet, or the subtilty of the epigram, but containing some delicate and simple thought, suitably expressed. The term is common to the French, Spanish, Portuguese, and Italian languages, but its origin is not ascertained

Mænu'ra. The name given by Shaw to a genus of passerine birds, placed by Cuvier among the Dentirostres. The *M. lyra*, distinguished by the great tail of the male, inhabits the rocky districts of New Holland. It is somewhat less than a pheasant.

Mae'sto, Maesto'so. } An Italian word signifying *majestic*, and used in music as a direction to play the part with force and grandeur.

Maes'tricht Beds. In *geology*, the name given to the uppermost member of the cretaceous group, from Maestricht, a town of the Netherlands. These beds are marine and calcareous, with masses of chert and calcedony, with ammonites and other allied shells.

Mag'azine, from Arab. *grazana*, to store. A store of arms, ammunition, provisions, &c., also the building or place so appropriated.——2. A periodical publication, containing miscellaneous papers or compositions, the first of which in England was the *Gentleman's Magazine*, commenced in 1731, under the name of *Sylvanus Urban*, by Edward Cave. It still exists.

Magel'lanic Clouds. In *astronomy*, three permanent whitish appearances, like clouds, seen among the southern constellations, and having the same apparent motion as the stars, first described by Magelhaens, the circumnavigator.

Maggio're. An Italian epithet used in *music*, and signifying *greater*.

Ma'gi, Ma'gians. } Wise men or philosophers of the East, whose skill was *magic*. The magi of Persia and neighbouring countries maintained the existence of a good and evil principle, abominated the adoration of images, worshipped God only by fire, which they looked upon as the sole appropriate symbol of deity. This was the religion which Zoroaster reformed. The magicians were the depositories of all the learning of their age, and were hence able to produce effects so astonishing to the ignorant as to be thought supernatural. Hence magic came, in process of time, to signify skill acquired by intercourse with demons, and astrology (in its later sense), enchantments, and witchcraft, sprung up as branches of this fanciful science. Now, magic and jugglery mean the same thing, and instead of being the most accomplished intellects of the age, magi are the most contemptible and opprobrious members of the quack tribe. The sect of magi still exists in Persia under the name of *gaurs*.

Ma'gic. Originally signified a knowledge of the more sublime parts of philosophy, but latterly a diabolical kind of science, acquired by the assistance of the devil and departed souls. *See* Magi.

Ma'gic Square. A square divided into cells, in which the natural numbers, from 1 to the proposed square, are so posited that the sum of each row, whether taken horizontally, vertically, or diagonally, is equal to a given number. Thus the sum in the following square is 175.

22	47	16	41	10	35	4
5	23	48	17	42	11	29
30	6	24	49	18	36	12
13	31	7	25	43	19	37
38	14	32	1	26	44	20
21	39	8	33	2	27	45
46	15	40	9	34	3	28

The *magic square of squares*, invented by Dr. Franklin, is an extension of the above, and the *magic circle of circles* is founded on the same principle. The latter consists of eight concentric circles, with eight radii, in the circumferences of which all the natural numbers, from 12 to 75, are so posited, that the sum of the numbers in each circumference, together with the central number 12, is equal to 360; and the numbers in each radius, including always the central number, is also equal to 360.

Ma'gic Lan'tern. An optical machine, whereby little painted images are represented so much magnified as to be regarded as magical by those unacquainted with optical science. It consists of a common lantern, with a lamp and reflector in it; opposite the lamp and reflector are two lenses, fitted into a tube: one lens throws the light upon the object, and the outer one magnifies the image which is received upon a transparent screen.

Magi'lp. A gelatinous substance used by painters for conveying thin colours, consisting of a mixture of linseed oil and mastic varnish.

Ma'gilus. A genus of molluscs: order *Tubulibranchiata*. The shell is spiral at first, and then extends itself in a tube more or less straight. The animal is not known.

Magister, the Latin word for *master*: used in *law* to denote a person who has attained to a degree in science. Doctors were formerly called *magistri*. A *Magister Equitum* was an officer among the Romans, subordinate to the Dictator.

Ma'gistery, Lat. *magisterium*. The term used by *old chemists* to denote what is now called a *precipitate*.——2. Used also to denote a peculiar and secret method of making some chemical preparation, as it were by a masterly process.

Mag'ma, from $\mu\alpha\sigma\sigma\omega$, to blend. 1. A thick ointment.——2. The fæces of anything when the thinner parts are poured off.——3. A confection.——4. Any crude mixture of mineral or organic matters in a thin pasty state.

Mag'na Char'ta. The Great Charter of Liberties, obtained by the English Barons from King John in 1215. It has been rectified by various subsequent kings.

Magnan'ier. The name given, in the Southern Departments of France to the proprietor or manager of a nursery in which silk-worms are reared upon a great scale. The term is formed from *magnans*, a vernacular name for silk-worms.

Mag'nates. In Hungary, the title of the noble estate in the national representation.

Magne'sia. A country in Lydia. The *old chemists* gave this name to such substances as they conceived to have the power of attracting something from the air, or which became heavier by exposure to the air; but in the language of *modern chemistry*, the name is restricted to one of the primitive earths, proved by Sir H. Davy to be an oxide of *magnesium*. It is a fine white powder, without taste or smell, very slightly soluble in water. It changes the purple infusion of red cabbage to a bright green. It is readily obtained, by precipitation with soda or potash, from its sulphate (Epsom salts), but is usually procured by calcining the artificial or natural carbonate. It is rarely found native.

Magne'sian Lime'stone. A mineral which crystallises in the rhombohedral system. It consists of 1 prime equivalent of carbonate of lime = 50, associated with 1 of carbonate of magnesia = 42. The massive magnesian limestone is a marine deposit, found in England in vast masses. It is an excellent building stone, but is not reckoned good as a manure, except for some particular soils. It belongs to the new red sandstone group. It is usually of a yellow or yellowish brown colour, and is distinctly stratified.

Magne'sium. The metallic basis of magnesia. This earth consists of 61·21 magnesium and 38·79 oxygen.

Mag'net. The *native magnet*, or *loadstone*, is a mineral consisting of protoxide and peroxide of iron in equivalent proportions. It possesses the peculiar property of attracting metallic iron; of assuming a determinate position with regard to the axis of the earth, when freely suspended; and of communicating these properties to iron by contact. A bar of steel to which these properties have been communicated is a *permanent artificial magnet*; the position which it assumes with regard to the axis of the earth, when suspended freely, is the *magnetic meridian*, and an apparatus fitted at all times to show this meridian constitutes a *compass*, the principal part of which is the *magnetic needle*. The term *magnet* is said to be derived from Μαγνης, Μαγνητης, the name of a Greek shepherd, who first ob-

served, on Mount Ida, the attractive power which the loadstone exercised upon his iron crook. The most probable supposition, however, is that it took its name from *Magnesia*, a country of Lydia, where it was first discovered; and this conjecture is confirmed by the fact, that the magnet was often called by the ancients *Lapis Heracleus*, from *Heraclea*, the capital of Magnesia.

MAGNET'IC COM'PENSATOR. A contrivance by Mr. Barlow, for eliminating the influence of a ship's guns and other iron-work, in deranging the bearings of the compass.

MAGNET'IC NEEDLE. A slender piece of steel, suspended on its centre, and magnetised, which is free to turn, and always settles in the magnetic meridian.

MAGNETIC PYRITES. Native black sulphate of iron. It attracts the needle.

MAGNETISM. The power of the magnet. ——2. That branch of physics which has for its object the investigation of all magnetic phenomena (whether natural, like the loadstone, or artificial, like bars of steel to which magnetism has been permanently communicated), of their reciprocal action upon each other, of the laws of the forces which they develope, of the methods of making artificial magnets, and other magnetic phenomena exhibited by the globe which we inhabit. For ANIMAL MAGNETISM, *see* MESMERISM. For TERRESTRIAL MAGNETISM, *see* TERRESTRIAL MAGNETISM.

MAG'NETO-ELECTRIC'ITY. Electricity produced by magnetism. The phenomena of electro-magnetism are produced by electricity in motion: accumulated electricity, when not in motion, exerts no magnetic effects. Dr. Faraday early felt convinced that as every electric current is accompanied by a corresponding intensity of magnetic action at right angles to the current, good conductors of electricity, when placed within the sphere of this action, should have a current induced through them, or some sensible effect produced, equivalent in force to such a current. These considerations, with their consequence, the hope of obtaining electricity from ordinary magnetism, stimulated him to investigate the subject experimentally, and he was rewarded by an affirmative answer to the question proposed. Dr. Faraday not only succeeded in obtaining galvanometrical indications of an electric current, but by a modified apparatus, in which the electric current was induced by an electro-magnet, he actually succeeded in obtaining the electric spark. The electric spark was afterwards obtained from a common magnet, by Nobili and Antinori, and in this country by Professor Forbes.

MAGNETOM'ETER. An instrument for measuring the intensity of terrestrial magnetism.

MAGNETOMO'TOR. A term applied to a voltaic series, which, producing a great quantity of electricity of low tension, beautifully exhibits the phenomena of electro-magnetism.

MAGNIF'ICO. The title given by courtesy to a nobleman of Venice.

MAG'NIFIER, MAG'NIFYING-GLASS. } A convexo-convex lens, which increases the apparent size or magnitude of any body seen through it, by increasing the angle under which it is seen. *Magnifying power* is the amount of apparent enlargement of an object, by means of such magnifier, or other optical instrument, as the microscope. *Magnify*, from *magnus*, great, and *facio*, to make.

MAG'NITUDE denotes the extension of anything—whether it be in one direction, as a line; in two directions, as a surface; or in three directions, which constitute a solid. *Geometrical magnitudes* may be conceived to be generated by motion, as a line by the motion of a point; a surface, by the motion of a line; and a solid, by the motion of a surface.——2. *Apparent magnitude* is the angular space under which a body appears when viewed from a distance. The term is used chiefly in *astronomy* and *optics*.

MAGNO'LIA. The laurel-leaved tulip-tree, a magnificent genus of trees and shrubs. *Polyandria—Polygynia*. There are 17 species; but the *M. grandifolia* of the warm parts of N. America is that most prized. It is remarkable for its large evergreen leaves and splendid white flowers. Several of the other species are also cultivated for ornament: as the *M. glauca*, or beaver-wood of America; the *M. macrophylla*, also of America; and the *M. conspicua*, or youlan, a greenhouse shrub from China.

MAHA'BARATA. One of the great Indian epic poems.

MA'HALEB. (1.) A species of cherry cultivated in our gardens. (2.) The fruit of this shrub affords a violet dye, as well as a fermented liquor like kirschwasser.

MAHOG'ANY. The wood of the *Swietenia mahogani*, a large tree which grows in the West Indies and Central America. The principal importations of mahogany into Great Britain are made from Honduras and Campeachy.

MAHOM'ETANS, *see* MOHAMMEDANS.

MAIDEN. An instrument formerly used in Scotland for beheading criminals. It was the prototype of the French guillotine.

MAIDEN ASSIZE. In *law*, an assize in which no person is condemned to die.

MAIDENHAIR-TREE. The *Gingko biloba*, a tree of China and Japan. Its fruit, about the size of a damask plum, contains a

kernel resembling that of our apricot, much used as a dessert at all public feasts. It is said to promote digestion.

MAI'HEM, } Maim. In *law*, a wound by
MAY'HEM. } which a person loses the use of some member that might have been a defence to him. The term is from Norm. *mahemer*, or *mahaigner*, to maim.

MAIL, Fr. *maille*. A coat of steel net-work, formerly worn for defending the body against swords, poniards, &c. It was of two kinds, chain and plate mail: the former consisting of iron rings, each having four others inserted into it; the latter consisting of small laminæ of metal, laid over one another, like the scales of a fish, and sewed down to a strong linen or leathern jacket.——2. In *ships*, a square machine, composed of rings interwoven like net-work; used for rubbing off the loose hemp from lines and white cordage.

MAILED. 1. In *heraldry*, speckled, as the feathers of hawks, partridges, &c.——2. In *natural history*, protected by hard and strong scales.

MAILS, } In *Scottish law*, the rents of
MAILLS. } an estate.

MAIN'OR, from Norm. *meinoevre*, from Lat. *à manu*, in the work. An old law-term, denoting the being taken with the thing stolen in possession.

MAIN'PERNOR, from Norm. *main*, and *pernon*, *pernez*, for *prenon*, *prenez*. A surety for a prisoner's appearance in court at a day. *Mainpernors* differ from *bail* in that a man's *bail* may imprison or surrender him before the stipulated day of appearance; *mainpernors* can do neither. They are bound to produce the prisoner to answer all charges whatsoever.

MAIN'PRIZE, from Norm. *main*, and *pris*. A writ directed to the sheriff, commanding him to take sureties for the prisoner's appearance; these sureties are called *mainpernors*.

MAIN-SHEET. The sheet that extends and fastens the main-sail.

MAIN'TENANCE. In *law*, an officious intermeddling in a suit in which the person has no interest, by assisting either party with money or means to prosecute or defend it.——2. A *cap of maintenance* is a cap of dignity, formerly belonging to the rank of a duke; also the name of the lord-mayor's fur-cap.

MAIN-TOP'. The top of the main-mast of ship or brig.

MAIN-YARD'. That on which the main-sail is extended.

MAIZE, Indian corn. One of the cereal grasses, the *Zea mays*, the only species of corn cultivated in America previous to its discovery. There are numerous varieties, but the ear in general consists of about 600 grains set closely together in rows, to the number of eight, ten, or twelve. The grain, as a bread-corn, is liked by some; it contains much mucilage but little gluten, and is therefore inferior to wheat, and even rye. In the Lettish and Livonic languages, *mayse* is bread; in Irish *maise* is the word for food.

MAJ'ESTY. A title of emperors, kings, and queens; Lat. *majestas*, from the root of *magis*, *major*, more, greater. The title was substituted for *highness*, in the reign of Henry VIII.

MA'JOR, Lat. for greater. In *music*, an epithet for the modes, in which the third is four semitones above the key-note, and to intervals consisting of four semitones. *Major* and *minor* are terms which apply to concords which differ from each other by a semitone. The difference between the fifth and fourth is a *major tone*; the difference between the major fourth and third is a *major semitone*. The major tone surpasses the minor by a comma.——2. In *military affairs*, an officer next in rank above a captain, and below a lieutenant-colonel; the lowest field-officer. The *drum-major* is the first drummer in a regiment. A *serjeant-major* is a non-commissioned officer subordinate to the adjutant. For *major-general* and *brigade-major*, *see* GENERAL and BRIGADE.——3. In *logic*, the first proposition of a regular syllogism, containing the principal term.——4. In *law*, a person of full age to manage his own affairs. A man is major at 21, and a woman at 18, years of age.

MAJORAT'. In *law*, the right of succession to property according to age.

MA'JOR DO'MO. An Italian term used to signify a steward, or master of the household.

MA'JOR TERM. In *logic*, is, in a syllogism, the predicate of the conclusion. The major premise is that which contains the major term. In hypothetical syllogisms, the hypothetical premise is called the major.

MAJUS'CULÆ or CAPITALES LITERÆ. In *diplomatics*, capital letters.

MAKING-UP. With *distillers*, the reducing of spirits to a standard of strength, usually called proof.

MA'LA. In *law*, evils; *Mala in se*, evils in themselves. A phrase denoting unlawful acts, as theft, murder, &c.; as distinguished from *mala prohibita*, evils prohibited by positive written law.

MAL'ABAR PLUM. In *botany*, the *Eugenia jambos*, also its fruit. The tree grows plentifully on the coast of Malabar, and the fruit is much esteemed.

MALABATH'RUM, Indian leaf. The leaf of the *Laurus cassia*, so named from *Malabar*, in India, whence it is brought, and *betre*, a leaf.

MALAC'CA BEAN. The fruit of the *Anacardium Indicum* or *Orientale*. It very closely resembles the cashew nut.

MALAC'CA ROOT. The root of the *Sagitta*

ria alexipharmaca, or *Arundo Indica*, cultivated with great care in the West Indies for that part of the plant, which is considered an antidote to several poisons.

Mal'achite, from μαλαχη, mountain-green. A native green carbonate of copper, thus named from its colour. It occurs in veins, and in beds of gneiss, mica-slate, red sandstone, &c.

Malacol'ogy, μαλαχια, and λογος, discourse. The science of the molluscs.

Malacopteryg'ii, from μαλακος, soft, and πτερυξ, a fin; soft-finned fishes. These form the second division of common fishes in the system of Cuvier, and are divided into three orders, characterised by the position of the ventrals, or by their absence. 1. The *M. abdominales*, form an order in which the ventrals are suspended to the under part of the abdomen and behind the pectorals. This order comprehends most of the fresh-water fishes.——2. The *M. subranchiati*, form an order characterised by the ventrals being inserted under the pectorals.——3. The *M. apodes* form but a single natural family, that of the *Anguilliformes*. Epithet, *malacopterygious*.

Malacos'teon, from μαλακος, soft, and οστεον, a bone; a softness of the bones. A rare disease of the bones, wherein they can be bent without fracturing them. The causes are not known, and all the cases on record have proved fatal.

Malacos'tomi, from μαλακος, soft, and στομα, a mouth. An order of fishes destitute of teeth in the jaws, vulgarly called leather-mouthed. The carp and bream are examples.

Malacostrac'a, from μαλακος, soft, and οστρακον, a shell; soft-shelled-insects. In the system of Cuvier the malacostracans form the first section of the crustaceans. They are distinguished by having sessile eyes, solid teguments of a calcareous nature, and ten to fourteen feet, generally unguiculated. They are divided into five orders: the Decapoda, Stomapoda, Læmodipoda, Amphipoda, and the Isopoda. The first four embrace the genus *Cancer*, Lin., and the last, the genus *Oniscus*, Lin.

Mal'anders, from Fr. *mal*, ill, and *andare*, to go. A disease to which horses are liable, consisting of ulcerous chaps on the inside of the fore-legs, which void a red acrid matter.

Malapteru'rus. The name given by Lacépede to a genus of abdominal malacopterygii, of which only one species is known, the *M. electricus*, the *Rasch* or *Thunder* of the Arabs, celebrated like the Torpedo and Gymnotus for its faculty of communicating an electric shock. Name from μαλακος, soft, πτερον, a fin, and ουρα, a tail. The fish being distinguished from the Silurus by the radiated fin on the back being replaced by a small adipose one on the tail, and the softness of the pectoral rays. From the Nile and the Senegal.

Mal'coha. The name given by Vaillant to a genus of climbing birds (*Scansoriæ*, Cuv.) of Ceylon. There are several species, said to live chiefly on fruit.

Malco'mia, the *Sea-rocket*. A genus of herbaceous plants. *Tetradynamia—Siliquosa*. Temperate climates.

Male. 1. In *botany*, a *male flower* is one which bears stamens only. *Male fern*, a name of the *Aspidium filix mas*, or polypody. *Male orchis*, a species of orchis called also satyrion and dog's-stone. *Male speedwell*, a name of the *Veronica officinalis*.——2. In *mechanics*, a screw which has the thread on the outside of a cylinder is called a *male screw*; that which has the thread in the inside of a hollow cylinder being termed a *female screw*.

Malic Acid. An acid which may be procured from the juice of many unripe fruits, but named thus from its having been first obtained from that of the apple (*malus*). It is often associated with the citric, tartaric, and oxalic acid in green fruits. It crystallises, and by distillation affords *pyromalic acid*.

Malleabil'ity. A property belonging to certain metals of being extended into thin plates by hammering (*malleus*, a hammer). Gold-leaf is the best example of this property. Malleability is directly opposed to *brittleness*, and differs from *ductility* (q.v.).

Mallea'tion, from *malleus*, a hammer. A form of chorea in which the person affected has a convulsed action of one or both hands, and strikes the knees as if with a hammer.

Malle'olus. In *anatomy*, dim. of *malleus*, a hammer. The termination of the tibia at the ankle is called *malleolus internus*; and the corresponding part of the fibula *malleolus externus*.

Mal'leus. A hammer. 1. A bone of the ear is thus named from its shape.——2 The name given by Lamarck to a genus of irregular and inequivalve shells, placed among the ostracea by Cuvier. The *ostrea malleus*, Lin., is the best known species. It ranks among the rare shells. It has two ends of the hinge extended, forming something like the head of a hammer, of which the valves, elongated in a transverse direction, represent the handle. From the archipelago of India.

Mal'lum. The public assembly of the people according to the usage of the old Teutonic nations.

Malt, Sax. *mealt*. Grain (chiefly barley) which has become sweet by the con-

version of its starch into sugar, by an incipient growth or germination artificially induced, called malting. The grain is first steeped in water until it germinates to a certain extent, when it is stopped by the application of heat in a *malt-kiln*. The quantity of grain malted in Great Britain and Ireland is about 4½ million quarters yearly.

MAL'THA. *Mineral pitch.* A soft glutinous substance, which smells like pitch, and dissolves in alcohol. It seems to be inspissated petroleum.

MA'LUS, *μαλον*, the apple-tree. *See* PYRUS.

MAL'VA. The *Mallow.* An extensive genus of plants. *Monadelphia—Polyandria.* There are three or four herbaceous species natives of Britain; but many of the exotic species are permanent plants. *Malva* is a Latin corruption of *malache*, the *μαλαχη* of Pliny, from *μαλαχος*, soft, in allusion to the softness of the leaf.

MALVA'CEÆ. A natural order of plants, consisting of mallows, hollyhock, &c., equivalent to the columniferæ of Linnæus. Type, the *malva*.

MAM'ALUKES, } The former military force
MAM'ELUKES. } of Egypt. The Mamalukes were originally Turkish and Circassian slaves, but afterwards masters of the country. Their power was annihilated by Mehemet Ali, in 1811, by destroying the Beys.

MAM'MALIA, } A great division of the
MAM'MALS. } animal kingdom, comprising animals which have *mammæ* and suckle their young. Epithets *mammalian* and *mammiferous*. The mammalia are placed at the head of the animal kingdom, not only because it is the class to which Man himself belongs, but also because it is that which enjoys the most numerous faculties, the most delicate sensations, the most varied powers of motion, and in which all the different qualities seem combined in order to produce a more perfect degree of intelligence—the one most fertile in resources, most susceptible of perception, and least the slave of instinct.

MAMMAL'OGY, *mamma*, teat, and *λογος*, discourse. The science of Mammals.

MAM'MARY. Pertaining to the mammæ, as the mammary glands, &c.

MAM'MEA. The *mammee-tree:* a genus. *Polyandria—Monogynia.* One species, a tree of Jamaica which affords a delicious fruit, also called *mammea*. It is named from its vernacular appellation in the West Indies, *mamei*, retained by Linnæus, because of the resemblance of the fruit in shape to *mammæ*. It is sometimes called the West Indian apricot.

MAM'MIFER, from *mamma*, a breast, and *fero*, to bear. An animal having breasts and which suckles its young. The mammifers form the class *mammalia* (q. v.).

MAM'MILLATED. Having little protuberances like *mammæ*. Thus flint containing chalcedony is generally mammillated, and shells are said to be mammillated when the apex is rounded like a teat.

MAM'MOTH. An extinct genus of animals allied to the elephant. *See* MASTODON.—The origin of the word *mammoth* is not agreed upon. Some state it to be a Russian word. *mamant;* others that it is a Siberian word, signifying "animal of the earth." It is also derived from *Behemoth*, an Arabic word for elephant.

MANA'TI, } A genus of herbivorous ce-
MANA'TUS. } tacea, the *Lamantins*, which from their manner of living are termed *sea-cows*, *mermaids*, &c. The *manati* are found near the mouths of rivers in the hottest parts of the Atlantic ocean, and grow to the length of 15 feet. Those of the American rivers differ specifically from those of the African. They employ their fins with great dexterity in carrying their young and in creeping: hence the comparison of these organs with hands, and the name *manatus* (handed) applied to the animal, of which *lamantin* is a corruption.

MANCHINE'EL. *Hippomane.* A tree of the West Indies, which grows to the size of a large oak. The fruit is poisonous, and the sap corrosive, but the wood is much valued by cabinet-makers.

MAN'CIPLE, Lat. *manceps*, a clerk of the kitchen, or caterer. The steward of the Inner Temple was formerly so called, and the name and office are still retained in colleges in some universities.

MANDA'MUS. In *law*, a writ issued by the Court of Queen's Bench, commanding the performance of something; and so named from the initial word of the writ.

MANDARINS'. Magistrates and governors of provinces in China. They are chosen out of the most learned men, and their government is always at a great distance from the place of their birth.

MAN'DIBLE, from *mandibulum*, a jaw. The instrument of manducation. The upper jaws of insects are called *mandibles*, and the under jaws *maxillæ;* but both the upper and under parts of the bill of a bird are termed *mandibles*. The mandibles of insects are two strong corneous hooks, which move horizontally, and cut objects by crossing their edges like the blades of a pair of scissors.

MANDIBU'LATA. A grand section of insects, including all those which preserve their organs of mastication in their last stage of metamorphosis.

MAN'DIOC. The American name of *cassava*, which is extensively cultivated in America for the sake of the nutritive fecula in its stems.

MAN'DOLINE. A musical instrument resembling the lute and guitar; round like

the first, but smaller than either, and held in the left hand.

MAN'DORE. A sort of lute, usually with four strings.

MAN'DRAKE. A plant, the *Atropa Mandragora*, the root of which is said to bear a resemblance to the human form. The fruit is a globose berry, called by the ancients the apple of love, and they named Venus after it, *Mandragoritis*. It had numerous absurd properties ascribed to it.

MAN'DREL. An instrument for confining in a lathe the article to be turned. There are *flat mandrels* for turning flat boards on; *pin mandrels* which have a long shank to fit into a round hole made in the work to be turned; *hollow mandrels* which are hollow of themselves, and are used for turning hollow work; *screw mandrels* for turning screws, &c.

MAN'DRILL. The *Simia maimon* and *mormon*, Lin. The mandrills, of all the monkeys, have the longest muzzle (30°); their tail is very short, and they are brutal and ferocious. It is difficult to imagine a more hideous or extraordinary animal than the mandrill of Guinea. It attains to the size of a man, and is the terror of the negroes.

MANE'GE. A school for teaching horsemanship and for training horses. The term is from the French *manége*, Italian *maneggio*, according to some à *manu agendo*, acting with the hand.

MANGANE'SE, } A grayish white metal,
MANGANE'SIUM. } very hard and brittle, and of a fine grained fracture, with considerable lustre. By exposure to the air it speedily oxidises and falls into powder. Sp. gr. 8, melting point 160° Wedgewood. It is susceptible of five degrees of oxygenation. The *protoxide*, is a pale green powder, prepared artificially; the *deutoxide* exists native in the mineral called *braunite*, and as a hydrate in *manganite*; the *peroxide* exists abundantly in nature. As a hydrate it constitutes *black wadd*. The other combinations of the metal with oxygen are the *manganesic* and *permanganesic acids*. The ores of manganese are common in Devonshire, Somersetshire, Derbyshire, &c. The black oxide is the *magnesia nigra* of the ancients. Epithet *manganesian*.

MANGANES'IC ACID. The manganic acid of Mætscherlich. An acid consisting of three equivalents of oxygen to one of manganese, and therefore isomorphous with sulphuric and selenic acid. It forms green coloured salts, but has not yet been insulated from its bases. The *permanganesic acid* forms red-coloured salts. The change of the manganesic acid into the permanganesic, is the cause of the change of colour from green to red of solutions of *chameleon mineral*.

MAN'GEL WUR'ZEL. Field beet. A variety of beet, between the red and white, much cultivated on the continent, partly as food for cattle, and partly to be used in distillation, and in the extraction of sugar. It has as yet been only partially cultivated in Britain.

MAN'GER. 1. In a *ship of war*, a small space extending athwart the deck, immediately within the hawse-holes, and separated on the after-part from the other part of the deck by the *manger-board*, a strong bulk-head built as high, and serving to stop the water which sometimes rushes in at the hawse-holes, and would otherwise run aft on the deck.——2. The trough which holds the corn or other short food given to live stock, especially horses.

MAN'GLE. A valuable domestic machine, employed for the purpose of smoothing such linen as cannot be conveniently ironed. It is simply a calender upon a small scale.

MAN'GO. The fruit of the *mangifera indica* or mango-tree, cultivated all over Asia. Mangoes, when ripe, are juicy, of a good flavour, and so fragrant as to perfume the air to a considerable distance. When unripe they are pickled in the soured milk of the cocoa-nut, with salt, capsicum, and garlick. From the expressed juice of the ripe mango is prepared a sort of wine, and the remainder of the kernel can be reduced to a fine bread-flour.

MAN'GO-FISH (of the Ganges). The *polynemus paradiseus*, so named because it comes in season about the same time with the mangoes. It rarely exceeds fifteen inches in length, and in point of delicacy and flavour excels every other fish.

MANGOSTEE'N. A tree, the *Garcinia mangostana*, of the East Indies. It produces a highly valued fruit, about the size of a small orange.

MAN'GOUSTE. A carnivorous animal, of which there are several species, or rather varieties. The most celebrated is the *mangouste* of Egypt, or *ichneumon* of the ancients.

MAN'GROVE. In *botany*, *see* RHIZOPHORA.

MANICHEE'S. A sect of Christian heretics of the third century, the followers of *Manes*, who taught that there are two coeternal and independent principles, one of good and one of evil.

MAN'IFEST. An inventory of the whole cargo of a merchant-ship.

MANIFES'TO. A public declaration made by a prince or sovereign, of his intentions, opinions, or motives, as a *manifesto*, declaring the necessity of a war, the reasons for its being undertaken, and the motives by which he is induced to it.

MAN'IHOT, } A genus of permanent
MAN'IOC. } plants. *Monœcia — Monadelphia*. Don enumerates nine species, all natives of hot climates. The word

manioc is the Indian name of the nutritious matter of the *Manihot cannabina*, Lin., or *Jatropha manihot*, Willd., of South America, &c., and from the root of which *cassava* and *tapioca* are procured. The juice of the plant is highly poisonous.

MANIL'LES. Large brass rings, formed like bracelets, exchanged by the Europeans with the negroes on the coasts of Africa for slaves. They are worn on the small of the leg, and on the arm above the elbow.

MAN'IPLE, Lat. *manipulus*, a handful. *See* M.

MANIP'ULUS, Lat. *manus*, hand. In *Roman antiquities*, a subdivision of the cohort, so called from the handful of grass or straw which formed its standard.

MA'NIS. The *pangolin* or *scaly lizard* or *ant-eater*. A genus of mammiferous animals, ranked by Cuvier among the ordinary Edentata. They live on ants and termites; their tongue is very extensile, and their body, limbs, and tail, are covered with large trenchant scales, arranged like tiles, but which they elevate in rolling themselves into a ball, when they wish to defend themselves from an enemy. They are confined to the eastern continent.

MAN'ITRUNK. In *entomology*, a term applied to the anterior segment of the trunk on which the head turns.

MAN'NA. 1. A substance with which the children of Israel were fed in the wilderness, and which appears to have been a kind of honey-dew. The term is Hebrew *mahn*, allied to the Arabic *manna*, to provide.——2. A peculiar saccharine matter, which exudes from many plants—but especially the concrete juice of a species of ash, the *fraxinus ornus*, which grows in the southern parts of Europe. It has a sweet but not agreeable taste, a slight peculiar odour, and a pale yellow colour. From Sicily and Calabria.

MAN'NER. In *painting*, the particular habit of a painter in managing colours, lights and shades. The best painter is he who has no manner.

MAN-OF-WAR. 1. The albatross (*diomedea exulans*).——2. A ship-of-war.

MANOM'ETER, from μανος, rare, and μετρον, measure. An instrument intended to measure the rarefaction or alterations of density of elastic fluids, whether caused by variations of temperature, or mechanical compression, or *vice versâ*.

MA'NOR, Norm. *manoir*, a habitation. A district of ground held by a lord or nobleman in his own possession, for the direct use of his family; his other lands being distributed among his tenants. It has been suggested that the term originally meant the jurisdiction and royalty incorporeal, rather than the land or site. If so, this meaning is long since forgotten.

MANSARD ROOF; so named after the inventor. In *architecture*, the same as *curb roof*, which see.

MAN'TELETS. Moveable parapets, made of planks, nailed over one another, to the height of six feet, and driven before the pioneers as blinds to shelter them.

MAN'TIS. The *Soothsayer*. A genus of orthopterous insects placed in the family *Cursoria* by Cuvier. The species inhabit warm climates, and some are held in high veneration in their particular localities. Name μαντις, a prophet, from the position of the arms, which resembles that of supplication.

MANTIS'SA. The decimal part of a logarithm; the integral part being named the *characteristic*.

MAN'TLE. } A term in architecture,
MAN'TLE-TREE. } for the lower part of the chimney, which sustains the compartments of the chimney-piece.

MAN'TLE. } A term in heraldry for
MAN'TLING. } that appearance of folding of cloth, flourishing, or drapery, which in any achievement is drawn about a coat of arms.

MAN'UFACTURE, from *manus*, the hand, and *facio*, to make. 1. The operation of reducing raw materials of any kind into a form suitable for use, either by the hands or machinery.——2. Any commodity made from the natural produce of a country, as cloths from wool, and cotton and silk goods from cotton and silk, iron from ores, leather from hides, &c. Places where goods are manufactured are called *manufactories*, (in some cases *factories*), and those whose business it is to manufacture articles, or who employ workmen and machinery for that purpose, are *manufacturers*.

MANUMIS'SION, from *manus*, the hand, and *mitto*, to send. A solemn ceremony among the Romans, by which a slave was emancipated or liberated from personal bondage.

MAN'USCRIPT, Lat. *manuscriptum*. A book or paper *written with the hand* (*manus* and *scriptum*) as opposed to one *printed*: contracted MS., and plural MSS.

MAP. A delineation of the earth's surface, or of a portion of it. A *map* is properly a representation of land, as distinguished from a *chart*, which represents sea and sea-coasts, position of islands, rocks, &c.

MARANA'THA (Syr.). A form of anathematising among the Jews, signifying "the Lord will come," i. e. to take vengeance.

MARAN'TA. A genus of perennial plants. *Monandria—Monogynia*. The starch called arrow-root is extracted from the roots of the *M. arundinacea*, which is cultivated in gardens and provision grounds of the West Indies; and the roots of the *M.*

galanga constitute the smaller galangal of the pharmacopœias. All the species are natives of hot climates.

Mar'ble, Lat. *marmor*, from *μαρμαρον*, a shining stone. A name common to all limestones of a compact texture, and possessing sufficient hardness to take a polish. The varieties are numerous, and greatly diversified in colour, from pure white to jet black. Marble effervesces with acids; affords quick-lime by calcination; has a conchoidal scaly fracture; is translucent only on the very edges; is easily scratched by the knife; has a sp. gr. of 2·7; admits of being sawn into slabs; and receives a brilliant polish. These qualities occur united in only three principal varieties of limestone; (1.) In the saccharoid limestone, so called from its fine granular texture, resembling that of loaf sugar, and which constitutes modern statuary marble, like that of Carrara; (2.) In the foliated limestone, consisting of a multitude of small facets, formed of little plates applied to one another in every possible direction, constituting the ancient statuary marble, like that of Paros; (3.) In many of the transition, or carboniferous, or *encrinitic* limestones subordinate to the coal formation.

Mar'bling. The method of preparing and colouring the *marble paper*. There are several kinds of marble paper; but the method of managing the process is the same for all the sorts. It consists in dipping the paper into a solution of gum dragon (gum tragacanth), over which the colours, previously prepared with ox-gall and spirit of wine, are first spread and dispersed, by means of a sort of comb, into the kind of figures wanted. The paper is afterwards polished.

Mar'casite. A name of Arabic origin, which, without any definite meaning, has been applied to all sorts of crude metallic substances. It is now restricted to a variety of iron pyrites.

March. 1. The third month of the year according to the modern calendar, but the first according to the ancient Roman computation; named in honour of Mars, the god of war, and father of Romulus.——2. In *music*, a military air, to regulate the steps of the soldiers.——3. In *military language*, the motion of a body of troops from one place to another. It has three measures: (1.) Ordinary time; (2.) Quick time; (3.) The quickest or wheeling time.

Marchers. Lord Marchers. Noblemen who formerly dwelt near the borders of Wales and Scotland, and protected the *marches* or borders. *March*, in this sense, is radically the same word as *mark*.

Mar'cionites. The followers of Marcion, a heretic of the second century.

Marc'osians. A sect of Christian heretics, the followers of Marcus, who taught, in the second century, that the Deity consists of a quaternity: the Ineffable, Silence, the Father, and Truth.

Ma'recanite. A variety of obsidian, in the form of little grains like peas, pearly-white, consisting of very thin concentric layers, found in Marckan, in the Gulf of Kamschatka.

Mar'garic Acid. A fat acid, obtained by saponifying tallow with an alkali, and decomposing the soap with a dilute acid. It is thus named from its appearing in pearly-looking scales (*margarita*, a pearl), and is more fusible than the stearic acid, melting at 140° F.

Mar'garine. The name given by Chevreul to the substance afterwards called margaric acid.

Mar'garitic Acid. One of the fatty acids which result from saponification.

Mar'gin, Fr. *marge*. 1. In *printing*, the border of white paper round the page of a book.——2. In *architecture*, the *margin of a course*, that part of the upper side of a course of slates, uncovered by the next superior course.

Marginel'la. A univalve shell, with a short spire, found recent in sand and sandy mud, and fossil in the *calcaire grossier*.

Mar'grave, Ger. *markgraf*, from *mark*, a march or border, and *graff*, a count or earl. Originally a keeper of the marches, now a title of nobility in Germany, &c. The jurisdiction of a margrave is termed a *margraviate*.

Mari'a There'sa, Order of. A military order of Austria, founded in 1757.

Mar'igold. In *botany*, a name common to all the species of the genus *Calendula*. The *marsh-marigold* is the *Caltha palustris*. The *African marigold* belongs to the genus *Tagetes*. The *corn marigold* to the genus *Chrysanthemum*. *Fig marigold* to the genus *Mesembryanthemum*. The name is often written *marygold*.

Marine'. Belonging to the sea (*marinus*, from *mare*, the sea), as marine shells. *Marine acid* is an old name for the muriatic or hydrochloric acid. *Marine salt* is the salt obtained by the evaporation of sea-water, as distinct from *rock-salt*. The word *marine*, used substantively, is a general name for the navy of a kingdom or state, and the whole economy of naval affairs.

Marine Chair. A machine inventedfor viewing steadily the satellites of Jupiter at sea.

Marine Surveyor. A machine contrived for measuring the way of a ship at sea, and for registering the same on a sort of dial-plate.

Marine's. A body of forces employed in the sea-service, under the direction of the lords of the Admiralty.

Mariotte's Law. In *pneumatics*, a gr

neral property of elastic fluids, discovered by Mariotte, that the pressure is directly proportional to the density.

Mar'itime. Pertaining to the sea or ocean (*maritimus*, from *mare*, the sea), as a maritime town. *Maritime laws* are those which relate to harbours, ships, and seamen. Though *maritime* and *marine* are radically the same words, they are used distinctly. Thus, there are *maritime* powers, but no *maritime* officers, leagues, engagements, or productions.

Mar'joram. In *botany*, *see* Origanum. The *Spanish marjoram* belongs to the genus *Urtica*.

Mark, Fr. *marc*. A weight used in several parts of Europe for various commodities, especially gold and silver. In France and Holland the mark equalled eight ounces. —— 2. *Mark* is sometimes used with us for a money of account, and in some other countries for a coin. The *English mark* is 13*s*. 4*d*. sterling. The *Scotch mark* is two-thirds of a pound Scotch. The *mark Lubs*. or *Lubeck mark* is a money of account at Hamburgh, equal to 14$\frac{3}{4}$*d*. sterling.

Mark, Order of Saint. A Venetian order of knighthood.

Mar'king Ink. An indelible ink for marking linen. A good marking ink is prepared by dissolving a drachm of fused nitrate of silver in half an ounce of distilled water, and colouring it by sap-green. A previous application of *liquid pounce* is necessary, which is made by dissolving two drachms of carbonate of soda, and ten of gum arabic, in four ounces of water.

Mar'king Nut. In *botany*, the seed of the *Semicarpus anacardium*, a tropical tree, so called from its juice having the property of staining linen.

Marl (Welsh). A mixed earthy substance, consisting of calcareous earth, clay, and siliceous sand, in very variable proportions. According to the preponderance of the one or other of the three principal ingredients, marls are calcareous, clayey, or sandy. Epithet *marly*, or *marlaceous*.

Mar'line, Sp. *marlin*. A small line, composed of two strands little twisted, and either tarred or white. Used for winding round ropes and cables, to prevent their being fretted.

Mar'line-spike. A small iron, like a large spike, used to open the bolt-rope, when the sail is to be sewed to it.

Marl'ing. Winding of marline round a rope or cable, to prevent its being galled. *See* Marline.

Mar'mo (Italian), marble. 1. *Verde-antico*, or Greek antique marble, is a sort of breccia, whose paste is a mixture of talc and limestone, the best specimens of which are grass-green with very dark green or black spots of noble serpentine. Some fine specimens are preserved at Parma. The *Marmo-Greco*, or the Greek white marble, was obtained from several islands of the Archipelago. The *Marmo Verde-Pagliocco* is a variety of antique marble, of a yellowish green colour, found in the ruins of ancient Rome. The *Marmo Statuario*, or the statuary marble of the Italians, closely resembles the Parian marble.

Marmora'tum. In *architecture*, a cement formed of pounded marble and lime well beaten together.

Mar'mot. A name common to all the animals of the genus *Arctomys*, Gm. *See* Arctomys.

Mar'onites. The followers of Maro, in Syria, who adopted the opinions of the Monothelites, in the seventh century.

Maroo'ns. The name given to revolted negroes in the West Indies, and in some parts of South America.

Marque' (Letters of). A power, license, or extraordinary commission, granted by a state to its subjects, to make reprisals on the subjects of another, for damages sustained at sea. *Marque* is a French word, said to be from the same root as *march*, a limit, literally denoting a license to pass the limits of a jurisdiction on land, for the purpose of obtaining satisfaction for theft, by seizing the property of the subjects of a foreign nation. ——2. The ship commissioned for making reprisals is also called a *letter of marque*.

Mar'quetry, Fr. *marqueterie*, from *marqueter*, to spot. Inlaid work. A peculiar sort of cabinet work, in which the surface is variegated with inlaid pieces of various forms and colours. Gold, silver, copper, tortoise-shell, mother-of-pearl, ivory, horn, coloured woods, &c. are used by the *marqueteur* for his work.

Mar'quis, } A title of honour in Great
Mar'quess. } Britain, next in dignity to that of duke; first conferred on the wardens of the marches. The title was not known in England, till Richard II., in 1337, created his favourite, Robert de Vere, then Earl of Oxford, Marquis of Dublin. The eldest son of a marquis is by courtesy called earl or lord of ——; but the younger sons are simply lord John, lord Robert, &c. The wife is a *marchioness*.

Mar'row. The animal fat found in the cavities of long bones. The spinal cord is sometimes termed the *spinal marrow*.

Marru'bium. Horehound. A genus of plants. *Didynamia—Gymnospermia*. Name from *marob*, a bitter juice. The common horehound, *M. vulgare*, is a native of Britain.

Mars. 1. The mythological god of war, and hence applied by the alchemists as a name for iron, because warlike instru-

ments were made of it.——2. In *astronomy*, a planet of our system, the fourth in order from the sun, and consequently the next above our earth; thus named from its red (fierce) colour. Its symbol is ♂, intended to represent a man holding a spear. Mean diameter 4898 miles; mean distance from the sun 142,000,000 miles; period of revolution round the sun 686d. 23h. 30′ 39″, or 1·881 years; period of rotation, 1d. 0h. 39′ 21″·5.″

Marseillaise Hymn. The popular name, erroneously applied, of the national anthem of France.

Mar'shal. Originally one who had charge of horses, from Teutonic, *marc*, a horse, and *scalk* or *schalk*, a servant. The word is now a title of certain officers who have very different employments; as the *Earl Marshal* (q.v.) of England, &c.; the *Marshal of the Queen's Bench*, who has the keeping of the Queen's Bench prison in Southwark; the *Marshal of the Exchequer*, to whom the court commits the queen's debtors. In some countries of Europe, a *marshal* is a military officer of the highest rank. In America, marshals are appointed by the President and Senate of the United States, and answer to our sheriffs of counties.

Mar'shalling. 1. In *heraldry*, the disposing of several coats of arms, belonging to distinct families, in the same escutcheon. ——2. The disposing of persons at public solemnities in their proper places, according to their ranks, &c.

Mar'shalsea. A prison in Southwark, belonging to the marshal of the queen's household. The *Marshalsea Court* was originally instituted to hear and determine causes between the servants of the royal household and others within the verge of the court, which extends twelve miles round Whitehall. It sits every week, and the judges are the steward of the household and knight-marshal for the time being.

Marsh Mias'ma. Infectious vapours arising from certain marshes and marshy soils.

Marsu'pial, Lat. *marsupialis*, purse-shaped. Applied, 1. To animals of the order *Marsupialia*.——2. To parts, as muscles, for their shape.

Marsupia'lia. An order of mammiferous animals, having external abdominal pouches for their young (*marsupium*, a pouch). The opossums, phalangers, potoroos, and kangaroos are examples. Epithet *marsupial*. A distinguishing peculiarity of the Marsupialia is the premature production of their young, whose state of development at birth is extremely small. Incapable of motion, and hardly exhibiting the germs of limbs and other external organs, these diminutive beings attach themselves to the mammæ of the mother, and there remain fixed until they have acquired a degree of development similar to that in which other animals are born. The skin of the abdomen is almost always so arranged about the mammæ as to form a pouch, in which these imperfect little animals are preserved as in a second uterus, and to which, long after they can walk, they always flee for shelter.

Mar'supite, from *marsupium*, a purse. The name given by Dr. Mantell to a genus of Crenoidea found in the chalk of Sussex, Wiltshire, and Yorkshire, and bearing some resemblance in shape to a purse. The individuals are called *clusterstones* by the quarrymen of Sussex, which, in fact, conveys a pretty correct idea of their general appearance.

Martel'lo Towers. Circular buildings of masonry erected along the British coast, intended as a defence against the meditated invasion of Napoleon.

Mar'ten. A name common to several animals of the weasel tribe, but especially applied to the *mustela martes*, Lin. There are several martens common in North America, and distinguished by the names Pekan, Vision, Mink, &c.

Mar'tin, Mart'let. The house swallow (*Hirundo urbica*, Lin.), called in France *martinet*, and in Spain *martinete*. The Germans call it *mauer-schwalbe*, wall-swallow.

Mar'tinets. 1. In *ships*, small lines fastened to the leech of a sail to bring it close to the yard when the sail is furled. ——2. A cant phrase for severe military disciplinarians, derived from a Colonel Martinet in the French army, who devised a peculiar whip for military punishment.

Mar'tingal, Fr. *martingale*. 1. A strap of leather fastened to the girth under a horse's belly, and at the other end to the musroll, passing between the forelegs. ——2. In *ships*, a rope extending from the jib-boom, to the end of a bumpkin under the cap of the bowsprit.

Mart'let. A martin (q.v.). Martlets in *heraldry* are little birds without feet, used to make a distinction in the escutcheons of younger brothers.

Mas'cle. In *heraldry*, a bearing in the form of a perforated lozenge.

Mash, Ger. *meischen*, to mix. 1 To *mash* is to beat into a confused mass. With brewers, to mix malt and water together in a *mash-tub* preparatory to brewing and distillation. This process is called *mashing*.——2. A *mash* is a sort of warm drink for a horse, made by pouring hot water on malt.

Ma'son, Fr. *maçon*. A person employed under the direction of an architect in the raising of a stone building. The *free and accepted masons* form a very ancient society, so called because the founders of

the fraternity were persons of that craft or occupation, being incorporated by the pope, and endowed with certain important privileges. The society professes to be founded on the practice of social and moral virtue, and inculcates "brotherly love, relief, and truth;" but it has long been nothing more than a wreck of the original institution.

Ma'sonry. A term comprehending all works built with stone, and is of three sorts: (1.) *Cut masonry*, or plane ashlar, consisting of fair cut stones, as in the faces of the superior kinds of buildings. (2.) *Hammer-dressed masonry*, in which the stones are squared and picked by the hammer. (3.) *Rubble masonry*, composed of stones merely axed on the face, and placed according to circumstances.

Mas'ora. A Jewish book containing critiques upon the Hebrew text of the Bible.

Masorites. Hebrew rabbins, who interpreted the Scriptures by tradition, and invented the Hebrew points to fix the true reading and pronunciation. Hence these points are often termed *Masoretic points;* and the expository work of the Masorites is termed the *Masora*.

Masque, French for *mask*. 1. A cover for the face.——2. A sort of theatrical drama, or rather histrionic spectacle, much patronised during the 16th and 17th centuries, and in which the actors (originally) appeared with masks.——3. In *architecture*, a grotesque piece of sculpture serving to fill up some vacant space.

Mass, Sax. *maesse*. 1. The service of the Romish Church in the celebration of the eucharist.——2. The quantity of matter of which any body is composed.——3. In the *fine arts*, a large quantity of matter of light or shade.

Mas'seter, from μασσαομαι, to chew. A short thick muscle of the lower jaw, situated on the side of the face, and which assists in masticating, by raising the jaw.

Mas'sicot (Fr.). The yellow oxide of lead, used as a pigment. It is easily prepared by calcination of white lead; by further calcination it becomes red lead or minium.

Mas'sive. In *mineralogy;* in mass: not having a regular form.

Mast, Sax. *maest*, the mast of a ship. 1. Masts are of several kinds, as the main-mast, fore-mast, mizen-mast, lower-mast, top-mast, top-gallant-mast, top-gallant-royal-mast. The *main-mast* is the principal mast of the ship; the *fore-mast* is that which stands near the stem, and is next in size to the main-mast; the *mizen-mast* is the smallest mast, and stands half way between the main mast and the stern; a *lower-mast* is the lower part of a mast, which is composed of more than one piece; a *top-mast* is raised on the head or top of a lower mast; the *top gallant-mast* is again raised on the top of the top-mast, and the *royal top-gallant-mast* surmounts the top-gallant-mast; a *pole-mast* is one formed of one piece of timber; a *made-mast* consists of several pieces.——2. Sax. *maeste*, acorns. The fruit of the oak and beech.

Mas'ter. A word found in all European languages with slight modifications of orthography, and signifying a chief director. *Masters in Chancery* are assistants to the Lord Chancellor and Master of the Rolls. *Master of the Faculties* is an officer under the Archbishop of Canterbury, who grants licenses and dispensations. *Master of the Horse* is an officer of the crown, who has charge of the royal stud. The *Master of the Armoury* has charge of the royal armour, and the *Master of the Wardrobe* has the care of the royal robes under the Lord Chamberlain. *Master of the Rolls*, a patent officer for life, who has custody of the rolls of Parliament, and patents which pass under the Great Seal, and of the records of Chancery, commissions, deeds, &c., and who, in absence of the Lord Chancellor, sits as judge in the Court of Chancery. *Master of a ship*, the same as captain in a merchantman, but in a man-of-war he is an officer who takes rank immediately after the lieutenants, and navigates the ship under the direction of the captain. *Master at Arms*, an officer in a ship of war who has charge of the small arms, exercises the petty officers, and observes the directions of the lieutenant at arms, &c. *Master of Arts*, an academical degree—the second at Oxford and Cambridge, but the first at the foreign universities, and for the most in those of Scotland.

Mas'tersin'gers. A class of poets who flourished in Germany in the 15th and 16th centuries.

Mastic, } 1. A resin obtained by making
Mastich. } incisions in the *Pistacia lentiscus*, a tree cultivated in the Levant, and chiefly in the island of Chios. It is yellowish, brittle, and transparent; has a bitterish taste, and aromatic smell. It consists of two resins, one soluble in dilute alcohol, and both in strong alcohol. In this country mastic is used in the composition of the tougher kinds of varnishes: on the continent, it constitutes an ingredient in plasters: and in Turkey, it is used in great quantities by the ladies as a masticatory—from which circumstance it is said to take its name.——2. In *botany*. *See* Mastich-herb.

Mas'tich-herb. *Herb-mastich*. The *Thymus mastichina*, a low shrubby plant, a native of Spain. It has a strong agreeable smell like mastic.

Mastic-wood. The wood of the mastic-

tree (the *Pistacia lentiscus*), a tincture from which is used in medicine.

Mas'ticine. When mastic is digested in dilute alcohol, it does not dissolve completely: a soft elastic substance separates during the solution. This amounts to about a fifth of the mastic employed, and has, while moist, all the characters of caoutchouc, but becomes brittle when dried. It therefore appears to be a peculiar principle, and has accordingly been named *masticine*.

Mas'tiff, Lat. *mastivus*. The bull-dog. A variety of the *canis familiaris*, Lin., distinguished by its large head, pendent lips and ears, strength and courage. The English mastiffs were, in old times, held in such high estimation at Rome, that an officer was appointed to breed and train them for the sports of the amphitheatre.

Mas'todon, from μαστὸς, the breast, and ὀδοὺς, a tooth. The name given by Cuvier to an extinct genus of mammiferous animals, in allusion to certain remarkable mamillary processes on the teeth: order *Pachydermata:* family *Proboscidiana*. Two species have been found. The Great Mastodon (*M. giganteum*) or Mammoth is the most celebrated species. It equalled the elephant in size; but with still heavier proportions. Its remains are found in a high degree of preservation, and in great abundance, throughout all parts of North America. The *M. angustidens* was a third less than the Great Mastodon, and much lower on its legs. Its remains are found in Europe and South America. Not only the bones, but portions of the flesh and skin, and even whole carcases, of the Great Mastodon have been found in icebergs and frozen gravel, especially in Siberia. Towards the end of the last century, an entire carcase, perfectly fresh, was exposed, and at length fell to the ground, from a cliff of ice and gravel on the banks of the river Lena.

Mas'toid, from μαστὸς, the breast, and εἶδος, likeness; nipple-shaped. Applied in anatomy to parts from their shape, as the *mastoid process* of the temporal bone, *mastoid foramen*, &c.

Mat, Eng. Dut. Wel. Russ. *matt:* Ger. *matte*: Lat. Sp. Ir. *matta*. A texture of sedge, rushes, straw, rope-yarn, or other coarse material, used for covering floors, for packing fruits, and other purposes. Mats are principally manufactured in Russia, partly from flags, but chiefly from the inner bark of the lime or linden tree. These latter are known in this country as *bast mats*.

Match, Fr. *mèche*. 1. Some combustible substance used for catching fire from a spark, as hemp, flax, cotton, &c.——2. A sort of hempen rope, composed of three strands, slightly twisted together, and again covered with tow, and boiled in the lees of old wine, so that when lighted, it retains the fire, but burns slowly till wholly consumed. It is used in firing artillery, mines, fireworks, &c.——3. *See* Matching.

Match'ing of Wine Casks. A method of preparing casks for wines, &c., to preserve the liquor from becoming vapid. It is done thus:—Slips of coarse linen cloth, &c. are dipped into melted sulphur to form *matches;* one of these matches is set on fire and immediately plunged in the bung-hole of the cask; the cask is thereby filled with sulphurous acid fumes, which are allowed to remain some hours with the bung tightly driven home, and the cask is then *matched*, and is ready to be filled.

Mate. In a *ship*, a deputy of the master in a man-of-war, selected from the midshipmen. The boatswain, gunner, carpenter, &c., have also each their mates, taken from the crew. In merchantmen the mate is second in command; but the law does not recognise him otherwise than as a mariner. In large ships there are often two or more mates.

Mate'. The Paraguay name for the *Ilex paraguensis*, used in that country as tea is here.

Ma'ter, Lat. for *mother*. Two membranes of the brain are thus named, from an old notion, that all the other membranes of the body were derived from them, or from their protecting the brain.

Mate'rialism, from *materia*, matter. The doctrine of *materialists:* the opinion of those who maintain that the soul of man is not a spiritual *substance*, distinct from matter, but that it is the result or effect of the organisation of matter in the body. The materialist holds that the phenomenon of thought is a function of the brain, just as the secretion of bile is a function of the liver; and denies the distinct existence of the incorporeal being called the *soul*.

Mate'ria Med'ica. A term including all those substances selected from the animal, vegetable, and mineral kingdoms, which are used in the cure of diseases: a catalogue of remedies.

Mathemat'ics, Lat. *mathematica*, from μαθηματικὴ. The science of quantity, or that science which considers magnitudes as measurable and computable. This science is divided into *pure* or *speculative*, which considers quantity abstractly, without relation to matter; and *mixed*, which treats of magnitude as subsisting in material bodies, and is consequently interwoven with physical considerations. Arithmetic, Geometry, Algebra, Trigonometry, and Conic Sections, are branches

of mathematics, all necessary for the purposes of astronomy, optics, hydrostatics, mechanics, navigation, fortification, &c.

Mat'ins. In the *Romish Church*, the first part of the daily service. Fr. *matin*, morning.

Mat'rass, Fr. *matras*. A chemical vessel, having an oval-shaped body and a long neck, much used for digestions.

Matrica'ria. A genus of herbaceous plants. *Syngenesia—Poly. superflua*. Name from *matrix*, the womb, because of its uses in diseases of the womb. The common wild corn or dog's chamomile, is a British species. The fever-few (improperly *featherfew*), is also a species (*M. parthenium.*)

Matricula'tion, from *matricula*, a register. Registration of a name in admission to membership, as in the universities. Members are hence said to be *matriculated.*

Ma'trix, Lat. for womb, from *mater*, mother. A place where anything is generated or formed. The matrix of a mineral or metallic ore is the substance in which it is immediately imbedded, or through which it is disseminated.

Matross'. In the *artillery*, a soldier next in degree to a gunner, whom he assists in loading, &c.

Mat'te. A crude black copper, reduced but not refined, from sulphur and other extraneous matters.

Mat'ter, Lat. Sp. and Ital. *materia*, that which is produced. The substance of which bodies are composed, usually divided by philosophical writers into four kinds, *solid*, *liquid*, *aeriform*, and *imponderable*. *Solid* substances are those whose parts firmly cohere and resist impression; *liquids* yield readily to impression; *aeriform* bodies are elastic fluids, comprehending vapours and gases; *imponderables* are destitute of weight, as light, caloric, electricity, and magnetism.

Matthi'ola. *Stock*. A genus of plants, mostly herbaceous. *Tetradynamia—Siliquosa*. The gillyflower (*M. incana*) is a native of England.

Maund. A weight used in the East Indies. It varies in different provinces, but the factory maund is about 80 lbs. avoir.

Mau'ndril. In *coal mines*, a pick with two shanks.

Maun'dy-thursday. *Mandate-Thursday*. The Thursday before Good Friday; the day of command on which the Saviour gave his great mandate, that we should love one another.

Maur, Congregation of Saint. A learned religious body of the Benedictine order, named after the place of their residence, and established in 1618.

Mauresque'. In *architecture*, the style of building peculiar to the Moors and Arabs.

Mausole'um. A Latin term, from Mausolus, king of Caria, to whom Artemisia, his widow, erected a stately monument, one of the wonders of the world, and hence used to denote any very sumptuous sepulchral monument.

Maw'-worm. The *Ascaris vermicularis*, a species of entozoa found in the stomach.

Maxil'la. 1. The jaw, both upper and under, from μασσασθαι, to chew. The lower jaw is called the *maxilla inferior*; and the upper jaw the *maxilla superior*.——2. The lower jaws only of insects are called *maxillæ*: they are placed behind the mandibles, and are principally employed in holding the substance on which the grinding apparatus of the mandible is exerted.

Max'illary, Lat. *maxillaris*. Appertaining to the jaw (*maxilla*).

Max'ima et Min'ima. In *analysis* and *geometry*, the greatest and least values of a variable quantity. The method of finding these values is termed *Methodus de maximis et minimis.*

Max'imum. 1. In *mathematics*, the greatest quantity attainable in a given case. ——2. The greatest extreme as distinguished from *minimum*.

May. The fifth month of the year, reckoning from January. Named from *Maia*, the mother of Mercury, to whom sacrifices were offered by the Romans on the first day of this month.

May'or. The chief magistrate of a city: in London and York he is called *lord-mayor*. The title is of doubtful origin. We have Fr. *maire*, Norm. *maëur*, *mair*, *meyre*; Wel. *maër*, one who guards; *maër y biscal*, a land-steward; *maëron*, a dairy farmer; *maëres*, a female who superintends the dairy-women; *maëroni*, superintendency, a keeper. A mayor, then, seems to have been originally an overseer, and among country gentlemen a steward or kind of domestic bailiff, rendered in the writings of the middle ages, *villicus*.

Mayoraz'go (Span). The right of the eldest born, in noble families, to inherit certain property on condition of transmitting it entire to those possessed of the same right on his decease.

M.D. *Medicinæ Doctor*. Doctor of medicine.

Mead. *Metheglin*. A liquor made by boiling with water the honey-combs from which the honey has been drained out, and fermenting: it was long the favourite drink of the northern nations, but is now little used. It takes its name from the northern word for honey.

Meal, Ger. *mehl*, Dutch *meel*. The edible part of grain and pulse, ground into a species of coarse flour. The varieties are characterised by prefixing the name of the grain; as *oat-meal*, *barley-meal*, &c.

Mean. The middle between two extremes. An *arithmetical mean* is half the sum of the two extremes. Thus if the

extremes are 2 and 6, the arithmetical mean is $\frac{2+6}{2} = 4$. A *geometrical mean* is the square root of the product of the two extremes. Thus, the extremes being 2 and 8, the geometrical mean is $\sqrt{2 \times 8} = 4$. A *harmonical mean* is the reciprocal of the arithmetical mean between the reciprocals of the given extremes.

Meandri'na. Brain-stone, brain-coral. Madrepores, in which the laminæ assume a meandering direction. These are large hemispherical corals, having their surface covered with serpentine ridges and depressions, resembling the convolutions of the brain, from which circumstance they have been called brain-stone.

Mease. The quantity of 500.

Mea'sles, *rubeola*. A disease known by inflammatory fever, hoarseness, dry cough, sneezing, drowsiness, during the first three days, when an eruption of small red spots, discernible by the touch, appears, and ends in mealy desquamation.

Meas'ure. That by which extent or dimension is known. 1. The standard measure of length is a yard, and of liquids a gallon.——2. Any quantity assumed, as one or unity, and by which the quantities of other similar things are expressed. Thus the measure of a line is some other assumed line, as an inch, a foot, a yard, &c. In music, the interval or space of time between the rising and falling of the hand or foot of him who beats time, is termed *measure*, as it regulates the time of dwelling on each note. In *poetry*, the manner of combining the quantities, or the long and short syllables, is termed *measure*, and is of different kinds; as hexameter, pentameter, iambics, &c. In *geology*, synonymous with beds or strata; as *coal measures*.

Mea'tus, Lat., from *meo*, to flow. A passage, as that leading to the ear, called the *meatus auditorius*, and is either external or internal.

Mechan'ical. 1. Relating to mechanics. Thus, the force produced by any machine, for the accomplishment of any particular purpose, is called *mechanical power*; and those simple agents employed in producing mechanical power, and of which all machines are essentially composed, are termed *mechanical powers*, and their application constitutes the science of *mechanics*. The *mechanical powers* are usually divided into six classes; the lever, the wheel and axle, the pulley, the inclined plane, the wedge, and the screw; but all these are reducible to two, the lever and the inclined plane. Some, however, regard the pulley as a distinct mechanical power.——2. *Mechanical philosophy* is that which explains the phenomena of nature, and the operations of corporeal things on the principles of mechanics; viz. motion, gravity, arrangement, disposition, magnitude of the parts which compose bodies; called by some *corpuscular philosophy*.——3. In *mathematics*, the term *mechanical* is employed to denote a construction of a problem by the assistance of instruments, as the duplication of the cube and quadrature of the circle. A *mechanical solution* is a solution of a problem, effected either by repeated trials, or by using lines in the solution which are not truly geometrical, or by organical construction. A *mechanical curve* is one which, according to Descartes, cannot be defined by any algebraical equation. Leibnitz and others call these curves *transcendental*.

Mechan'ics, from μηχανη, a machine. A branch of practical mathematics which treats of motion and moving powers, their nature and laws, and their effects in machines. The term is equally applied to the doctrine of equilibrium of powers, more properly called *statics*; and to that science which treats of the generation and communication of motions, which constitutes *dynamics*, or mechanics strictly so called. The science is further divided into *practical mechanics*, which treats of the mechanical powers; and *rational mechanics*, which treats of the theory of motion.

Mechan'ics' Institutes. The name given to the means by which instruction is communicated to tradesmen and mechanics, in large towns; originally put in operation by Dr. Birkbeck, in 1800.

Mech'anism. 1. Construction of parts depending on each other in any complicated machine designed for a purpose.——2. Action of a machine according to the laws of mechanics.

Mech'anists. Those philosophers who refer all the changes in the universe to the operation of mechanical forces.

Mechlo'ic Acid. An acid formed by passing a current of chlorine over meconine in fusion.

Mecho'acan. White Jalap. The root of the *Convolvulus mechoacanna*, brought from Mechoacan in Mexico. It is a slow purgative, but safe.

Mecon'ic Acid. An acid obtained from opium (*meconium*). It crystallises in white transparent scales, yields *pyromeconic acid* by distillation, and is converted into oxalic acid by dilute nitric acid.

Mec'onine. A peculiar principle constituting about $\frac{1}{2000}$ of opium (*meconium*). It is soluble in water, alcohol, and ether, and crystallises, from its solutions, in six-sided prisms, with dihedral summits. It was called by M. Couerbe, who discovered it, *hyponitromeconic acid*.

Meco'nium. 1. Opium. The inspissated

juice of the poppy, μηκων.——2. The fæces of an infant.

Med'al, Fr. *médaille*. A piece of metal usually in the form of a coin, and impressed with some particular stamp, intended to commemorate some particular person, action, or event.

Medal'lion, Fr. from *medal*. 1. In *numismatics*, a large antique stamp or medal.——2. In *architecture*, any circular tablet on which are embossed figures or busts.

Me'diæval. Relating to the middle ages.

Me'dial, μεσαι, middle. The three letters *b*, *g*, and *d*, in the Greek alphabet are so called, as being between their tenues *p*, *c*, *t*, and aspirates *ph*, *ch*, *th*.

Me'dian, Lat. *medianus*. An epithet applied by anatomists to parts, from their situation between other parts.

Me'diant, from *medius*. A name in music for the third above the key-note, because it divides the interval between the tonic and dominant into two-thirds.

Medias'tinum. In *anatomy*, the membraneous septum formed by the duplicature of the pleura, that divides the cavity of the chest into two parts: *quasi in medio stans* as being in the middle.

Mediatisa'tion. The annexation of the smaller German sovereignties to larger states, which took place in 1806.

Med'icine, Lat. *medicina*, from *medico*, to heal. The science and art which relate to the preservation of health, and the alleviation or cure of disease. Medicine admits of numerous divisions, of which the most general are *Physiology*, which teaches the healthy functions of the body; *Pathology*, which teaches its morbid conditions; *Semiotics*, which teaches the symptoms of disease; *Hygiene*, which teaches how to preserve health; *Therapeutics*, which teaches how to treat diseases, and includes *physic*, *surgery*, and *obstetrics*; and *Pharmacy*, which teaches the nature and virtues of drugs, and the mode of preparing and administering them.

Medi'etas Lin'guæ. In *law*, a jury, one half of which are natives, and the other half foreigners, impanelled in cases where the party to be tried is a foreigner.

Me'dium. The Latin word for *middle*. Anything intervening. In *physic*, that space or region through which a body in motion passes to any point; thus, air is the *medium* through which bodies move near the surface of the earth; water is the *medium* through which fishes move; glass is a *medium* through which light passes, and we speak of resisting *media*, refracting *media*, &c. In *logic*, the middle term of a syllogism is called the *media*, being the argument or reason why the greater extreme is affirmed or denied of the less. *Medium* also denotes the means or instrument by which anything is accomplished. Thus, money is our *medium* of commerce; and news are communicated through the *medium* of the press.

Medul'la. 1. The marrow; *quasi in medio ossis*.——2. The pith or pulp of vegetables.——3. The white substance of the brain, of which the *medulla spinalis* or spinal marrow is a continuation.

Medul'lary Sheath. In *botany*, a thin layer of vessels, surrounding the pulp of exogenous plants.

Medul'lin. The pith of the sun-flower (*Helianthus annuus*) which, on distillation, affords ammonia, leaving a charcoal of a metallic appearance, and a colour similar to that of bronze. Medullin is found in a few other vegetables.

Medu'sæ, from μεδουσα. 1. A genus of *Zoophytes*, furnished superiorly with a disk more or less convex, resembling the head of a mushroom, called the *umbella*, the alternate contractions and dilatations of which assist the locomotion of the animal: order *Simplicia*, Cuv. The Medusæ approach nearly to the fluid state, appearing like a soft and transparent jelly, which, by spontaneous decomposition after death, or by the application of heat, is resolved into an almost limpid watery fluid.——2. In *mythology*, the chief of the Gorgons.

Mee'rschaum, Germ. for *Sea-froth*. A white mineral, of an earthy appearance, always soft, but dry to the touch. It consists, according to Klaproth, of silica 41·5; magnesia 18·25; water and carbonic acid 39. When first dug it is soft and greasy, and lathers like soap, on which account the Tartars use it for washing linen. The Turkey tobacco-pipes are made of it.

Megale'sian Games, from μέγας, great. A magnificent Roman exhibition of the circus, in honour of Cybele.

Megalo'nyx, from μέγας, great, and ὄνυξ, a claw. A huge fossil mammiferous animal, so named from the great size of its claw bones: order *Edentata*, Cuv. It has been found in the floor of a cavern in the limestone of Virginia, in America.

Megalosau'rus, from μέγας, great, and σαῦρος, a lizard. A genus of fossil amphibious animals, of great size, belonging to the Saurian tribe. According to Cuvier the Megalosaurus must have measured from 50 to 70 feet in length; and its structure partook of the crocodile and monitor. Its remains have been found in the oolite and the wealden.

Meganyc'terans, from μέγας, and νυκτερις, great bats. The first division of the order Cheiroptera. They inhabit the tropical parts of Asia, Africa, and Polynesia; but are not found in America

MEGA'RIAN SCHOOL OF PHILOSOPHY. Founded at Megara by the disciples of Socrates.

MEG'ASCOPE, μέγας, and σκοπεω, I view. An optical instrument for the examination of bodies of considerable dimensions.

MEGATHE'RIUM, from μέγας, great, and θηρίον, a wild beast. An extinct mammiferous animal, of great size, belonging to the order *Edentata*, Cuv. Fossil remains of this huge animal have been discovered in the alluvial deposits of the Pampas of South America. It appears to have lived on roots, and to have been covered with a bony coat of armour, to defend it against the claws of beasts of prey. Its length appears to have been about 12 feet, and its height between 7 and 8 feet.

ME'GRIM. A species of cephalalgia or head-ache, arising from the state of the stomach. The term is synonymous with *hemicrania*, from which it is probably derived through the medium of the French *migraine*.

MELALEU'CA. An extensive genus of plants, mostly shrubs—*Polyadelphia—Icosandria*. Named from μελας, black, and λευκος, white, by Linnæus, for some reason not known, unless it be a mistranslation of the Malay name of the then only known species, the *Caju-puti* (white-tree), and that which is said to afford the cajeput oil. All the species except this (*M. leucadendron*) are natives of New Holland.

MELAMPO'DIUM. A genus of annual plants. *Syngenesia—Poly. necessaria*. Hot climates. *Melampodium* is also the old name of the black hellebore, from *Melampus*, the shepherd who first used it.

MEL'ANCHOLY, from μελας, black, and χολη, bile. A well-known form of insanity, thus named from its having been anciently supposed to proceed from redundance of black bile.

MELA'NIA. The name given by Lamarck to a genus of molluscs. Order *Pectinibranchiata:* family *Trochoida*, Cuv. The melania inhabit rivers; the shell is thick and spiral, and the animal is furnished with long tentacula.

MEL'ANITE, from μελας, black. The black garnet; a mineral of the gem order, found in the basalt of Bohemia, and in a rock at Frescati, near Rome. Its colour is velvety black.

MELANO'SIS, from μελας, black. A species of morbid deposit of black matter, chiefly attacking the cellular and adipose textures of the body, giving rise to *black cancer*, a malignant and incurable disease. It more commonly attacks horses than men, and especially white horses.

MELAN'TERITE, μελας. Native sulphate of iron.

ME'LAS, μελας. A disease endemial in Arabia; it consists in the formation of dark spots on the skin.

ME'LASM, from μελας, black. A disease, which sometimes appears upon the tibia of aged persons, in the form of a livid black spot, but which speedily degenerates into a foul ulcer.

MELAS'OMA. A family of unmixed black or cinerous-coloured coleopterous insects, whence the name from μελας, black. They are mostly apterous; their antennæ entirely or partly granose. The mandibles are bifid, and the eyes oblong and prominent. They generally live in the ground, either in sand or under stones, and frequently in cellars and other dark places.

MELAS'SES, from μελας, black. The sirup which drains from Muscovado sugar: treacle.

MELCHISEDE'CIANS. In *ecclesiastical history*, a name applied to several sects of early heretics, from their peculiar opinions concerning Melchisedec.

MELEA'GRIS. A genus of gallinaceous birds, of which the common turkey (*M. gallopavo*, Lin.), introduced into Europe from America, was for a long time the only species known; but a second species, the *M. ocellata*, Cuv., from the Bay of Honduras, has lately been described: it is almost equal to the peacock in the brilliancy of its colours, particularly in the sapphire-coloured spots, surrounded with circles of gold and ruby, which decorate the tail. *Meleagris* is the Greek name of the Guinea-hen, erroneously applied by Linnæus to the turkey.

ME'LES. A genus of carnivorous mammalia: the *badgers*, placed by Linnæus with the raccoons in the genus *Ursus*. There are two species, the European badger and the American badger.

MELE'TIANS. In *ecclesiastical history*, the partisans of Meletius, bishop of Lycopolis, in Egypt, who was charged with sacrificing to idols.

MEL'ICA The *melic-grass:* a genus of perennials. *Triandria — Digynia*. The name was anciently given to a species of millet. All the species are hardy, and two are indigenous to Britain.

MELILO'TUS, } An extensive genus of
MELIL'OT. } herbaceous plants. *Diadelphia — Decandria*. Name from *mel*, honey, and *lotus* (q. v.). All the species are hardy, and one is indigenous to Britain.

MELIS'SA. *Balm*. A genus of plants mostly perennials. *Didynamia—Gymnospermia*. Name from μελισσα, a bee, because bees gather honey from it. The greater and lesser calamint are the only

British species. The officinal balm is a native of the south of Europe, but is now common in our gardens.

MELITŒ'A. In *zoology*, a genus of beautiful corals; also a genus of butterflies.

MELLIPH'AGANS, from μελι and φαγω, I eat. Birds which feed on the nectar of flowers.

MEL'LITE. *Honey-stone.* A mineral of a yellowish colour like honey (*mel*), and resinous aspect, found at Artern in Thuringia. It is a mellate of alumina.

MELLIT'IC ACID. An acid which is found associated with alumina in the mineral called mellite. It crystallises in small colourless needles; has no smell, but a strong acid taste; is permanent in the air, and soluble in water and alcohol. It is, according to Liebig and Pelouze, C_4O_4H, but is not resolvable into $C_4O_3 + OH$, without decomposition.

MEL'LON. A new compound of carbon and nitrogen, discovered by Liebig, by heating bi-sulphocyanide of mercury. The mellon remains at the bottom of the retort in the form of a yellow powder.

MEL'ODRAME, } from μελος, song and
MELODRA'MA, } drama (q. v.). A dramatic performance in which music is intermixed. It differs from the opera in this, that the actors do not sing but declaim, the music only filling up the pauses with strains suitable to the subject. Melodramas are commonly romantic.

MELODY, μελωδια, a song. A succession of sounds so modulated as to please the ear. It is the effect of a single voice or instrument, in which respect it differs from *harmony*.

MEL'OE. The name of a genus of heteromerous Coleoptera, belonging to Cuvier's family of Trachelides and tribe of Cantharidæ. In some districts of Spain, meloes are employed in place of cantharides, or are mixed with them. They are also employed by farriers, and they were formerly regarded as a specific in hydrophobia. They answer to the *Buprestes* of the ancients; insects which were believed to kill such cattle as swallowed them while grazing. The oil-beetle is the best known species of meloes, properly so called; but the genus *meloe*, Lin., comprehends also the genus *Cantharis*, *Geoff*, or *Lytta*, Fab.

MELOLON'THA. A division of the genus Scarabæus, or beetle.

MEL'ON, from μελον, an apple. A name of certain plants and their fruit. The melon, properly so called (*Cucumis melo*), is an annual, of which several varieties are cultivated. It is a native of warm climates. The water-melon (*Cucurbita citrullus*), is also an annual, a native of the South of Europe, &c. The musk-melon (*Cucurbita moschata*), is likewise an annual, a native of the West Indies. These plants are much valued for their fruit, which is sweet and delicious, but only matured by exposure to a hot sun. The melon-thistle is a species of cactus.

MELO'THRIA. A genus of plants. *Triandria—Monogynia.* Name borrowed from the μελωθρον of Dioscorides. The best known species is the American Bryony (*M. pendula*), the berries of which are pickled and used as capers in the West Indies, &c.

MELPO'MENE, μελπομαι, I sing. The muse who presides over tragedy.

MEMBRA'NA TYMP'ANI. The drum of the ear.

MEMBRANA'CEOUS. Lat. *membranaceus*, of the nature of membrane. Applied in anatomy and botany to ligaments, tunics, &c.; and to leaves, pods, &c., of a thin and pliable texture.

MEM'BRANE. Lat. *membrana*. A thin and expanded substance, composed of cellular texture, the elastic fibres of which are so arranged and woven together as to allow of great pliability. The membranes of animals consist of concrete gelatine, and, like skin, are convertible into leather by tanning. The term is also extended by analogy to parts of vegetables of a membranaceous texture.

MEMBRANOL'OGY, from *membrana* and λογος, discourse. A hybrid term, used to designate that branch of anatomy which treats of the membranes of the body.

MEM'OIR, from Fr. *memoire*, memory. 1. A species of history describing transactions and events, in which some particular person had a principal share, written either by the person himself, or by a different person.——2. The recorded proceedings of a scientific society.

MEMO'RIAL. In *diplomacy*, a species of informal state paper, much used in negotiations.

MEMO'RIA TECH'NICA. *Technical* or *artificial memory*. A name for any contrivance for assisting the memory.

MEM'ORY, Lat. *memini*, I remember. The power of having what was once perceived recalled to the mind, accompanied by a consciousness of past existence.

MENACH'ANITE. An ore of titanium, found in the bed of a rivulet, which flows into the valley of Menacan, in Cornwall. It occurs in very flat angular grains of a greyish black colour, and a semi-metallic lustre. Sp. gr. 4·4. It contains 51 oxide of iron, and 45·5 of oxide of titanium, associated with 3·5 of silica. It tinges borax of a greenish colour.

MEN'DICANTS. *Beggars.* Several orders of monks, who live on alms, are so named.

ME'NE. A Chaldean word, signifying "he has numbered," or "he has counted."

MEN'IDES. a family of Acanthopterygious fishes, distinguished by the extreme ex-

tensibility and retractility of their upper jaw.

Menin'geal. Relating to the *meninges* or membranes of the brain. *See* Meninx.

Menin'gitis. Inflammation of the *meninges*, or membranes of the brain or spinal cord.

Me'ninx, μηνιγξ. A name formerly common to all the membranes of the body, but now appropriated to those of the brain. Plural, *meninges*.

Menis'cus, Lat. from μηνισκος, a little moon. A lens convex on one side, and concave on the other. *See* Lens.

Menisper'mic Acid. An acid obtained from the berries of the *Menispermum cocculus*, a shrub which grows in the East Indies. It is an insipid crystalline substance, little soluble in water, and forms with the alkalies and some other bases crystallizable compounds or *menispermates*. Little is known of this acid, or of the salts which it forms.

Menisper'mum. Moon-seed. A genus of shrubby plants. *Diœcia—Dodecandria*. Named from μηνη, the moon, and σπερμα, seed, in allusion to the crescent form of the seeds. The berries of the *M. cocculus* are highly poisonous and inebriating, and are supposed to impart that power to most of the London porter.

Men'iver. A small white animal of Russia; also its fur, which is much valued.

Men'nonites. A title of the Anabaptists of Holland, derived from their leader, Menno.

Menobran'chus. The name given by Harlan to a genus of Batrachians, closely allied to the Tritons or Aquatic Salamanders. The species most known is the *M. lateralis*, Harl., or *Triton lateralis*, Say. It inhabits the great lakes of North America, and attains a length of between two and three feet.

Menoss'oma. The name given by Harlan to a genus of Batrachians, closely allied to the Salamanders. The Hellbender (*Salamandra gigantea*, Barton), is the best known species. It inhabits the lakes and rivers of the interior of North America. The reptile is about 18 inches long, and of a blackish blue colour.

Men'struum. *Solvent*. All liquids are so called, which are used as dissolvents, infusions, decoctions, &c. The most common is water. The term *menstruum* is derived from *mensis*, a month, and its use is supposed to have originated in some notion of the old chemists, about the influence of the moon in the preparation of dissolvents.

Mensura'tion, from *mensura*, measure. A branch of mathematics which treats of the measurement of the extensions, capacities, solidities, &c. of bodies.——2. The result of measuring.

Men'tha. *Mint*. An extensive genus of perennial plants. *Didynamia — Gymnospermia*. Name from Minthe, who was changed into this herb. Of 41 species, 23 are natives of Britain. Among these are the spear-mint, the marsh-mint, the pepper-mint, the bergamot, the water, corn, field, meadow, fen, and brook-mint, and the penny-royal or pudding-grass.

Men'tum (Lat.), chin. In *mammology*, the anterior and inferior margin of the lower jaw.

Menu', Institutes of. The most celebrated code of Indian law, civil and religious; so termed from its author Menu, Menou, or M.

Menyan'thes. Buckbean or water-trefoil. A genus of one species. *Pentandria —Monogynia*. Named from μην, a month, and ανθος, a flower, because it keeps in flower about a month. Europe.

Men'inges, μηνιγξ, membrane. The membranes which cover the brain.

Mephit'ic, from *mephitis*, an ill smell. Offensive to the smell; noxious. Formerly carbonic acid was termed *mephitic acid* and nitrogen, *mephitic air*.

Mephi'tis, a genus of carnivorous mammalia of the digitigrade tribe—the *Skunks*, remarkable for their horrible fœtid exhalations: whence the name *mephitis*, an ill smell. The most common species is the American skunk (*M. putorius*) somewhat resembling the badger.

Mercator's Chart. A chart in which the parallels of latitude and the meridians are represented by straight lines, invented by Gerard Mercator.

Mercuria'lis. Mercury. A genus of plants. *Diœcia — Enneandria*. Named after *Mercurius*, the discoverer of it. There are five species, natives of Europe; two are British.

Mer'cury, Lat. *Mercurius*. 1. The god of eloquence and commerce; his name is said to be formed from *merces* or *mercor*. ——2. Quicksilver: a metal which remains fluid at ordinary temperatures, but becomes solid, ductile, and malleable when its temperature is reduced 40 degrees below zero of Fahrenheit's thermometer. It boils at 656° F., and distils off in an elastic vapour, which, being condensed by cold, forms purified mercury, sp. gr. 13·6, at 60°. Its colour is that of pure silver; it has no taste or smell, combines readily with certain metals, as gold, silver, zinc, tin, and bismuth, forming mercurial alloys or *amalgams*. It is this property which makes it so extensively useful in the extraction of gold and silver from their ores, in gilding, plating, silvering looking-glasses, &c. It occurs, (1.) *Native*, adhering in small globules to the surface of cinnabar; (2.) In union with silver in the *native amalgam of sil-*

ver, which occurs in Hungary, Sweden, Spain, and some other places; (3.) In combination with sulphur forming cinnabar; (4.) Combined with chlorine, forming horn-mercury. It is obtained from its ores by distillation. Mercury is used in barometers and thermometers, and very extensively in medicine, in the forms of blue pill, calomel, and corrosive sublimate. It is also used as a pigment in vermilion.——3. In *astronomy*, the smallest of the primary planets, and the nearest to the sun, for which reason, though it emits a bright light, it is seldom seen. Diameter 3180 miles; distance from the sun, 36,841,468 miles; sidereal revolution, ''' days, 23 hours, 15′, 44″; rotation on its axis, 1d. 0h. 5′, 28·3″. Light compared with that at the earth about 7 times. Character ☿. Named from its apparent quick motions, after Mercury, the messenger of the gods.——4. In *botany*. *See* MERCURIALIS.

MER'CY-SEAT. In *scripture antiquities*, the propitiatory: a covering of the ark of the covenant. It was of gold, and its ends were fixed to two cherubim, whose wings extended forward, and formed a kind of throne for the Almighty.

MER'GER, from *mergo*, to merge. A term in law for the merging or drowning of a less estate in a greater

MER'GUS, a diver. The Latin name of some aquatic bird: applied by Linnæus as the generic name of the *goosander*, and by Brisson as the generic name of the *diver*, of which Illiger forms the genus *Endytes* (q. v.). The genus *Mergus*, Lin., comprehends all those *palmipedes* of the Lamellirostrine family, in which the bill is thinner and more cylindrical than that of the ducks; armed along its edges with small pointed teeth, like those of a saw, and having the upper mandible hooked. They live on lakes and ponds, where they are very destructive to fish. The goosander (*M. merganser*, Lin.), is well known.

MERID'IAN, from *meridies* for *medidies*, mid-day; noon.——2. In *astronomy* and *geography*, a great circle supposed to pass through the poles, zenith, and nadir, of any given place, intersecting the equinoctial and equator at right angles. Every place has its *meridian*, and when the sun arrives at this circle, it is noon or mid-day, whence the name. The *first meridian* is that from which longitudes are reckoned. The choice is entirely arbitrary. In British works the longitude is reckoned from Greenwich.——3. The *meridian of a globe* is the brazen circle in which it turns, and by which it is supported. The *magnetic meridian* is a great circle passing through the magnetic poles. The *meridian altitude* of a heavenly body, is its altitude when on the meridian. The *meridian line*, (1.) On a dial, is the same as the 12 o'clock hour line; (2.) On Gunter's scale a line divided unequally towards 87°, corresponding to the meridian in Mercator's chart.

MERID'IONAL. In *navigation*. (1.) By *meridional distance* is meant the distance between the meridians of two places: otherwise called *departure* (q. v.). (2.) *Meridional parts*, are the parts of the increased meridians, according to Mercator's chart, which increase in proportion to the cosines of the latitudes to radius, or simply as the secants, the radius being constant.

MERI'NO. The Spanish sheep: a variety remarkable for the fineness of their fleece.

MERI'ONES. A genus of rodent mammalia, separated from the Gerbils by F. Cuvier. The most known species is the jumping mouse (*Mus canadensis*, Penn.) of North America. It much resembles our mouse, but its colour is lighter, and it is more active in summer, and spends the winter in a state of lethargy, shut up in its burrow.

MER'LIN (French). A species of hawk. It is the smallest bird of the hawk-tribe.

MER'LON (French). That part of a parapet which lies between two embrasures.

MER'MAID. *Maid of the Sea*. A fabulous creature, described as having the head and body of a woman with the tail of a fish. Some doubted the existence of *mermen*, who thoroughly believed in the existence of mermaids! The prototype of the fables about mermaids is the *Dugong* (q. v.).

ME'ROPS. The name given by Linnæus to a genus of passerine birds—the *Bee-eaters*, of the Tenuirostrine family. Their flight is similar to that of the swallows; and they pursue insects in great flocks, but especially bees and wasps; by which they are never stung. Name μεροψ, from μεριζω and ὄψ?

ME'ROS (Gr.). In *architecture*, the plane face between the channels in the triglyphs of the Doric order.

MESEMBRYAN'THEMUM. *Fig-marigold*. A genus of plants, of which 228 species are enumerated by Don: class *Icosandria*: order *Pentagynia*. Name from μεσος, middle, εμβρυο, embryo, and ανθος, a flower. The species are all natives of warm climates, and mostly of the C. G. Hope.

MES'ENTERY, from μεσος, middle, and εντερον, an intestine. A membrane placed in the middle of the intestines, and to which they are attached, to prevent them from becoming entangled with each other by convolutions. It is formed by a du-

plicature of the peritoneum. Epithets *mesenteric* and *meseraic*.

Mes'lin, from Fr. *mesler, mêler*, to mix. A mixture of various sorts of grain: especially a mixture of wheat and rye.

Mesne. An old French term (pron. *meen*), and signifying *middle* or *intervening*, as a *mesne* lord, that is, a lord who holds land of a superior, but grants it to another person.

Mesne Process is that part of the proceedings of suit which intervenes between the original process or writ and the final issue, and which issues, pending the suit, on the collateral matter.

Mes'ocolon. That part of the mesentery to which the colon is attached.

Mes'olabe, from μισος, and λαμβανω, I take. An instrument for finding two mean proportionals between two given lines, required in the duplication of the cube.

Mesophy'llum, μισος and φυλλον, leaf. The tissue forming the fleshy part of a leaf, between the upper and lower integuments.

Mesothe'nar, from μισος, middle, and θεναρ, the palm. The muscular mass forming the palm of the hand, consisting of the abductor and part of the short flexor of the thumb.

Mesotho'rax, μισος and θωραξ, chest. The posterior segment of the alitrunk of insects, bearing the posterior wings and legs.

Mes'otype, from μισος, middle, and τυπος, form; prismatic zeolite. A simple mineral, which occurs regularly crystallised in drusy cavities, or in veins in secondary trap-rocks. Colours white, red, yellow, and brown. Sp. gr. 2·3.

Mes'senger. One who executes a message.——2. In *Scotland*, a bailiff.——3. In a *ship*, a small cable of 60 fathoms in length, wound round the capstan, and having its two ends lashed together. It is used in weighing anchor.

Mes'suage. In *law*, a dwelling-house and adjoining land, appropriated to the use of the household. The term is from the old French *meson, mesonage*, a house or house-room. The French now write *maison*.

Mestin's. In *Spanish America*, the child of a Spaniard, or creole, and a native Indian.

Metacar'pus, from μετα, beyond, and καρπος, the wrist. That part of the hand which is between the wrist and the fingers.

Meta'bolians. Insects which undergo a metamorphosis, and which are usually fitted with wings in their final state: from μεταβαλλω, to change.

Metach'ronism, from μετα, beyond, and χρονος, time. An error in chronology by placing an event after its real time.

Met'al (Dan. and Fr. *metal*; Germ. and Sw. *metall*; Lat. *metallum*; Gr. μεταλλον). Metals are distinguished by the following general characters:—(1.) They possess a peculiar lustre, which continues in the streak and in their smallest fragments; (2.) They are fusible by heat, and in fusion retain their lustre and opacity; (3.) They are all, except selenium, excellent conductors of electricity and caloric; (4.) Many of them may be extended under the hammer, and are called malleable; or under the rolling press, and are called laminable; or drawn into wire, and are called ductile; (5.) When exposed to the action of oxygen, chlorine, or iodine, at an elevated temperature, they generally take fire, and combining with one or other of these three elementary dissolvents in definite proportion, are converted into earthy-looking bodies, devoid of metallic lustre, called oxides, chlorides, and iodides; (6.) They are capable of combining in their melted state with each other, in almost every proportion, constituting the important order of metallic alloys, in which the characteristic lustre and tenacity are preserved.—From a consideration of these properties metals may be divided into many classes; but the most modern classification is formed from a consideration of their chemical properties. Thus, seven form with oxygen bodies possessed of alkaline properties; viz., potassium, sodium, lithium, barium, strontium, calcium, and magnesium. Other five with oxygen form the earths proper; viz., aluminum, zirconium, yttrium, glucinum, thorinum. The others may be named in alphabetical order: antimony, arsenic, bismuth, cadmium, cerium, chromium, cobalt, copper, gold, iridium, iron, lead, manganese, mercury, molybdenum, nickel, osmium, palladium, platinum, rhodium, silver, tantalum (columbium), tellurium, tin, titanium, tungsten, vanadium, uranium, zinc. The only metals known to the ancients were gold, silver, mercury, copper, lead, tin, and iron. In the annexed table, arranged according to the date of their discovery, with the names of the chemists by whom they were discovered, their specific gravities, melting points, equivalent weights, and abbreviated symbols, a more satisfactory information, may, however, be obtained.

Metalep'sis. Μεταλημψις, participation. In *rhetoric*, a continuation of a trope in one word through a succession of significations, or the union of two or more tropes of different kinds in one word.

TABLE OF METALS.

Names.	Authors, and Dates of their Discovery.	Specific Gravity.	Melting Points. Fahr.	Equivalent Weights	Abb. Symbols.
1. Gold . . ☉	Known to the ancients, and represented by the preceding planetary symbols, with which they were supposed to have a mysterious connexion.	19·25	2016	197	Au.
2. Silver . ☽		10·47	1873	108	Ag.
3. Iron . . ♂		7·78	2800 ? s. f.*	56	Fe.
4. Copper . ♀		8·89	1996	63	Cu.
5. Mercury . ☿		13·56	30	200	Hg.
6. Lead . . ♀		11·45	612	207	Pb.
7. Tin . . ♃		7·29	442	118	Sn.
8. Antimony .	Basil Valentine . 1490	6·70	. . .	122	Sb.
9. Bismuth .	Agricola . . . 1530	9·80	497	210	Bi.
10. Zinc	Paracelsus ? . . 1530	7·0	773	65	Zn.
11. Arsenic . .	Brandt . . . 1733	5·96	. . .	75	As.
12. Cobalt . . .	,, ... ,,	8·60	2·10 ?	59	Co.
13. Platinum .	Wood 1741	21·15	oh. bp.†	197	Pt.
14. Nickel . . .	Cronstedt . . . 1751	8·60	2810	59	Ni.
15. Manganese .	Gahn 1774	8·00	s. f.	55	Man.
16. Tungsten . .	D'Elhuiart . . . 1781	17·60	. . .	184	W.
17. Tellurium .	Müller . . . 1782	6·11	620 ?	32	Tel.
18. Molybdenum.	Hielm 1782	7·40	oh. bp.	48	Mol.
19 Uranium .	Klaproth . . . 1789	18·40	oh bp.	120	U.
20. Titanium . .	Gregor 1791	5·30	oh. bp.	24	Ti.
21. Chromium .	Vauquelin . . 1797	7·00	oh. bp.	52	Cr.
22. Columbium .	Hatchett . . . 1802	. .	. . .	185	Col.
23. Palladium .	Wollaston . . 1803	11·8	. . .	53	Pal.
24. Rhodium . .	,, ... ,,	12·0	oh. bp.	52	Rh.
25. Iridium . .	Tennant . . . 1803	21·5	oh. bp.	98	Ir.
26. Osmium . .	,, ... ,,	21·40	oh. bp.	99	Os.
27. Cerium . .	Hisinger . . . 1804	. .	. . .	46	Ce.
28. Potassium. .	,, ... ,,	0·86	136	39	Po.
29. Sodium . .	,, ... ,,	0·97	190	23	So.
30. Barium . .	Davy 1807	. .	. . .	137	Ba.
31. Strontium .	,, ... ,,	2·54	. . .	87	Sr.
32. Calcium . .	,, ... ,,	1·57	. . .	40	Ca.
33. Cadmium .	Stromeyer . . 1·18	8·60	442	112	Cd.
34. Lithium . .	Arfwedson . . . 1818	9·59	. . .	7	Li.
35. Silicium .	Berzelius . . . 1824	. .	. . .	8	Si.
36. Zirconium .	,, ... ,,	. .	. . .	30	Zir.
37. Aluminum .	Wöhler . . . 1828	2·6	. . .	27	Al.
38. Glucinum . .	,, ... ,,	. .	. . .	7	Gl.
39. Yttrium .	,, ... ,,	. .	. . .	32	Ys.
40. Thorium . .	Berzelius . . . 1829	. .	. . .	60	Th.
41. Magnesium.	Bussy 1829	1·47	. . .	24	Mg.
42. Vanadium .	Seftström . . . 1830	. .	. . .	68	Va.
43. Lanthanum	Mosander . .	?	. . .	92	La.
44. Didymium .	,, . . .	·9	. . .	96	D.
45. Ruthenium.	? . . .	11·30	. . .	52	Ru.
46. Rubidium .	Bunsen & Kirchoff 1860	?	. . .	85	Rb.
47. Cæsium . .	,, ,,	?	. . .	133	Cs.
48. Thallium . .	Crookes 1861	11·9	. . .	204	Tl.
49. Gallium .	Lecocq . Dec., 1875	?	. . .	?	Ga.

* Smith's forge.

† Oxyhydrogen blowpipe.

METAL'LIC. Resembling or pertaining to metal.

MET'ALLING. A term applied to the covering of roads generally, and to the filling in material above, below, and between the several stone blocks and sleepers upon railways, &c.

METAL'LOID. A name formerly given to the metallic bases of the alkalies and earths.

MET'ALLURGY comprehends the whole art of working metals from the ore to the utensil; but, technically, only the operations followed in separating metals from their ores.

METAMOR'PHIC, from μεταμορφοω, to alter. 1. Transformed.—2. An epithet for such rocks as are altered by stratifica-

tion. The primary stratified rocks are all metamorphic.

METAMOR'PHOSIS, μεταμορφωσις. 1. Transformation.——2. A term for the change which some insects undergo previously to their arriving at their state of perfection.

MET'APHOR, from μεταφερω, to transfer. A short similitude expressed by a single word, without comparison; as when a hero is called a *lion*, a shrewd individual a *fox*, &c.

METAPH'RASIS, μεταφρασις. A literal translation out of one language into another.

METAPHYS'ICS, from μετα, beyond and φυσικη, physics. The science of mind: thus named, the science of natural bodies or *physics* being regarded as the first in the order of studies; and the science of mind, or intelligence, to be the second. Metaphysics comprehends *ontology*, or the science which treats of the nature, essence, and qualities or attributes of being; *cosmology*, the science of the world, which treats of the nature and laws of matter and motion; *anthroposophy*, which treats of man and the motions by which life is produced; *psychology*, which treats of the intellectual soul; *pneumatology*, the science of spirits. *Metaphysical theology* treats of the existence of God, his essence, and attributes; called by Leibnitz and others *theodicy*. These divisions of metaphysics are now little regarded. The natural division of things that exist is into body and mind, things material and immaterial: the former belong to physics, the latter to metaphysics.

MET'APLASM, μεταπλασμος. Transformation. A term in grammar for any change made in a word, by transposing or retrenching a syllable or letter.

METAS'TASIS, μεταστασις. Translation. Transition of a disease from one part of the body to another.

METATAR'SUS, from μετα, beyond, and ταρσος, the tarsus. That part of the foot between the tarsus and the toes.

MET'ATOME, from μετα, change, and τεμνω, I cut. A space, in *architecture*, between one dentil and the next.

META'YER. In *France* and *Italy*, a farmer holding land on condition of yielding half the produce to the proprietor, who furnishes tools and stock.

METEMPSYCHO'SIS, μετεμψυχωσις. Transmigration. The passing of the soul of man, after death, into some other animal; a doctrine which still prevails in some parts of Asia.

METEMPTO'SIS, μετεμπτωσις, from μετα, after, and πιπτω, to fall. A term in chronology for the equation necessary to prevent the new moon from happening a day too late, or the suppression of the bissextile once in 134 years. The opposite is the *proemptosis*, or the addition of one day every 300 years, and another every 2400 years.

ME'TEOR, from μετεωρος, sublime. A term used by some to comprehend all the visible phenomena of meteorology; but commonly restricted to such luminous bodies as appear suddenly at uncertain times, and with more or less motion in the atmosphere. These are reducible to three classes; (1.) *Igneous* or *fiery* meteors, including fire-balls, falling stars, &c. (2.) *Luminous* meteors, as the aurora borealis, zodiacal light, parhelia, &c. (3.) *Aqueous* meteors.

ME'TEORIC STONES. Aërolites. Peculiar solid compounds of earthy and metallic matters, of singular aspect and composition, which occasionally descend from the atmosphere, usually from a luminous meteor. Aërolites are of various sizes from a few ounces to several cwts. Their composition is remarkably uniform, consisting of oxide of iron, metallic iron, pyrites, chromium, nickel, magnesia, and silex; and they are uniformly covered with a deep black crust, without gloss, and roughened with small asperities. The origin of these stones is not ascertained.

ME'TEOROLITES. Meteoric stones, from *meteor*, and λιθος, a stone. *See* METEORIC STONES.

METEOROL'OGY, from μετεωρον, a meteor, and λογος, science. The science which treats of the atmosphere, and its phenomena, particularly in its relation to heat and moisture, and its changes with respect to weight and electricity, giving rise to winds, rains, snow, hail, dew, and variation of season, thunder, &c.

ME'TEOROMANCY, from μετεωρον, meteor, and μαντεια, divination. Divination by meteors, especially by thunder and lightning: held in high estimation by the Romans.

METEOROS'COPY, from μετεωρος, lofty, and σκοπεω, to view. That part of astronomy which treats of the distance of the fixed stars, &c.

METHE'GLIN, Welch *meddyglyn*. A drink prepared from honey by fermentation.

METH'OD, from μετα, beyond, and ὁδος, a way; literally a path from one object to another. The first idea of *method* is a *progressive transition* from one step in any course to another; and, when the word *method* is used with reference to many such transitions in continuity, it necessarily implies a principle of *unity* with *progression*.——2. Arrangement of natural bodies according to their common characteristics. In natural arrangements, a

distinction is sometimes made between *method* and *system*. This last is an arrangement, founded throughout all its parts on some one principle; whereas *method* is an arrangement less fixed and determined, and founded on more general relations.

Methodists. Sects of Christians founded by John and Charles Wesley, and the Rev. George Whitfield: hence called Whitfieldean and Wesleyan Methodists. The former are Calvinists; the latter, so far as regards free-will, are Arminians. They were named Methodists from the exact regularity of their lives, and the strictness of their principles and rules; or rather, because they pretended to reduce religion to exact rules and axioms, in which they were compared to the methodical physicians at Rome, of which Themison was the head. These endeavoured to reduce medicine to strict rules, and supposed that all diseases arose from rigidity of the fibres of the body. There were also a sect of polemical doctors of the 17th century called Methodists. They distinguished themselves by their zeal and dexterity in defending the Romish Church against the attacks of the Protestants.

Me'toche. In *architecture*, the space between two dentils.

Metœ'ci, μετοικοι. The resident aliens in Athens.

Meton'ic Cycle. The period of nineteen years, in which the lunations return to the same days of the month. Discovered by, and named after, Meton, a celebrated mathematician at Athens, who flourished about 430 years before Christ.

Met'onymy, μετωνυμια, from μετα, beyond, and ονομα, name. A rhetorical trope, in which one word is put for another. Thus we say a man has a clear *head*, where the word head is put by metonymy for *understanding* or *intellect*.

Met'ope, μετοπη, from μετα and οπη, an aperture. A name in architecture for the space between the triglyphs of the Doric frieze, which used to be painted or adorned with carved work.

Me'tre, Fr. from μετρον, measure. 1. In *French measures*, the metre is the ten-millionth part of a quadrant of the meridian, which is adopted as the unit of length. It is equal to 36·9413 Fr. inches, or 39·3702 Eng. inches.——2. In *poetry*, a system of feet of just length. The different metres are the different manners of ordering and combining the quantities, or the long and short syllables. *See* Measure.——3. Metre is a general name for a description of machine fitted with clockwork, so adjusted as to indicate the quantity of fluid which passes through it: The *gas-metre* is the best known of these machines.

Metroma'nia, from *metre* and *mania*. 1. A disease, by no means uncommon, in which the patient is seized with a desire for composing verses.——2. A term synonymous with *nymphomania*, in which case it is derived from *metra*, the womb, and *mania*, madness.

Met'ronome, μετρον and νομος, law. An instrument for measuring time in music.

Metroside'ros. A genus of trees. *Icosandria—Monogynia*. Warm climates. The Botany Bay willow, and the ironwood of India, are the best known species.

Me'um and Tu'um. *Mine* and *thine*. Latin words used in law for the proper guides of right.

Meze'reon. The spurge olive or widow-wail (*Daphne mezereum*); also the root of that plant used in medicine.

Mez'zanine, from Ital. *mezzo*, half. A low window, less in height than in breadth.

Mez'zo. In *music*, an Italian word, signifying *half*. Thus *mezzo-forte*, *mezzo-piano*, *mezzo-voce*, imply a middle degree of piano, or soft. By *mezzo soprano* is understood a pitch of voice between the soprano and treble, and counter-tenor.

Mezzotin'to, Ital. from *mezzo*, half, and *tinto*, Lat. *tinctus*, painted. A particular manner of engraving in imitation of painting in Indian Ink. It is done by furrowing the surface of the plate all over with an instrument for the purpose; till the whole is of a regular roughness, so that were an impression to be taken from the plate at this stage, it would be black all over. The design is then drawn, and where deepest shades are, the plate is left untouched; but where the shades are lighter, the rough surface is scraped down in proportion to the highness of the shade required; so that when the paper is to be left perfectly white, the plate is thoroughly burnished. By disposing the different parts of a figure on different plates, mezzotintos are printed in colours, so as in some measure to represent actual paintings.

Mi'asm, Mias'ma, μιασμα, from μιαινω, to infect. A Greek word, importing pollution or corruption, and used to designate any effluvium, which by its application to the human system is capable of exciting disease. Miasmata are principally regarded as excitants of intermittent, remittent, and yellow fevers, dysentery and typhus. That of the last is commonly considered to be generated in the human body, and is sometimes called the *typhoid fomes*. The other miasmata are produced from moist vegetable or animal matter, in some unknown state of decomposition, and are conveyed through the medium of the atmosphere. Little is known of the chemical nature of

these effluvia, but it is generally admitted that their base is hydrogen; whence the use of chlorine in fumigation.

Mi'ca, from *mico*, to glisten. A mineral which appears to be always the result of crystallisation, though rarely found in regular well-defined crystals, but in their flexible laminæ, having a high polish and a shining surface. "These laminæ," says Mr. Humble, "have sometimes an extent of many square inches, and from this gradually diminish till they become mere spangles, discoverable indeed by their lustre, but otherwise scarcely perceptible to the naked eye. Its colours vary from silver white to black. Sp. gr. 2·5 to 2·9. Fuses before the blowpipe into a grey or black enamel. It is one of the component parts of granite, gneiss, and mica-slate; it occurs also in syenite porphyry and other primitive rocks." The large sheets of mica used instead of glass in stoves, lanterns, &c., are brought from Siberia, where this mineral serves all the purposes of glass in windows, &c. Jameson enumerates ten subspecies, viz.: mica, pinite, lepidolite, chlorite, green-earth, talc, nacrite, potstone, steatite, and figure-stone.

Mica'ceous Iron-ore. A variety of iron-ore which occurs in amorphous masses, composed of six-sided laminæ, like black mica. Its lustre is metallic and opaque. Feel, greasy. Sp. gr. 4·5 to 5·7. Yields nearly 70 per cent. of iron.

Mi'ca Schist, } A metamorphic rock
Mi'ca Slate. } composed of mica and quartz. Its texture is slaty, and it passes by insensible gradations into clay slate.

Mic'hael, Saint. A French order of knighthood, instituted in 1469.

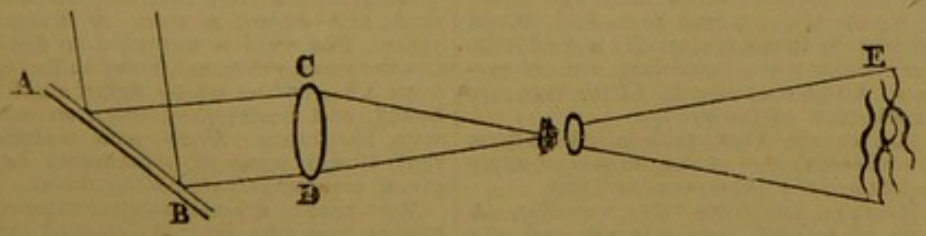
Microcos'mic Salt. A triple salt, a phosphate of soda and ammonia, obtained originally from urine, and so named because man was regarded by the alchemists as a miniature of the world. It is now prepared by mixing equal parts of the phosphate of soda and phosphate of ammonia together in solution, and then crystallising. It is much used in assays by the blowpipe.

Mi'crocosm, the little world; from μικρος, little, and κοσμος, the world. The term is used of man, supposed to be an epitome of the universe or great world.

Microm'eter, from μικρος, small, and μετρον, measure. 1. Any instrument for measuring small spaces is a micrometer. ——2. An instrument, by the help of which, the apparent magnitude of objects viewed through the telescope is measured with great exactness. There are various forms of the instrument, but the principle of operation is the same. It moves a fine wire parallel to itself in the plane of the picture of the object, formed in the focus of the telescope, and with such accuracy as to measure with great precision its perpendicular distance from a fixed wire in the same plane, by which means the apparent diameters of the planets and other small angles are exactly determined. The micrometer (especially that of microscopes), is sometimes simply an accurately and finely divided object-glass.

Microphо'nics, from μικρος, small, and φωνη, sound. The science of magnifying small sounds: whence *microphone*, an instrument for magnifying small sounds.

Mi'croscope, from μικρος, small, and σκοπεω, to view. An optical instrument contrived to give to the eye an enlarged image of objects which are too minute to be examined without such aid. There are several sorts of microscopes, as single, compound, reflecting, and solar. The *single* or *simple microscope* consists of a single lens. *Double* or *compound microscopes* have at least two, but generally three or more lenses. The *solar microscope*



consists of a common microscope connected with a reflector AB, and condenser CD, the first being used to throw the sun's light on the latter, by which it is condensed upon the object placed in its focus. This object is also situated in the focus of a microscopic lens on the other side, which transmits a magnified image upon a screen or wall, in a dark room. The *lucernal microscope* differs from the solar microscope only in this, that it is illuminated by a lamp instead of the sun.

Middle Ages. The period from the 8th to the 15th century of the Christian era.

MID'DLE LATITUDE. Half the sum of two given latitudes of the same hemisphere, or half their difference when they are in different hemispheres. In the latter case it is always of the same name as the greater.

MID'DLE RAIL. In *architecture*, the rail of a door level with the hand, on which the lock is usually fixed.

MID'DLE TERM (of a syllogism). That with which the extremes of the conclusion are compared.

MID'SHIPMAN. A naval cadet, whose business is to second the orders of the superior officers, and assist in the necessary business of the ship, particularly in managing the sails, that he may be trained to a knowledge of the machinery, discipline, and operations of ships of war, and qualified for naval service.

MID'SHIPS, properly *amidships*. In the middle of a ship.

MIGNONETTE' (Fr.). An annual flowering plant, the *Reseda odorata*. Egypt.

MIL'DEW, Sax. *mildeaw*, honey dew, from Lat. *mel*, honey. 1. A thick, clammy, sweet juice found on the leaves of plants. It is said to injure the plants by impeding their respiration.——2. Spots on paper, cloth, &c., caused by moisture.

MILE. A measure of length, 1760 yards. From Lat. *mille passus*, a thousand paces, *passus* being dropped in common usage. The Roman mile was 1000 geometrical paces. The Scottish and Irish mile = 2200 yards, exactly double a Russian mile, the half of a Polish mile, and the quarter of a Hungarian mile. The Italian mile is 1467 yards, the Spanish, 5028 yards, that of Sweden and Denmark is 7233 yards, and the German is 5866 yards.

MILIA'RIA. *Miliary fever*. An eruptive disease, characterised by intermittent fever, and so named from the small vesicles upon the skin resembling millet-seed (*milium*, millet).

MIL'IOLA. A genus of microscopic multilocular univalve shells, many specimens of which are obtained from fuci, taken up near the island of Corsica: named from their minute size, *miliolum*, dim. of *milium*, millet-seed.——2. Little tumours which grow on the eyelids.

MIL'IOLITES. Fossil miliola, which form the principal part of the masses of stone in some of the quarries near Paris.

MILI'TIA, Lat. from *miles*, a soldier. A body of soldiers regularly enrolled and trained, though not in constant service in time of peace, and thereby distinguished from regular troops.

MIL'IUM. *Millet-grass*. A genus of perennial grasses. *Triandria—Digynia*. There are several species, all hardy; the common (*M. effusum*) is a native of Britain. Name from *mille*, a thousand, in allusion to the great number of its seeds.——2. Millet, the seed of the *Panicum miliaceum*. It is used for puddings, &c.

MILK', Sax. *melce*. The white fluid secreted by peculiar glands in female animals, of the class mammalia, for the nourishment of their young. It differs greatly in different animals, but it has in all the property of separating spontaneously into cream, cheese, and serum. When distilled to dryness it gives out insipid water, and leaves a whitish brown substance called *extract of milk*, which, being dissolved in water, makes a milk of less value. When fresh milk is strongly agitated for some time in a warm place, it by degrees goes into vinous fermentation, so that alcohol may be drawn off by distillation, which is named *spirit of milk*.

MILK'-FEVER. A febrile state sometimes induced when the milk begins to be secreted.

MILK' TREE. So called from its trunk yielding a milky fluid when wounded.

MILK' VESSELS. In *plants*, the anastomosing tubes lying in the bark, in which a white fluid is secreted.

MILK'Y-WAY. *See* GALAXY.

MILL'. A machine employed in pulverising any substance, as grain, whereby it is formed into flour, which is effected by rubbing it between two hard substances, consisting generally of stone, and termed *millstones*. These are driven by means of machinery. The original purpose of mills was to comminute grain for food; but the term *mill* is now extended to many other engines and machines moved by water, wind, or steam, for carrying on very different operations; thus we have saw-mills, cotton-mills, flax-mills, silk-mills, flint-mills, oil-mills, slitting-mills, fulling-mills, bark-mills, coffee-mills, cider-mills, &c.; and now a mill for grain is very often denominated a *grist-mill*. All sorts of wheel-work, larger than clock-work, are moreover known by the general name of *mill-work*.

MILLEN'NIUM, Lat. from *mille*, a thousand, and *annus*, a year. A thousand years. The word is now used to denote the thousand years mentioned in Revelations XX., during which Satan shall be bound, and Christ shall reign on earth with his saints. Those who maintain that literal sense of millennium here given, are denominated *Millenarians*.

MIL'LEPEDE. A name common to several insects from the great number of their feet: *mille*, a thousand, and *pes*, a foot. These are: (1.) The *Porcellio scaber*, or sclater; (2.) The *Armadillo vulgaris* or *officinalis*; (3.) The *Oniscus asellus*, or common wood-louse. These insects were formerly used in medicine.

MIL'LEPORE, from *mille*, a thousand, and *porus*, a pore. A genus of Lithophytes of various forms, having the surface per-

forated with numerous small pores; often, however, so small as not to be visible to the naked eye. The millepores do not exhibit any star-like radiations like the *madrepores*, and their cells are more minute.

Mil'leporites. Fossil millepores.

Mil'let, Fr. *millet* or *mil*; Sax. *mil*; Lat. *milium*. The *Panicum miliaceum*, an annual plant of India, and also the seed considered as grain, and sometimes employed to feed poultry, and as a substitute for rice.

Mil'ligramme. A French measure of weight, the thousandth part of a gramme: *mille*, a thousand, and *gramme* (q. v.).

Mil'lilitre. A French measure of capacity, containing the thousandth part of a litre: *mille*, a thousand, and *litre* (q. v.).

Milli'metre. A French measure of length, equal to the thousandth part of a metre: *mille*, a thousand, and *metre* (q. v.).

Mil'ling. 1. The process otherwise called fulling, performed by means of the fulling-mill.——2. A process in *coining*, which consists in stamping the coin by the help of a machine called a *mill*, in lieu of making the stamp by the blows of a hammer, which was formerly the mode. By aid of the coining apparatus of Messrs. Boulton and Wat, about 20,000 pieces of money can be struck in an hour; the machine acting at the same time as a register, keeping an unerring account of the number of pieces which have been struck. The work is done by eight presses. The term *milling* had originally reference only to the dressing of the edges of the coins; but, as they are now stamped and *milled* at the same instant, the term milling is taken to signify the whole process.

Mill'stone. A stone used for grinding grain (*see* Mill).——2. In *mineralogy*, burrhstone (q. v.), of great use for making into millstones. *Millstone grit* is a siliceous conglomerate, composed of the detritus of primary rocks, and forming a bed of considerable thickness (300 or 400 feet) in some situations. It is thus named from some of the strata having been worked for millstones.

Milree'. A coin of Portugal equal to 1000 rees (*mille*, a thousand). The milree valued in gold = 5*s*. 7½*d*. sterling, and in silver = 5*s*.

Mime', from *mimus*, an actor. One who acted in the ancient comedy by mere gesture, and hence denominated *pantomime*

Mim'osa. A genus of Lomentaceous plants. *Polygamia — Monœcia*. Name from *mimus*, an actor, in allusion to the motions of the plant, which mimic the sensibility of animal life. There are about 30 species, but the sensitive plant (*M. sensitiva*) of Brazil, and the Humble-plant (*M. pudica*) of the West Indies, are those best known. All the species inhabit hot climates.

Mi'na, μινα. A money of account in ancient Greece, equal to 100 drachms, about 2*l*. 17*s*. There was also a lesser mina, valued at seventy-five drachmas.—The Hebrew *mina*, *min*, or *maneh*, which is mentioned in the Old Testament, was valued at sixty shekels, above £54 in gold, and in silver nearly £7. In *old English law*, mina was a corn measure, the quantity of which varied with the different things measured by it. The toll or duty paid for selling corn by this measure was called *minage*.

Min'aret. A circular turret in Saracenic architecture, rising by different stages or divisions, each of which has a balcony. Minarets are commonly erected over the mosques in Mohammedan countries. The word is said to be Turkish.

Mind, Lat. *mens*, from μενος. A term which, like *life*, is used in two acceptations. In the one it signifies the phenomena arising from the exercise of the power of thinking; in the other it signifies the thinking power or principle itself. *See* Materialism.

Mine, Fr. *mine*, a mine or ore. A general name for excavations, when made for the purpose of obtaining metallic ores and other minerals. There are lead-mines, copper-mines, gold-mines, coal-mines, &c. In *fortification*, a chamber for containing materials for blowing up any place.

Min'eral, from *mine*. A body destitute of organization, and which naturally exists in the earth, and may be extracted by *mining*: distinct from *fossils*, which are mineralised organic matters, as shells, wood, bones, &c. The study of minerals constitutes *mineralogy*. The term *mineral* is also used adjectively, as in (1.) *Mineral adipocire*, a fatty bituminous substance, which occurs in the argillaceous iron ore of Merthyr, in Wales. It fuses at 160° F. (2.) *Mineral caoutchouc*, a variety of bitumen which much resembles Indian rubber in softness and elasticity, and like that removes pencil traces from paper. Found near Castleton in Derbyshire. (3.) *Mineral charcoal*, a fibrous variety of non-bituminous mineral coal. (4.) *Mineral waters*, waters impregnated with mineral substances. (5.) *Mineral kingdom*. That department of nature which includes minerals or inorganic bodies, and of which mineralogy is the science. (6.) *Mineral acids*. The sulphuric, nitric, and hydrochloric acids have been so called, but the name would be more appropriately applied to chromic, tungstic, molybdic, &c. acids, which are really peculiar to the mineral kingdom. (7.) *Mineral salts*. Salts found native, being formed by the

mineral acids with bases. (8.) *Mineral green*, carbonate of copper. (9.) *Mineral yellow*, a compound of oxide and chloride of lead, obtained by digesting powdered litharge in a solution of common salt. (10.) *Mineral pitch*, bitumen. (11.) *Mineral oil*, petroleum. (12.) *Mineral chameleon*, *see* CHAMELEON MINERAL.

MINERALI'ZER. That which converts a substance into a mineral. Thus oxygen, sulphur, &c. combine with metals, and form with them the mineral compounds, called ores: in this state the metals are said to be *mineralized*, and the oxygen or sulphur is termed the *mineralizer*. The process is further termed *mineralization*.

MINERAL'OGY, from *mineral*, and λογος, science. The science which treats of minerals, or which teaches to recognise, describe, and classify all inorganic substances found in the earth, or on its surface, which treats of their properties as objects of philosophical inquiry, and their application to the useful arts, and the embellishments of life: distinct from *geology*, which treats of the mineral masses of which the earth is composed, and their relations in *position* to one another. Dr. Thomas Thomson, one of the latest authors on this subject, has adopted an arrangement founded upon the chemical composition of minerals, observing very justly, "that, if mineralogy were to be confined to mere crystallised bodies, it would be divested of the greatest part of its utility; for a very great proportion of these minerals that are of the greatest utility to man, and which, therefore, it is peculiarly important to be able to distinguish from others, are seldom found in the state of regular crystals. How often do the ores of copper, tin, lead, and iron, occur in an amorphous state! And were a mineralogist incapable of distinguishing them from each other, and from other minerals, except in the rare cases when they assume a regularly crystallised form, his knowledge would be useless, as far as the important arts of mining and metallurgy are concerned." He divides minerals, therefore, into three classes, *Acid*, *Alkaline*, and *Neutral*; thus—

CLASS I.—*Acid Bases, or those Bodies which become Acids when combined with Oxygen.*

Genus I. CARBON, 11 species.—II. BORON, 1.—III. SILICON, 7.—IV. PHOSPHORUS, 2.—V. SULPHUR, 1.—VI. SELENIUM, 1. VII. TELLURIUM, 1.—VIII. ARSENIC, 5.—IX. ANTIMONY, 5.—X. CHROMIUM, 1.—XI. MOLYBDENUM, 1.—XII. TUNGSTEN, 1.—XIII. COLUMBIUM.—XIV. TITANIUM.—XV. VANADIUM.

CLASS II.—*Alkaline Bases.*

Genus I. AMMONIA, 2 species.—II. POTASSIUM, 1.—III. SODIUM, 7.—IV. LITHIUM.—V. BARIUM, 5.—VI. STRONTIUM, 6.—VII. CALCIUM, 30.—VIII. MAGNESIUM, 37.—IX. ALUMINUM. (1.) Pure, or combined with bases, 7: (2.) Simple salts, 24: (3.) Double anhydrous salts, 39: (4.) Double hydrous salts soluble in water, 3: (5.) Double, insoluble in water, and phosphates, 4: (6.) Double hydrous aluminous silicates, or zeolites, 39: (7.) Treble aluminous salts, 15: (8.) Quadruple aluminous salts, 12.—X. GLUCINUM, 4.—XI. YTRIUM, 6.—XII. CERIUM, 8.—XIII. ZIRCONIUM, 5.—XIV. THORIUM, 1.—XV. IRON. (1.) Uncombined, or united to a simple substance, 13: (2.) Oxygen salts of iron, 22; Double do. 19; Triple do. 6: (3.) Sulphur salts of iron, 2.—XVI. MANGANESE. (1.) Combined with simple bodies, 11: (2.) Simple oxygen salts, 5: (3.) Double oxygen salts, 5: (4.) Triple oxygen salts, 1.—XVII. NICKEL. (1.) Combined with simple bodies, 5: (2.) Oxygen salts, 1: (3.) Sulphur salts, 2.—XVIII. COBALT. (1.) Combined with simple bodies, 5: (2.) Oxygen salts, 2: (3.) Sulphur salts, 1.—XIX. ZINC. (1.) United to simple bodies, 4: (2.) Oxygen salts, 6: (3.) Sulphur salts, 1.—XX. LEAD. (1.) Native, or united to simple bodies, 7: (2.) Oxygen salts of lead, 7; *a*, Simple, 10; *b*, Double, 2; *c*, Triple, 5: (3.) Sulphur salts, 2.—XXI. TIN, 2.—XXII. BISMUTH. (1.) Native, or combined with simple bodies, 6: (2.) Oxygen salts, 2: (3.) Sulphur salts, 1.—XXIII. COPPER. (1.) Native, or combined with simple bodies, 6: (2.) Oxygen salts, 19: (3.) Chlorine salts, 1: (4.) Sulphur salts, 5: (5.) Selenium salts, 1.—XXIV. MERCURY, 5.—XXV. SILVER. (1.) Native, or combined with simple bodies, 10: (2.) Oxygen salts, 1: (3.) Sulphur salts, 6.—XXVI. URANIUM, 5.—XXVII. PALLADIUM, 2.

CLASS III.—*Neutral Bodies.*

Genus I. GOLD, 3.—II. PLATINUM, 1.—III. IRIDIUM, 1.

The above may suffice as a specimen of a chemical mineralogical arrangement; and, in order still farther to facilitate the study of this science, it has been thought proper to give a tabular view of the distinct constituents of the various species, from the work of the late Mr. William Phillips, edited by Mr. Robert Allan, and published at London, in 1837, to which simple but eminently useful treatise the student is referred for farther information.

The order of arrangement is therefore as follows:—Earthy Minerals, Alkaline Earthy Minerals, Acids, Acidiferous Earthy Minerals, Acidiferous Alkaline Minerals, Acidiferous Alkalino-earthy Minerals, Native Metals and Metalliferous Minerals, Combustibles.

In the following tables, the proportions are indicated by figures: when doubtful, they are marked thus —

EARTHY MINERALS.

Silica.	Silica.	Alumina.	Lime.	Water.	Iron.	
Quartz	100	.	.	.	.	
Opal	—					
Flint	98	2	.	.	.	
Calcedony	84	16	.	.	.	
Jasper	—	—	.	.	.	
Hornstone	74	16	.	.	10	
						Mangan.
Leelite	75	22	.	.	.	3
Karpholite	37	29	.	11	3	20
Alumo-calcite	86	3	7	4	.	
Garnet	43	16	20	.	21	
Cinnamon-stone	40	23	32	.	5	
Idocrase	40	33	22	.	5	
Gehlenite	29	24	35	5	7	
Prehnite	44	28	20	5	3	
Stilbite	58	17	9	16	.	
Heulandite	59	15	12	14	.	
Dipyre	62	25	11	2	.	
Davyne	45	34	13	8	.	
Laumonite	50	22	12	16	.	
Zoisite	43	31	22	.	4	
Epidote	40	28	15	.	17	
Axinite	50	16	17	.	9	8
Isopyre	48	14	16	.	22	
Indianite	43	38	15	.	4	
Xanthite	35	14	38	.	13	
						Magnesia.
Anthophyllite	63	14	4	2	13	4
Amphodelite	46	36	10	2	1	5
Smaragdite	50	21	13	.	13	3
Anorthite	45	34	15	.	1	5
Clays	75	10	5	.	3	2
Kerolite	39	13	.	31	.	17
Pyrophyllite	60	30	.	5	1	4
Fahlunite	48	29	.	13	5	5
Chiastolite	67	30	.	.	.	3
Iolite	50	34	.	.	5	11
Sordawalite	50	15	.	5	19	11
			Bar. and Strontia.			
Harmotome	47	18	20	15	.	
Brewsterite	54	17	15	13	1	
			Lithia.			
Petalite	78	17	5	.	.	
Spodumene	66	25	8	.	1	
			Lime.	.		Mangan.
Jeffersonite	58	2	16	.	10	14
Tabular Spar	52	.	46		2	
Okenite	57	.	27	16	.	
				Titan.		Magnesia.
Mellilite	40	3	20	4	14	19
Gismondine	43	3	48	.	4	2
Augite	53	.	22	.	17	8
Diopside	58	.	17	.	6	19
Babingtonite						
Bucklandite						
Hornblende	59	.	14	.	7	20
Arfwedonite						
Hypersthene	56	3	1		26	14
				Water.		
Schiller Spar	43	.	1	13	14	29
Bronzite	60	.	.	.	8	32
Fbolite	47	28	23	.		.

EARTHY MINERALS—*continued.*

ALUMINA.	Alumina.	Water.	Silica.	Iron.		
Corundum	98	.	.	2		
Diaspore	85	14	.	1		
Gibbsite	65	35	.	.		
Calaite	74	19	.	7		
Hydrate of Alumina	45	40	15	.		
Allophane	34	42	24	.		
Scarbroite	43	48	8	1		
Halloysite	34	26	40	.		
Worthite	54	5	41	.		
Tibrolite	58	.	38	4		
Sillimanite	55	.	43	2		
Kyanite	64	.	34	2		
		Magnesia.			Fluor A.	
Staurolite	52	.	30	18	.	
						Ox.of Zinc.
Automalite	60	3	4	9	.	
Fluellite	—	.	.	.	—	
Topaz	58	.	35	.	7	
Chrysoberyl	81	.	19	.	.	
Spinel	74	8	15	3	.	
Sapphirine	64	17	15	4	.	
Pleonaste	67	14	3	16	.	
						Lime.
Turnerite	—	—	.	—	.	—

MAGNESIA.	Magnes.	Water.	Silica.	Iron.	Alumina.	
Hydrate of Magnesia	70	30	.	.	.	
Chrysolite	43	.	38	19	.	
Olivine	38	.	50	12	.	
Ligurite						
Forsterite	—	.	—	—	.	
Condrodite	56	.	38	6	.	
Humite						
Tantolite	—	.	—	—	.	
Serpentine	40	15	42	3	.	
Soapstone	25	19	46	1	9	
Steatite	32	7	59	2	.	
Potstone	30	3	49	12	6	
Nephrite	31	3	50	6	10	
Nemalite	52	29	13	6	.	
Marmolite	42	15	42	1	.	
Picrolite	38	12	41	9	.	
Picrosmine	35	8	55	2	.	

ZIRCONIA.	Zirconia.				
Zircon	69	.	29	2	.
Ostranite					

GLUCINA.	Glucina.				
Euclase	22	.	44	3	31
Emerald	15	.	68	1	16

YTTRIA.	Yttria.	Glucina.			Cerium.
Gadolinite	38	5	25	16	16

THORINA.	Thorina.	Lime.		Iron, &c.	Water.
Thorite	58	3	20	9	10

ALKALINO-EARTHY MINERALS.

Potash.	Potash.	Silica.	Alumina.	Water.	Magnesia.	Iron.
Mica	10	46	14	.	10	20
	8	48	25	4	.	15
					Lime.	
Rubellane	10	45	10	5	10	20
Margarite	2	40	42	1	10	5
Leucite	21	56	23	.	.	
Herschellite	.	.	.	.	.	
Andalusite	4	36	55	.	.	5
Bucholzite	2	46	50	.	.	
Phillipsite	7	48	23	16	6	2
Apophyllyte	5	52	.	18	25	
Dysclasite	2	58	.	14	26	
					Magnesia.	
Nacrite	18	50	26	.	1	5
				Sulph. A.		
Hauyne	16	38	19	13	12	2
				Water.		
Weissite	6	55	23	4	9	3
Pearlstone	4	76	12	.	5	3
Giésèkite	7	48	36	5	.	4
Pinite	9	56	25	.	.	10
Pyrargyllite	3	44	29	16	3	5
Felspar	14	67	19	.	.	
					Lime.	
Latrobite	7	45	37	2	9	
Agalmatalite	7	56	29	5	2	1
					Magnesia.	
Chlorite	7	52	10	6	12	13
Killinite	6	56	27	8	.	3
					Lime.	
Couzeranite	10	53	24	.	13	
Glaucolite	5	52	29	.	14	
				& Fluor A.	Lithia.	
Lepidolite	9	50	29	5	5	2

Soda.	Soda.	Silica.	Alumina.	Water.	Lime.	
Mesotype	16	48	27	9	.	
Thomsonite	5	38	30	13	14	
Mesole	8	42	28	11	11	
Needlestone	6	47	26	12	9	
Brevicite	10	44	29	10	7	
Gmelinite	5	50	20	21	4	
Comptonite	.	.	.	.	.	
			Magnesia.			Phos. A.
Ledererite	4		22	9	12	3
			Alumina.			
Hypostilbite	2		18	19	8	
				Magnesia.		
Epistilbite	2	59	17	14	8	
Spherostilbite	1	56	17	7	9	
	& Potash.					
Erlamite	3	54	15	5	15	8
Humboldtilite	5	44	11	6	31	3
Lapis-lazuli	9	51	12	6	17	5
Nepheline	20	44	34	.	2	
				Water.		
Ittnerite	14	34	30	12	10	
Elaolite	21	46	32	.	.	1
Nuttalite	8	38	26	8	19	1
	Soda.			Mur. Acid.		
Sodalite	26	36	32	6	.	
Cancrinite	26	41	33	.	.	

ALKALINO-EARTHY MINERALS—*continued.*

Soda—*continued.*	Soda.	Silica.	Alumina.	Sulph. A.	Lime.	Iron, &c.
Spinellane	18	41	29	5	2	5
Pericline	10	70	20	.	.	
Labradorite	4	56	27	.	11	2
Albite	11	70	19	.		
				Water.		
Analcime	14	55	23	8	.	
Sarcolite	.	.	.	.	.	
Pitchstone	3	73	12	8	1	3
Pumice	3	77	18	.	.	2
Obsidian	10	75	12	.	.	3
Spherulite	4	79	12	2	.	3
				Magnesia.		
Saussurite	6	49	24	3	10	8
				Water.		
Scapolite	1	45	35	2	17	
Ekebergite	5	47	29	3	14	2
Pectolite	10	51	1	4	34	
Chabasite	2	51	18	19	10	
Levyne	.	.	.	.	.	
				Bor. A.	Magnesia.	
Tourmaline	3	36	35	4	6	16
					Lime.	
Meionite	2	40	32	.	24	2
Edingtonite	3	54	14	.	21	8
				Water.	Magnesia.	
Krokydolite	8	51	.	4	3	34
Achmite	11	56	.	.	.	33
Cummingtonite	9	59	.	2	.	30
			Zirconia.		Lime.	
Eudyalite	14	54	11	3	10	8

ACIDS.

	Sulphur.	Oxygen.				
Sulphuric Acid	40	60				
	Borax.					
Boracic Acid	26	74				

ACIDIFEROUS EARTHY MINERALS.

Alumina.	Sulph. A.	Alumina.	Water.	Silica.	Iron.	
Subsulphate of Alum	24	30	46			
Sulphate of Alumina	36	16	48			
	Phos. A.					
Wavellite	35	37	28			
Kakoxene	18	10	26			
Amblygonite	54	39	.			
Childrenite	—	—	.			
Azurite	43	35	6			
Lime.	Carb. A.	Lime.				
Carbonate of Lime	44	56	.	.	.	
						Strontia.
Arragonite	44	54	1	.	.	1
						Magnesia.
Bitter Spar	50	34	2	.	.	14
Ankerite	35	50	.	.	3	12

ACIDIFEROUS EARTHY MINERALS—*continued.*

Lime—*continued.*	Carb. A.	Lime.	Water.	Silica.	Iron.	Lead.
Plumbo-calcite	43	54	.	.	.	3
	Phos. A.					
Apatite	44	56	.	.	.	
Herderite	.	.	.	.	.	
	Fluor A.					
Fluor Spar	28	72	.	.	.	
	Sulph. A.					
Anhydrite	58	42	.	.	.	
Gypsum	46	33	21			
	Nit. A.					
Nitrate of Lime	66	34	.			
	Borac. A.	Alumina.				
Datholite	22	36	5	37	.	
	Arsen. A.					
Pharmacolite	50	26	24	.	.	
Haidingerite	57	29	14	.	.	
	Tung. A.					
Tungstate of Lime	80	20	.	.	.	

Magnesia.	Carb. A.	Magnesia.	Water.	Iron.		
Carbonate of Magnesia	50	48	2	.		
Breunnerite	49	42	.	9		
						Lime.
Conite	49	33	.	3		15
	Sulph. A.					
Sulphate of Magnesia	33	16	51	.		
	Nit. A.					
Nitrate of Magnesia	72	28	.	.		
	Phos. A.					Fluor A
Wagnerite	42	47	.	4		7
	Borac. A.					
Boracite	69	31	.	.		
						Lime.
Hydro-boracite	50	11	26	.		13

Baryta.	Carb. A.	Baryta.				
Witherite	22	78	.	.		
Baryto-calcite	31	51	.	.		18
	Sulph. A.					
Barytes	34	66	.	.		

Strontia.	Carb. A.	Strontia.	Sulph. A.	Baryta.		
Strontites	30	70	.	.		
					Lime.	
Barystrontianite	22	48	9	18	3	
	Sulph. A.					
Celestine	44	56	.	.		

Yttria.	Phos. A.	Yttria.			Iron.	
Phosphate of Yttria	35	63	.	.	2	

ACIDIFEROUS ALKALINE MINERALS.

Potash.	Nit. Acid.	Potash.	Water.			
Nitrate of Potash	54	46	.			
	Salph. A.					
Sulphate of Potash	46	54				

ACIDIFEROUS ALKALINE MINERALS—*continued.*

SODA.	Carb. A.	Potash.	Water.			
Carbonate of Soda . .	35	50	15			
Trona	39	38	23			
	Sulph. A.					
Sulphate of Soda . . .	45	35	20			
	Nitric A.					
Nitrate of Soda . . .	63	37				
	Boracic A.					
Borate of Soda	37	15	48			
	Muriat. A.					
Muriate of Soda . . .	47	53				
AMMONIA.	Sulph. A.	Ammonia.				
Sulphate of Ammonia .	53	23	24			
	Muriat. A.					
Muriate of Ammonia . .	51	32	17			

ACIDIFEROUS ALKALINO-EARTHY MINERALS.

POTASH.	Sulph. A.	Potash.	Alumina.	Lime.	Water.	Magnesia.
Alum	34	10	11	.	45	
Alum-stone	36	10	40	.	14	
Polyhallite	53	15		19	6	7
SODA.	Fluor A.	Soda.				
Cryolite	44	32	24	.	.	
	Sulph. A.					
Glauberite	57	22		21	.	
					Mur. Acid.	
Reussite	57	29		.	2	
					Water.	
Soda-alum	38	8	12	.	42	
	Carb. A.					
Gaylussite	29	20	1	18	32	
Native Carbonate of Lime and Soda . .	37	9		39	10	Iron, &c. 5
AMMONIA.						
Sulphate of Alumina and Ammonia . . .	Sulph. A. 37	Ammonia. 5	12	.	45	Magnesia. 1

METALLIFEROUS MINERALS

IRON.	Iron.	Sulphur.	Water.	Silica.	Lime.	Nickel.
Native Iron	97	.	.	.	.	3
Iron Pyrites	47	53	.	.	.	
White Iron Pyrites . .	46	54	.	.	.	
Magnetic Iron Pyrites .	61	39	.	.	.	
						Arsenic.
Arsenical Iron	36	21	.	.	.	43
		Oxygen.				
Oxydulated Iron . . .	72	28	.	.	.	
Specular Iron	69	31	.	.	.	
Red Hæmatite	65	29	3	2	1	

METALLIFEROUS MINERALS—*continued.*

IRON—*continued.*	Iron.	Sulphur.	Water.	Silica.	Mangan.	Zinc.
Franklinite	46	30	.	.	10	14
Hydrous Oxide of Iron	57	26	14	2	1	
Goethite	61	28	11	.	.	
Brown Hæmatite	—	—	—	.	.	
Stiepnosiderite	56	25	16	3	.	
						Magnesia.
Cronstedtite	42	18	11	22	2	5
						Alumina.
Pinguite	25	11	26	37		1
Anhydrous Silicate of Iron	51	19	.	29	1	
Chloropal	24	11	18	44	2	1
Chamoisite	42	19	17	14	.	8
Siderochisolite	53	20	7	16	.	4
Hisingerite	37	15	12	29	1	6
						Lime.
Yenite	39	16	1	30	2	12
					Sulph. A.	Arsen. A.
Pitchy Iron Ore	24	11	29	.	10	26
					Mur. Acid.	
Pyrosmalite	24	10	7	36	7	
					Carb. A.	
Spathose Iron	46	14	.	.	40	
					Phos. A.	
Phosphate of Iron	32	10	27	.	31	
						Mangan.
Hétéposite	32	11	—	.	48	9
Karphosiderite	—	—	—	.	—	
					Sulph. A.	
Sulphate of Iron	19	7	45	.	29	
Botryagene	25	10	33	.	32	
Misy	—	—	—	.	—	
		Oxygen.			Arsen. A.	
Arseniate of Iron	29	13	20	.	38	
					Oxalic A.	
Oxalate of Iron	41	13	.	.	46	
					Tung. A.	
Tungstate of Iron	14	9	.	2	71	4

MANGANESE.	Mangan.				Iron.	Baryt
Hausmannite	78	22	.	.	.	
Braunite	68	29	1	.	.	2
Pyrosulite	66	31	2	1	.	.
Grey Oxide of Manganese	68	22	10	.	.	.
Psilomelane	55	23	6	.	.	16
				Silica, &c.		
Wad	48	21	17	10	4	
					Copper.	
Cupreous Manganese	53	23	20	1	3	
			Sulph. A.		Iron.	Glucina.
Helvine	34	8	5	38	6	9
			Water.			
Siliciferous Oxide of Manganese	36	17	3	40	4	
Hydrosilicate of Mangan.	—	—	—	—	.	
Knebelite	27	15	.	33	25	
						Lime.
Bustamite	28	8	.	49	.	15
				Sulphur.		Carb. A.
Sulphuret of Manganese	66	18	.	5	.	11

METALLIFEROUS MINERALS—*continued.*

MANGANESE—*continued.*	Mangan.	Oxygen.	Water.	Sulphur.	Iron.	Lime.
Carbonate of Manganese	39	17	.	1	38	5
Pelokonite	—	—	—	.	.	
					Iron.	Phos. A.
Huraulite	24	14	16	.	8	38
				Lime.		
Phosphate of Manganese	25	14	.	2	25	34

MOLYBDENA.	Molybd.	Sulphur.
Sulphuret of Molybdena	60	40
		Oxygen.
Oxide of Molybdena	85	15

TIN.	Tin.		Copper.	Iron.
Oxide of Tin	79	21	.	.
		Sulphur.		
Sulphuret of Tin	36	26	36	2

TUNGSTEN.	Tungsten.	Oxygen.
Oxide of Tungsten	86	14

TITANIUM.	Titanium.		ron.	Silica.	Lime.	Mangan.
Anatase	—	—	.	.	.	
Rutile	—	—	.	.	.	
Iserine	45	16	36	2	.	
Brookite	—	—	—	.	.	
Crichtonite	—	—	—	.	.	
Ilmenite	59	10	30	.	.	1
Mohsite	—	—	—	.	.	
Sphene	33	.	.	34	33	
	Titan. A.		Water.	Cerium.		Uran.
Pyrochlore	63	10	4	5	13	5
			Iron, &c.			Zircon.
Æschynite	56	4	4	12	4	20
				& Yttria.		
Polymignite	53	.	12	16	4	15

CERIUM.	Cerium.		Silica.	Water.		Iron.
Cerite	54	15	18	10	2	1
Silicate of Cerium	—	—	—	.	.	
					& Alum.	
Allanite	19	15	33	3	26	4
Torrelite	11	8	33	4	28	16
					& Yttria.	
Orthite	16	6	36	8	24	10
						& Carbon.
Pyrorthite	12	4	11	27	5	41
					Carb. A.	
Carbonate of Cerium	60	16	.	13	11	
			Lime.		Fluor A.	Yttria.
Yttro-cerite	14	4	47	.	25	10
Fluate of Cerium	66	17	.	.	16	1

URANIUM.	Uran.	Oxygen.	Silica.	Iron.	Water.	Sulph. Lead.
Pitchblende	82	5	5	3	.	5
			Lime, &c.			Phos. A.
Uranite	55	7	7	1	15	15

METALLIFEROUS MINERALS—*continued.*

URANIUM—*continued.*	Uran.	Oxygen.	Lime, &c.	Copper.	Water.	Phos. A.
Chalkolite	55	8	.	6	15	16
		Carb. A.				
Carbonate of Uranium	—	—	.	.	.	
		Sulph. A.				
Johannite	—	—	.	.	—	
TANTALUM.	Tantal.	Oxygen.	Iron.	Mangan.	Yttria.	Lime.
Tantalite	81	10	4	5	.	
Yttro-tantalite	51	4	4	.	37	4
			Cerium.	Tin, &c.		Zircon.
Fergusonite	44	5	3	3	42	3
CHROME.						
Oxide of Chrome	70	30	.	.	.	
						Alumina.
Chromate of Iron	39	28	26	.	.	7
BISMUTH.	Bismuth.	Sulphur.	Copper.	Lead.		
Native Bismuth	100	.	.	.	.	
Sulphuret of Bismuth	81	19	.	.	.	
Cupreous Bismuth	49	13	38	.	.	
Needle Ore	43	15	12	30	.	
		Oxygen.				
Oxide of Bismuth	90	10	.	.	.	
			Silica.	Iron.		Phos. A.
Bismuth-blende	62	9	23	2	.	4
					Sulph. &	
				Tellur.	Selen.	Silver.
Telluric Bismuth	64	.	.	31	3	2
ARSENIC.	Arsenic.	Oxygen.	Iron.			Antimony.
Native Arsenic	96	.	1	.	.	3
Oxide of Arsenic	76	24	.	.	.	
		Sulphur.				
Sulphuret of Arsenic	70	30	.	.	.	
						Nickel.
Arsenical Pyrites	65	5	28	.	.	2
COBALT.	Cobalt.	Arsenic.	Sulphur.	Water.	Iron.	
Bright-white Cobalt	34	44	20	.	2	
Tin-white Cobalt	22	75	.	.	3	
						Bismuth.
Bismuth-cobalt Ore	10	78	3	.	5	4
						Copper
Sulphuret of Cobalt	44	.	39	.	4	13
		Oxygen.				
Earthy Cobalt	61	16	.	23	.	
			Arsen. A.			
Cobalt Bloom	31	9	38	22	.	
					Lime.	Magnesia.
Roselite	—	—	—	—	—	—
			Sulph. A.			
Sulphate of Cobalt	23	6	30	41	.	
NICKEL.	Nickel.	Sulphur.	Antimony.	Water.	Alumina.	
Sulphuret of Nickel	65	35	.	.	.	
Antimonial Nickel	28	16	56	.	.	

METALLIFEROUS MINERALS—*continued.*

NICKEL—*continued.*	Nickel.	Sulphur.	Arsenic.	Water.	Alumina.	
Arsenical Nickel	44	1	55	.	.	
		Oxygen.	Arsen. A.			
Nickel Ochre	30	8	37	25	.	
			Silica.			Lime, &c.
Pimelite	13	3	35	38	6	5
SILVER.	Silver.	Sulphur.	Antimony.	Iron.	Copper.	
Native Silver	100	.	.	.	.	
Antimonial Silver	84	.	16	.	.	
			Tellur.			
Telluric Silver	63	.	37	.	.	
Sulphuret of Silver	87	13	.	.	.	
Flexible Sulph. of Silver	—	—	.	—	.	
Sternbergite	33	33	.	34	.	
Brittle Sulphate of Silver—Sulphate of Silver and Antimony	68	16	Antimony. 14	2	.	
						Arsenic.
Polybasite	65	17	5	.	9	4
Red Silver	60	23	17	.	.	
	65	20	.	.	.	15
Miargyrite	37	22	40	.	1	
Sulphate of Silver and Copper	53	16	.	.	31	
			Bismuth.			Lead.
Bismuthic Silver	15	17	28	6	.	34
		Selenium.				
Seleniuret of Silver	69	26	.	.	.	5
						Carb. A. &c.
Seleniuret of Silver and Copper	39	28	.	.	24	9
		Iodine.				
Iodic Silver	—	—	.	.	.	
			Antimony.			Carb. A.
Carbonate of Silver	73	.	15	.	.	12
						Mur. Acid.
Muriate of Silver	72	.	.	6	.	22
						Arsen. A.
Gansekothig-erz	—	.	.	—		—
COPPER.	Copper.	Sulphur.	Iron.	Arsenic		
Native Copper	100	.	.	.		
Sulphuret of Copper	78	19	3	.		
Kupferindig	65	33	2	.		
Bi-sulphate of Copper	67	33	.	.		
Purple Copper	62	23	15	.		
Gray Copper	48	13	25	14		
Copper Pyrites	33	36	31	.		
				Selenium.		
Seleniuret of Copper	60	.	.	40		
				Carb. A.	Water.	
Red Oxide of Copper	89	11	.	.	.	
Black Copper	80	20	.	.	.	
Blue Carbonate of Copper	55	14	.	26	5	
Green Carbon. of Copper	57	15	.	19	9	
						Silica.
Chrysocolla	35	9	.	.	20	36
Dioptase	38	11	.	.	14	37
				Sulph. A.		
Sulphate of Copper	25	7	.	32	36	

METALLIFEROUS MINERALS—*continued.*

COPPER—*continued.*	Copper.	Sulphur.	Iron.	Sulph. A.	Water.	Tin, &c.
Brochantite	53	15	.	17	12	3 Zinc.
Kupfersammt-erz	—	—	—	—	—	—
Muriate of Copper	57	15	.	Mur. Acid. 11	17	
Phosphate of Copper	51	14	.	Phos. A. 28	7	
Hydrous Phosphate of Copper	50	13	.	22	15	
Arseniate of Copper	29	8	.	Arsen. A. 28	35	
Euchroite	38	10	.	33	19	
Kupferschaum	37	Oxygen. 9	.	26	18	Carb. of Lime. 10
Erinite	47	12	.	34	5	Alumina. 2
Skorodite	18	10	Iron. 21	32	19	

GOLD.	Gold.
Native Gold	100

PLATINA.	Platina.
Native Platina	100

PALLADIUM.	Pallad.
Native Palladium	100

IRIDIUM.	Iridium.			
Native Iridium	100			
		Osmium.	Rhod.	Iron.
Iridium and Osmium	47	49	3	1

TELLURIUM.	Tellur.	Gold.	Silver.			
Native Tellurium	92	1	.	7		
				Lead.		
Graphic Tellurium	58	28	12	2		
Yellow Tellurium	45	27	8	20		
					Sulphur.	Antimony.
Black Tellurium	16	6	.	63	11	4

ANTIMONY.	Antimony.	Sulphur.	Iron.			
Native Antimony	100	.	.	.		
Berthierite	53	31	16			
Sulphuret of Antimony	74	26	.	.		
Jamesonite	35	23	2	40		
Plagionite	38	22	.	40		
Zinkenite	45	23	.	32		
					Oxygen	
Red Antimony	75	20	.	.	5	
Oxide of Antimony	84	.	.	.	16	
						Water.
Antimonial Ochre	—		.	.	.	—
Antimonphyllite	—	.	.		.	

METALLIFEROUS MINERALS—*continued.*

LEAD.	Lead.	Sulphur.	Water.		Antimony.	
Native Lead						
Sulphuret of Lead . . .	84	16	.		.	Copper.
Bournonite	41	20	.		26	13
				Arsen &c.		
Prism. Copper-glance .	33	10	.	18	19	20
Native Minium.	.	.		.	.	
		Selenium.		b alt.		
Seleniuret of Lead . .	70	28	.	2	.	
		Oxygen.		Alumina.		
Plombgomme	40	3	19	38		
					Carb. A.	
Carbonate of Lead . .	74	10	.	.	16	
						Sulph. A.
Sulphato-carbon. of Lead	82	.	.	.	4	14
Sulphato-tri-carbonate of Lead	88	.	.	.	5	7
Cupreous Sulphato-carbonate of Lead	72	.	.	Copper. 7	6	15
						Mur. Acid.
Muriate of Lead . . .	—	.	.	.	—	—
Cotunnite	75	.	.	.	.	25
Murio-carbonate of Lead	80	6	.	.	6	8
Phosphate of Lead . .	76	6	.	.	16	2
						Magnesia.
Polysphärite	—	—	—	—	—	
				Arsen. A.		Mur. Acid.
Arseniate of Lead . .	72	6	.	13	7	2
					Sulph. A.	
Sulphate of Lead . . .	65	7	2	.	26	
				Copper.		
Cupreous Sulph. of Lead	56	4	5	15	20	
					Molybd.	
Molybdate of Lead. . .	57	4	.	.	39	
					Chrom.	
Chromate of Lead. . .	63	5	.	.	32	
Melanochroite	71	6	.	.	23	
Vauquelinite	57	6	.	9	28	
					Tung. A.	
Tungstate of Lead . . .	44	4	.	.	52	
					Vanad. A.	Mur. Acid.
Vanadiate of Lead . .	—	.	.	.	—	—

ZINC.	Zinc.	Sulphur.	Iron.	Silica.	Water.
Sulphuret of Zinc . . .	63	33	4	.	.
		Oxygen.			
Red Oxide of Zinc . .	74	18	8		
Siliceous Oxide of Zinc.	54	13	.	25	8
Carbonate of Zinc. . .	—	—	—	.	.
				Carb. A.	
Willelmine	52	13	.	35	
				Sulph. A.	
Sulphate of Zinc . . .	22	6	.	30	42
Hopeite.	—	.	.	.	—

MERCURY.	Mercury.	Silver.
Native Quicksilver . .	100	.
Native Amalgam . . .	85	15
		Chlorine.
Muriate of Mercury . .	85	15
		Iodine.
Iodic Mercury	—	—

COMBUSTIBLE MINERALS.

	Sulphur.	Iron.	Sili a.			
Sulphur	100	.	.			
	Carbon.					
Diamond	100	.	.			
Plumbago	92	8				
Anthracite	72	4	24			
		Hydrogen	Oxygen.	Azote.		
Naphtha	88	12	.	.		
Bitumen	53	7	40	.		
Coal	75	6	5	14		
Drysodile	—	—				
Amber	81	12	7			
Hatchetine	—	—				
Schererite	76	24				
Ozokerite	—	—				
	Mel. A.	Alumina.	Water.			
Mellite	41	15	44			

NOTE.—For further particulars as to minerals, see under the several names and others throughout the work and Supplement.

MIN'IM, from *minimum*, least. 1. A note in *music* equal to half a semibreve.——2. The one-sixtieth of a fluid drachm, answering to the old *drop*, taking water as the standard.

MIN'IMA. In *mathematics*, *see* MAXIMA ET MINIMA.

MIN'IMS. An order of Franciscans at Minimi, founded by St. Francis de Paula.

MIN'IMUM. 1. The least, as distinguished from *maximum*, the greatest.——2. In *pharmacy*, a minim.

MIN'ION. A small description of printing type, a size larger than nonpareil. The term is from French *menu*, small, not *mignon*, a favourite.

MIN'ISTER (Latin). Persons to whom the sovereign intrusts the administration of government are termed *ministers of state*, and the chief is the *prime minister*.

MIN'IUM. Red oxide of lead, or *red-lead*.

MINK. An amphibious quadruped, the *Mustelea luteola*, Pall., much esteemed for its fur. It frequents the banks of rivers, &c. in the north and east of Europe, from the Arctic Ocean to the Black Sea, and lives on frogs and crabs. It is also found in America.

MINNEHÖ'FE (Germ.). Courts of love; the German name of the *cours d'amour*, so famous in the history of chivalry.

MINNESINGERS. The most ancient school of German poets, whose name is derived from the word *minne*, love.

MINOR'ITY. Used in opposition to *majority*. From *minor*, less, smaller. Used chiefly of persons of an assembly (as in parliament) voting upon some question. Also, the period during which the sovereign is incapable of exercising his authority, being under age. In *law*, it is similarly the state of an individual of either sex, who is under the age at which civil rights can be exercised.

MINOR TERM, OF A SYLLOGISM, is the subject of the conclusion; the minor premise contains the minor term. In hypothetical syllogisms, the categorical premise is called the minor.

MIN'STRELS, Germ. *minne*, love. A class of men, in the middle ages, who subsisted by the arts of poetry and music.

MINT, Sax. *mynet*, stamped coin. The place where money is coined by public authority. Formerly there were several mints in Great Britain; but coining being now regarded as a royal prerogative, the whole business has been transferred to an establishment on Tower Hill, where there are eight coining presses, capable of striking about 20,000 pieces an hour, almost constantly at work *See* MILLING.

MINUET', Fr. from *menu*, small. 1. A slow graceful dance, consisting of a coupee, a high step, and a balance.——2. The tune or air played to regulate the movements in the minuet.

MIN'UTE, Lat. *minutum*. A small portion (1.) of *time*, the sixtieth part of an hour, and comprehends sixty seconds. (2.) Of *an arc*, the sixtieth part of a degree, mark ′, and comprehending sixty seconds. 3. In *architecture*, the sixtieth part of the diameter of a column.

MIN'UTE GUNS. At sea, guns fired every minute as a signal of distress from a vessel. Also, in mourning for great persons.

MINX. A name of the *Mustela leuteocephala*, Harl. A North American animal, known to furriers by the name of *white vision*.

MIOCENE, from μειων, less, and καινος,

recent. The name given by Lyell to a subdivision of the tertiary. *See* EOCENE.

MIQUELETS. A species of partisan troops raised in the north of Spain.

MI'RA. A singular star in the neck of Cetus: it appears and disappears periodically seven times in six years, whence the name. At its greatest brilliancy it is a star of the third magnitude.

MIRAGE. The name given by the French to an optical deception produced by refraction, and in which a distant ship appears as if transferred to the sky, and a village in the desert as if built in a lake.

MIR'ROR. A looking-glass, from Lat. *miror*, to admire. Any polished body impervious to the rays of light, and which reflects them equally, is a mirror. Mirrors were anciently made of metal, but at present they are generally smooth plates of glass, tinned or silvered on the back; and are either plane, convex, or concave. The first sort reflect the rays in a direction similar to that by which they fall upon it, and therefore represent bodies of their natural size; but the convex ones make the rays diverge, and therefore diminish the images of those objects which they exhibit; while again the concave ones, by collecting the rays into a focus, not only magnify the objects which they show, but serve the same purposes as burning-glasses do when exposed to the rays of the sun, and the body to be ignited is placed in their foci; hence they are commonly known by the name of *burning-mirrors*.

MIRZA. The common style of honour in Persia, when it precedes the surname of an individual; when appended it signifies a prince.

MISCH'NA. } A part of the Jewish Tal-
MISH'NA. } mud, being a digest of traditions and explanations of scripture.

MISDEMEA'NOR. In *law*, an offence which does not amount to a crime. Crimes and misdemeanors are synonymous terms, though in common usage the word crime is made to denote such offences as are of a more atrocious kind, while smaller faults, and omissions of less consequence, are comprised under the gentler name of misdemeanors.

MISE. A Norman-French term, used in law books in various senses. (1.) An issue to be tried at the grand assize. (2.) Expense; in this sense commonly used in entering judgments in actions personal. (3.) In *Wales*, an honorary gift by the people to a new prince of Wales. (4.) A tribute paid in the county palatine of Chester, at the charge of the owner of the earldoms.

MISERICOR'DIA. In *law*, an arbitrary fine imposed for an offence; so called because the amercement ought to be less than that required by Magna Charta. When a person is outrageously amerced in a court that is not of record, the writ called *moderata misericordia* lies for moderating the amercement, according to the nature of the fault.

MISFEA'SANCE. In *law*, a trespass; from Fr. *mes*, wrong, and *faisance*, from *faire*, to do.

MIS'TLETOE, Sax. *mistlelta*. A parasitical plant, the *Viscum album*, which always grows on trees, and was held sacred by the Druids, especially when found on the oak, their sacred tree. It is the ἶξ of the Greeks, and was by them thought to possess many medicinal virtues. *See* VISCUM.

MISNO'MER. 1. In *law*, a misnaming or mistaking of a person's name.——2. An indictment or other act vacated by a wrong name. From old Fr. *mes*, wrong, and *nommer*, to name.

MISPRIS'ION. In *law*, any high offence under the degree of capital, but approaching thereto; from Fr. *mépris*; from *mes*, wrong, and *prendre*, to take. Misprisions are *negative* and *positive*: they are negative when they consist in the concealment of something which ought to have been revealed, and positive when they consist in the commission of something which ought not to have been done.

MIS'SAL. The mass-book of the Romish Church; from *mass* (q. v.)

MIST, Sax. *mist*. Water in minute but *solid* drops, descending from the atmosphere. *See* FOG.

MITCH'EL. Purbeck stones of 15 inches by two feet, when squared for building, are thus named by the workmen.

MITE, Sax. *mite*. 1. In *entomology*. *See* ACARUS.——2. A small coin, formerly current, equal to about the third of a farthing. Also a small weight, used by moneyers, equal to about the twentieth part of a grain, and divided into 24 doits.

MITH'RAS. The grand Deity of the Persians.

MITH'RIDATE. A pharmaceutical preparation named after Mithridates, king of Pontus and Bithynia, who took a dose of it every morning to protect him against poison. In those days it consisted of rue, walnuts, figs, and salt; but its ingredients were afterwards increased in number to 61. At present it is simply an aromatic opiate, and is little used.

MI'TRAL VALVE. The valve of the orifice of the left ventricle of the heart; so named from its resemblance to a mitre.

MI'TRE, Fr. from Lat. *mitra*, a cap worn by the Roman ladies. 1. A sacerdotal ornament worn on the head by bishops and some other ecclesiastics on solemn occasions; being a sort of cap pointed and cleft at the top.——2. A diagonal juncture of two pieces of wood, stone,

&c., by the formation of an indenture in each, corresponding to one another, so that the two surfaces coincide when brought together. This mode is sometimes employed to hide a dovetail, and is called lap-and-mitre joint.

Mi'tre-box. A block or frame for cutting mitres.

Mi'tre-drains. *Cross mitre drains.* The drains laid within the metalling of roads, to convey the water to the side drains.

Mit'timus. In *law*, a precept or command in writing, under the name and seal of a justice of the peace, or other proper officer, directed to the gaoler or keeper of a prison for the safe keeping of an offender until he be delivered by due course of law. The term is Latin for we send.

Miz'zen, from Ital. *mezzo*, half. The foremost of the fixed sails of a ship, extended sometimes by a gaff, and sometimes by a yard, which crosses the mast obliquely. The *mizzen-mast* supports the after sails, and stands nearest to the stern. *See* Mast.

Mnemon'ics, from μνημονικος, from μνασομαι, to remember; the art of memory. Precepts and rules intended to teach the method of assisting the memory.

Mo'cha Stone. Translucent calcedony, containing dark outlines of arborisation, like vegetable filaments, so named from Mocha in Arabia, where it is chiefly found.

Mock'ing-bird. The *Turdus polyglottus*, Lin., of North America, celebrated for the astonishing facility with which it imitates the notes of other birds, and even all kinds of sounds.

Mode, Lat. *modus*. Manner of existing or being. In *logic*, a proper disposition of the several parts of a syllogism in respect to quantity and quality: called also *syllogistic mood*. In *grammar*, a particular manner of conjugating verbs, to express manner of action or being, as affirmation, command, condition, and the like: often written *mood*. In *music*, a regular disposition of the air and accompaniments, relative to certain principal sounds, on which the piece is formed, and which are called the essential sounds of the *mode*. In *metaphysics*, a *mode* is that which cannot subsist in and of itself, but is esteemed as belonging to and subsisting by the help of some substance, which, for that reason, is called its subject. (*Watts*). Those modes are *simple* which are only combinations of the same idea, as a *dozen*, which consists of so many units added together; and those are *mixed* which are compounded of simple ideas of several kinds, as *beauty*, which is compounded of colour and form.

Mod'el, from *modulus*, dim. of *modus*, mode. 1. A form in miniature of something to be made on a larger scale, as a *model* of a building.——2. An imitation in miniature of something already made on a large scale, as a *model* of a mountain, showing its geological structure, &c.

Mod'elling. In the *fine arts*, the art of making a mould, from which works in plaster are to be cast.—Also, forming in clay the design itself.

Modera'to. An Italian word, meaning *moderately*, implying in music a time neither quick nor slow; rather quicker than *andante*.

Modera'tor. A person who presides at a public assembly, to propose questions, preserve order, regulate the proceedings and declare votes. From *modus*, a limit.

Modil'lion, Fr. *modillon*, from Lat. *modiolus*. 1. An ornament in the cornice under the corona in the Ionic, Corinthian, and Composite orders of architecture, resembling a bracket, supporting the projecture of the larmier or drip. *Cantilever* is sometimes used synonymously with modillion.——2. The trochitæ or single joints of the rays of a fossil star-fish are sometimes termed *modioli*.

Modi'olus, Lat. dim. of *modius*. A measure. In *anatomy*, the central pillar of the cochlea of the ear.

Mo'dius. An ancient Roman measure for dry grain, nearly equal to an imperial peck.

Mo'do et For'ma. *In manner and form.* A phrase frequently used in legal pleadings.

Modula'tion. In *music*, the manner of ascertaining and managing the modes, or generally the art of conducting harmony.

Mod'ule, Fr. from Lat. *modulus*. A term in architecture, for a certain measure taken at pleasure for regulating the proportion of columns, and the disposition and symmetry of the whole building. The *module* of a column is usually its semidiameter at the base, equal to 30 minutes.

Mod'ulus. In *analysis*, the constant multiplier in a function of a variable quantity, by means of which the function is accommodated to a particular system.

Mo'dus. A compensation for tithes: a *moderate* equivalent in money, given by the owner of land in lieu of tithes. The whole phrase is *modus decimandi*, but *modus* alone is commonly used.

Mo'dus Operan'di. Mode of operating.

Mogra'bians. Formerly a species of Turkish infantry, composed of the peasants of the north of Africa.

Mo'gul, Great. The chief of the empire of Mogul. The empire is now extinct.

Mohair' Ger. *mohr*. The hair of a

variety of the common goat, peculiar to the vicinity of Angora, in Asia Minor. It is manufactured into camlets and other expensive stuffs.

Mohair'-shell. A species of voluta, resembling stuff of mohair on the surface.

Moham'medans. Followers of the religion of Mohammed, the founder of *Mohammedanism*, the doctrines and precepts of which are contained in the Koran.

Moido're. A Portuguese coin worth twenty-seven shillings sterling.

Moin'eau (Fr.). A small flat bastion, raised in front of an intended fortification, to defend it from the approaches by means of small arms.

Moire'e Metal'lique. Crystallised tin-plate: a variegated appearance produced upon the surface of tin-plate, by wetting its surface, when in a heated state, with nitro-hydrochloric acid (aqua regia), washing it with water, and finally coating it with lacquer. The figures vary, according to the strength of the acid employed and the degree of heat to which the plate is raised.

Mo'lar-teeth. *Molares Dentes.* The grinding teeth. From *molaris*, a grindstone.

Mo'lar-glands. *Molares Glandulæ.* Two salivary glands situated on each side of the mouth, the excretory ducts of which open near the last *dens molaris.*

Molas'se, from *mollis*, soft. A soft sandstone of the tertiary strata, employed by the Swiss under this name, for building.

Mole. 1. Lat. *moles*, a mound. A massive work of large stones erected for the purposes of protecting the entrances to harbours. *See* Breakwater.——2. Sax. *mæl*, a mark. A small permanent protuberance on the human body, from which usually issue one or more hairs.——3. Lat. *mola*. A general name with some authors for all those fleshy substances otherwise called polypi, and with others for every coagulum of blood which continues so long in the uterus as to assume somewhat of an organised form.——4. Dut. *mol*. A well-known subterranean animal. *See* Talpa.

Mo'lecule, Lat. *molecula*, dim. of *moles*, a mass, a particle. Molecules are the smallest particles into which a mass can be conceived to be divided. They are distinguished into integrant and constituent. *Integrant molecules* are the smallest particles into which a simple body can be conceived to be divided, or the smallest particles into which a compound body can be conceived to be divided, without being resolved into its elements. *Constituent molecules* are the molecules of each element which form an integrant molecule of a compound.

Molendina'ceous, from *mola*, a mill; resembling the sails of a windmill. Applied to seeds which have many wings.

Mol'lah. The title of the higher order of judges in Turkey.

Mol'le (It.). In *music*, a sound that is flat as compared to another a semitone higher.

Mol'lities, softness; Lat. from *mollis*, soft. Applied to bones, nails, &c., when preternaturally soft.

Mollus'ca. *Molluscs.* A great division of invertebrated animals, comprehending, according to Cuvier, six classes, viz.:—Cephalopoda, Pteropoda, Gasteropoda, Acephala, Brachiopoda, and Cirrhopoda. in all of which, as the name imports (*mollusca*, a soft nut, or nut with a soft shell), the body is of a soft consistence, inclosed in a muscular envelope, called the mantle. The pulmonary circulation is double; the blood is white or rather bluish; the skin is very sensible, and as no particular organ of smell has been detected in them, although they enjoy that sense, it has been conjectured to reside in the whole skin. Those in which the mantle is simply membranous or fleshy, are termed *naked mollusca*, but most frequently the animal is provided with a calcareous covering called a *shell*, and the animal is then said to be *testaceous*. *See* Shell.

Mo'loch. The chief God of the Phœnicians.

Molybde'na. The ore of molybdenum. It is a sulphuret of that metal, and is very similar in its properties to plumbago: whence the name μολυβδαινα, plumbago.

Molybde'num. The metal obtained from the substance called *molybdena*. It has not yet been reduced to masses of much size, but is readily obtained in small separate globules, by exposing its acid mixed with charcoal to an intense heat.

Molyb'dic Acid. An acid obtained in fine white scales (which become yellow on melting and subliming them), by roasting *molybdena*, dissolving it in water of ammonia, and adding nitric acid to the solution.

Molyb'dous Acid. Deutoxide of molybdenum. It is of a blue colour, and possesses acid properties.

Mo'ment. 1. An indefinitely small portion of time, having the same relation to duration that a point has to a line.——2. In *mathematical analysis*; the same as *infinitesimal*, *increment*, or *decrement* (q. v.).

Momen'tum. The quantity of motion in a moving body. The term is Latin, contracted from *motamentum*. The momentum of a body is the product of its mass into its velocity.

Mo'mers, Fr. *momery*, mummery. A name applied to certain religionists of the so-called Evangelical party

Momor'dica. A genus of herbaceous

plants. *Monœcia—Syngenesia.* Name from *mordeo*, to bite, in allusion to the sharp taste of the fruit. The squirting cucumber of the South of Europe, and the balsam apple of the East Indies, are species. The dried juice of the fruit of the first is the *elaterium* of the shops, and from which *elatine* is obtained.

MON'ACHISM, } μονος, alone. The monk-
MONKERY. } ish system was established in the middle of the third century, by which many persons were brought together, and bound by vows to the performance of religious duties, and abstinence from worldly enjoyments.

MON'ADE. 1. An indivisible thing: from μοναϛ, unity.——2. An individual of the genus *Monas* (q. v.).

MONADEL'PHIA, from μονος, one, and αδελφια, a brotherhood. The name of the 16th class of plants in the sexual system of Linnæus, consisting of plants with hermaphrodite flowers, in which all the stamina are united below into a cylindrical body, through which the pistil passes. It consists for the most part of plants belonging to the natural orders Malvaceæ and Geraniaceæ, as the cotton-tree, geranium, passion-flower, &c.

MONAN'DRIA, from μονος, one, and ανηρ, male. The name of the first class of plants in the sexual system of Linnæus, consisting of plants with hermaphrodite flowers, which have only one stamen. It contains only two orders, Monogynia and Digynia.

MON'ARCHY, from μονος, one, and αρχος, a chief. A government in which the supreme power is vested in a single person. It is *absolute* when the "sovereign is accountable to none but God," and *limited* when the supreme power is virtually in the laws.

MO'NAS, from μοναϛ, unity. A genus of animalcules of the class *Infusoria*, residing in water, and usually considered the ultimate term of animality, as neither mouth nor vessels can be perceived in the individuals; yet they perform their locomotive evolutions with considerable rapidity. The recent observations of Prof. Ehrenberg have brought to light the existence of monades, which are not larger than the 24,000th of an inch, and are so thickly crowded in the fluid as to leave intervals not greater than their own diameter. Hence, he concludes, that a single drop may contain 500,000,000 of these monades.

MONOTREM'ATA. The name given by Geoffroy to a tribe of Edentata found only in New Holland. Two genera are known, the *Echidna*, Cuv., and the *Ornithorynchus*, Blum., or *Platypus*, Shaw.

MON'EY, Sax. *mynet*. Whatever is made the medium of trade for determining the value of commodities in buying and selling, whether it be stamped metals, called coin and specie, or promissory notes comprehending bank paper, bills of exchange, and all other tangible promises to pay. There are also moneys of account, which are merely imaginary names, as the English pound, before sovereigns were coined. Paper money is styled paper currency, to distinguish it from specie or metallic currency or cash. The word has been derived from *moneta*, the Latin name for money, because the Romans kept their silver money in the temple of Juno Moneta.

MON'EYERS. Officers of the mint.

MON'ITOR. 1. One who gives warning, from *monitio*, warning.——2. A genus of lizards, containing those species which are of the largest size; have two teeth in both jaws, but none in the palate, and a laterally compressed tail, which renders them more aquatic. They frequent the waters like the crocodiles and alligators, and are said to give notice by whistling of the approach of those dangerous animals. Species are found in most warm and temperate parts of the world, and some of large size are found fossil

MON'KEY. The monkeys, so called, belong to the eastern continent. They have the same number of grinders as Man; but otherwise differ from each other by characters which have caused them to be denominated Ourang-Outangs, Gibbons, Macaques, Baboons, and Mandrills. The American monkeys are divided into Sapajous, Sagouins, and Lemurs.

MONOCAR'POUS, μονος, single, and καρπος, fruit. In *botany*, a term applied to plants which perish as soon as they have once borne fruit.

MONOCEN'TRIS. The name given by Schneider to a singular genus of acanthopterygious fishes found in the sea of Japan, from μονος, one, and κεντρον, centre. The body is short (six inches), thick, and completely mailed with enormous angular, rough, and carinated scales, of a silvery white. One species.

MONOC'EROS. The *Unicorn*, from μονος, one, and κερας, a horn. 1. The unicorn of the ancients is commonly regarded as a fabulous animal; but the name *monoceros* has been appropriated by Linnæus to the narwhal, which has a single horn or tusk, of ten feet in length, implanted in the intermaxillary bone, and pointed in the direction of the axis of the body. It has indeed the rudiments of two tusks, but both are never developed.——2. A constellation of the northern hemisphere, formed by Hevelius out of the *stellæ informes* of the ancients; 38 stars.

MON'OCHORD, from μονος, one, and χορδη, chord. A musical instrument of

one string with which to try the variety and proportion of musical sounds: invented by Pythagoras.

Monochromat'ic, from μονος, one, and χρωμα, colour. Consisting of one colour.

Mon'ochrome, μονος, and χρωμα, colour. A painting executed in a single colour.

Monocotyl'edon, from μονος, one, and *cotyledon*. A plant with only one cotyledon or seed-lobe. The grasses are all regarded as monocotyledonous plants.

Monocotyled'ones. One of the three great tribes, and the most important of the three, into which the vegetable kingdom is divided, according to the natural system of botany. The Acotyledones and Dicotyledones are the other tribes. Grasses, lilies, palms, aloes, &c. are examples of the acotyledonous tribe.

Monoc'ulus. A genus of apterous insects, which mostly frequent stagnant waters: named from μονος, and *oculus;* but they have often two eyes, though these are placed very close to each other.

Mon'odelphs, from μονος, and δελφυς, a womb. Animals having no external marsupium; antithetical to Didelphs.

Mon'odon. A generic name of the Narwhal, (*M. monoceros*, Lin.), from μονος, one, and ὀδους, a tooth, being characterised and distinguished from all the rest of the cetacea by a single tusk of ten feet or so in length. *See* Monoceros.

Monœ'cia, from μονος, one, and οἰκία, a house. The name of the 21st class of plants in the sexual system of Linnæus, consisting of such as have male and female organs in separate flowers, but growing on the same plant. The orders depend on the circumstances of the male flowers.

Mon'ogram, from μονος, one, and γραμμα, a letter A character composed of one, two, three, or more letters, interwoven, being an abbreviation of a name, &c., anciently much used on seals, arms, monuments, &c.

Mon'ograph, from μονος, one, and γραφω, to describe. A treatise on a single subject; as a *monograph* of an Egyptian mummy.

Monogyn'ia, from μονος, one, and γυνη, a female. The name of an order of plants in the sexual system of Linnæus, comprehending such as, besides their agreement in the classic character, have only one style.

Monolith'ic, from μονος, one, and λίθος, a stone; consisting of a single stone.

Monoma'nia, from μονος, one, and *mania*. A form of mania in which the mind of the patient is absorbed by one idea

Mono'mial, from μονος one, and ονομα, a name. An algebraic quantity consisting of only one term, as ax^2, distinct from a binomial, trinomial, &c.

Monopet'alous, from μονος, one, and πεταλον, a petal. One-petalled; applied to flowers which have only one petal, or which have the corolla formed of one piece.

Monophyl'lous, from μονος, alone, and φυλλον, a leaf. Having only one leaf: applied to calices consisting of not more than a single leaf.

Monoph'ysites, from μονος, one, and φυσις, nature. A sect of Christians who maintain that Jesus Christ had only one nature.

Monop'oly, from μονος, alone, and πωλεω, to sell. An exclusive privilege, secured to one or a few persons, to carry on some branch of trade or manufacture, by royal grant. Such grants were very common in England previous to the accession of the House of Stuart, and were only abolished in 1624 (by 21 Jac. 1. c. 3), to avoid the total ruin of the industry of the country. Patentees are justly monopolists during the period of their patents.

Monopo'lylogue, μονος, one, πολυς, many, and λογος, discourse. An entertainment in which a single actor sustains many characters.

Monop'teral, μονος and πτερον, wing. In *architecture*, a circular enclosure of columns without a cell.

Mon'orhyme, μονος, and ρυθμος, measure. A composition in verse, in which all the lines end with the same rhyme.

Monosper'mous, from μονος, one, and σπερμα, seed. One-seeded: applied to seed-vessels.

Monothal'amous, from μονος, single, and θαλαμος, a chamber. One-chambered: applied to shells when the chamber is not divided by partitions.

Monothe'ism, from μονος, and Θεος, God. The doctrine or belief of the existence of one God only, opposed *to polytheism* or plurality of Gods.

Monotony, } from μονος, one, and
Mon'otone, } τονος, sound. 1. Sameness of sound: want of inflections of voice in speaking or reading.——2. Repetition of the same sound in music.

Monotrig'lyph. The space of one triglyph (*monos* and *triglyph*), and two metopes between two Doric columns.

Mons Men'sæ. The table mountain. A modern asterism, situated between the south pole of the world and the ecliptic.

Monsoo'ns. Periodical winds in the Indian seas, which blow one half of the year from the same quarter or point of

the compass, and the other half from the opposite point. The change of these winds is termed the *breaking up of the monsoons*, and is accompanied with hurricanes. Those winds which blow throughout the year from the same point are termed *trade winds*, but sometimes this name is also given to the regular monsoons.

Mon'tanists. A sect of heretics, the followers of Montanus, a Phrygian, who pretended to be inspired by the Holy Spirit, to give instruction on points not revealed to the apostles. The sect sprung up in the second century.

Mon'tem. A singular celebration, which takes place at Eton on Whit-Tuesday every third year. The scholars march in procession to Salt-hill, where their captain (the best scholar) recites a passage from some ancient author. The young gentlemen, called *salt-bearers*, who are arrayed in fancy dresses, then disperse in various directions to collect money from all passengers. The money collected is given to the captain, to enable him to take up his residence at one of the universities.

Montgol'fier. A name sometimes given to those balloons which derive their buoyancy from the burning of combustible materials, being thus denominated from their inventor, and to distinguish them from inflammable air-balloons.

Month, Sax. *moneth*, from *mona*, the moon. A space of time constituting a division of the year. The name originally signified the time of one revolution of the moon: a lunation. This is the *periodical month*, or as we generally now term it, the *lunar month*: it is 27 days, 7h., 43m., 8″. The *synodical month* is the time between two conjunctions of the moon with the sun: 29d., 12h., 44m., 3s., 11‴. The time which the sun takes to pass through the twelfth part of the zodiac we call a *solar month*: it is 30d., 10h., 29m., 5″. In the year there are 12 solar, and 13 lunar, months. In popular language 4 weeks make a month, and in the calendar the months consist alternately of 30 and 31 days, except February and July.

Mood. A word often written for *mode* (q. v.) *Mood*, temper of mind, is a different word; it is from Goth. *mod*, anger, or Sax. *mod*, mind, whereas *mood* for *mode*, is Latin *modus*. *Mood*, in grammar, applies to the various forms of a verb corresponding to our conceptions of facts and events. In *logic*, mood is the designation of the three propositions of a syllogism, in the order in which they stand.

Moon. The earth's satellite. Mean sidereal revolution 27d., 7h., 43m., 11″, 39‴. Mean synodical revolution 29d., 12h., 44m., 2·8″. Mean distance from the earth, 237,000 miles. Subtends a mean angle of 31′, 8″. Diameter 2180 miles. The moon has been worshipped by various nations, and under many names. Our Saxon ancestors worshipped it under the name of Mona, and dedicated *Monday* to it, as they did *Sunday* to the sun.

Moon'stone. A variety of adularia, worked by lapidaries. It exhibits a beautiful pearly light, and when held in certain positions, its surface is iridescent. It occurs massive, and also in crystals, in fissures of granite, gneiss, &c.

Moor. 1. Sax. *mor*. A tract of land overrun with heath. —— 2. Ger. *mohr*, from μαυρος, dark, a native of the coast of Africa, called by the Romans, from the colour of the people, *Mauritania*, or the country of the dark-complexioned people.

Moor-fowl. The pinnate grouse (*Tetrao cupido*, Gm.), protected by game-laws for the benefit of sportsmen.

Moor'ings. The anchors, chains, &c. laid athwart the bottom of a river or harbour, to confine a ship.

Moor'stone. A variety of coarse granite, found in Cornwall and some other parts of England, and in immense masses in some parts of Ireland.

Moose. The American elk, the largest animal of the deer kind, sometimes weighing 1200 lbs. The name is Indian.

Moot-case, Moot-point. In *law*, a point, case, or question, to be *mooted* or debated: a disputable case. Moot is Sax. *motian*, to debate; Goth. *motyan*, to come on.

Mora'ine. The stony detritus found at the bases of glaciers in Switzerland.

Mor'al, Lat. *moralis*, from *mos*, *moris*, manner. Relating to the practice, manner, or conduct of men towards each other as social beings, and with reference to right and wrong. The *moral law* is that which prescribes the moral or social duties: the *moral sense* is that by which we perceive with distinctness the maxims of the moral law. *Moral philosophy* treats of the nature and condition of man as a social being, of the duties which result from his social relations, and the reasons on which they are founded. It is called the science of morals.

Moral'ities. A sort of allegorical plays in vogue during the latter part of the middle ages. They consisted of moral discourses, in praise of virtue, and condemnation of vice. They were exhibited so late as the reign of Henry VIII., but gradually assumed the form of the *masque*, which became the favourite entertainment at the court of Elizabeth.

Morass'-ore. A name of the bog iron ore.

Mora'vians. A denomination of Christians, which sprung up in Moravia and Bohemia, at the dawn of the Reformation,

and are otherwise called *United Brethren*, and on the continent, *Hernhutters*, from their settlement, *Hernhutter*, watch-of-the-Lord. They generally adhere to the Augsburgh Confession. They celebrate agapæ, and cast lots to discover the will of the Lord.

Morbidez'za. An Italian term in the arts denoting refinedly delicate; pliant and soft to the eye and touch.

Mor'dant. 1. In *dyeing*, and *calico-printing*, denotes a body which, having a twofold attraction for organic fibres and colouring particles, serves as a bond of union between them, and thus gives fixity to dyes; or it signifies a substance which, by combining with colouring particles in the pores of textile filaments, renders them insoluble in hot, soapy, and weak alkaline solutions. The mordant is the substance previously applied to the goods, in order that they may afterwards take and retain any particular colour or dye. Sulphate of iron and acetate of alumina are much used as mordants.——2. In *gilding*, any adhesive matter by which gold-leaf is made to adhere to the surface of metal, wood, or other material.

Morden'te (It.). In *music*, a grace which is effected by turning upon a note, without using the note below.

Morel. The *Morchella esculenta*, used, like truffles, for gravies. It is in perfection in May and June.

Moresque', *Moresk.* } After the man-
Mauresque, *Moorish.* } ner of the Moors. Applied to a style of painting and carving, consisting of grotesque pieces and compartments promiscuously interspersed. Also to the peculiarities of the Arabian style of architecture.

Morganat'ic or Left-handed Marriage. A marriage between a man of superior, and a woman of inferior, rank; in which it is stipulated, that the latter and her children shall not enjoy the rank, nor inherit the possessions of the former.

Morgue (Fr.). The place, in many towns in France, where unclaimed dead bodies are exposed, in order to be recognised by friends.

Mo'ria, from μωρος, foolish. A variety of monomania, in which the illusion is of a happy nature, as where the patient fancies himself a hero, great genius, &c.

Mo'rion. The smoky Topaz. A variety of rock crystal.

Mor'ning-star. The planet Venus, when it precedes the sun in rising, and shines in the morning. Thence called Phosphorus by the Greeks, and Lucifer by the Romans.

Moroc'co, Fr. *Maroquin*, Sp. *Marroqui*. A fine sort of leather, prepared of the skins of goats, imported from the Levant, Barbary, Spain, &c., and so named from its having been first imported from Morocco. The skins are first tanned, and then dyed on the side of the grain. Sheepskin treated in the same way is often substituted for morocco.

Morox'ylic-acid. An acid discovered by Dr. Thomson in combination with lime, on the bark of the white mulberry-tree (*Morus alba*), in the botanic garden of Palermo, in Sicily. It dissolves readily in water and alcohol.

Mor'phew, from Lat. *morphea*. An old name for various cutaneous diseases of the face.

Mor'phea. } A vegetable alkali ex-
Morphi'na. } tracted from opium, of
Mor'phine. } which it is the narcotic principle. It is copiously precipitated, in a very pure state, by adding water of ammonia to a strong solution of opium. It is a colourless substance, of a bitter taste, and crystallises in quadrangular prisms; it is difficultly soluble in water, even when boiling, but dissolves freely in boiling alcohol, and deposits crystals on cooling.

Morphol'ogy, from μορφη, form, and λογος, description. That division of botanical science which treats of the metamorphosis of organs.

Mor'ris-dance. A peculiar kind of dance practised in the middle ages.

Morse. The *Trichecus rosmarus*, Lin. This animal inhabits the Arctic seas, surpasses the largest ox in size, attains the length of 20 feet, and is covered with a short yellowish hair. It is sought for on account of its oil and tusks. It is also called walrus, sea-horse, and sea-cow.

Mortal'ity (Bills of). Registers of the number of deaths or burials in any parish or district.

Mortal'ity (Law of). A mathematical relation subsisting among the number of persons living at the different ages of life.

Mor'tar, Lat. *mortarium*. 1. A bell-shaped vessel, used by druggists, &c., to pound substances in with a pestle; also a short piece of ordnance, thick and wide, used for throwing bombs, carcasses, &c. ——2. A cement, used for building purposes, composed of lime, sharp sand, and hair of cattle, thoroughly mixed and incorporated with a small portion of water: thus named from beating and mixing as in a mortar.

Mort d'Ancestre (Fr. for death of the ancestor). The name of a writ of assize, by which a demandant recovers possession of an estate from which he has been ousted on the death of his ancestor.

Mort'gage, from Fr. *mort*, dead, and *gage*, a pledge. A dead pledge. Land or other property pledged to a creditor as a security for money borrowed.

Mortifica'tion, from *mors*, death, and *fio*, to become. 1. The putrefaction and

consequent death of one part of an animal body, while the rest is alive, caused by inflammation, injury, or debility of the part.——2. In *Scottish law*, nearly synonymous with mortmain.

Mor'tise and Tenon. A description of joint in wood-work. The extremity of one piece of timber is let into the face of another piece, a tongue being formed at the end of the piece to be let in, which is called a *tenon*, and the hole cut in the face of the other is termed a *mortise*.

Mort'main, Fr. *mort*, dead, and *main*, hand. Possession of lands or tenements in dead hands, i.e. hands that cannot alienate. *See* Alienation.

Mor'tuary. In *law*, a fee paid to the incumbent of a parish, by custom peculiar to some places, on the death of a parishioner.

Mo'rus. The Mulberry-tree. A genus of permanent plants. *Monœcia—Tetrandria*. Name from μαυρος, black, the colour of the fruit when ripe.

Mosa'ic, Fr. *mosaïque*, } Mosaic work
Musa'ic, Lat. *musivum*. } is composed of small cubes of glass, stone, wood, &c. of various colours, and cemented on a ground of stucco, in such a manner as to imitate the colours and gradations of painting. Roman floors were often of mosaic work.

Mosa'ic Gold. The *Aurum musivum* of the old chemists is a bisulphuret of tin, prepared artificially: but the *or-moulu*, or mosaic gold, at present employed in the arts, is a species of brass, formed by melting together equal quantities of copper and zinc, at the lowest temperature that copper will fuse.

Mosasau'rus, } A gigantic fossil marine
Mososau'rus. } reptile, most nearly allied to the monitors, long known by the name of the Great Animal of Maëstricht, a head of it having been found near that city, in calcareous freestone.

Mos'chus. The Musk. A genus of ruminant animals. Name Latin, of Arab *moscht*. The most celebrated species is the *M. moschiferus*, Lin.; size of a goat, has scarcely any tail, and is covered with hairs, so coarse and brittle that they might be termed spines. The animal is remarkably light and elegant.

Moslem. *See* Mussulman.

Mosque. A Mohammedan temple or place of worship. The word is French, from Arabic *masjidon*, from *sajada*, to adore.

Mosquet'oes. A genus of dipterous insects. *See* Culex. *Mosquetó* is the Spanish name of this troublesome insect, from *mosca*, a fly; Latin *musca*.

Moss. 1. The English name for the *musci*, a natural order of small plants, with leafy stems, and narrow simple leaves. The term moss is also applied to many other small plants, particularly *lichens*, species of which are called tree-moss, rock-moss, coral-moss, &c. The fir-moss and club-moss belong to the genus Lycopodium ——2. A bog where peat is found; called often a *peat-moss*.

Moss-trooper. In *Border history*, those inhabitants who formed themselves into clans and lived by rapine.

Motaci'lla. A genus of passerine birds. The *Warblers;* comprehending the nightingale (*Curruca*), wheat-ear (*Saxicola*), blue-bird (*Sylvia*), wren (*Troglodytes*), wagtails (*Motacilla*), meadow-larks (*Anthus*). These are regarded as sub-genera by Cuvier.

Mote. *Gemote*. An old Saxon word for an assembly, meeting, or court; as *ward-mote*, *burgh-mote*, &c.

Motet (French). A musical composition of a sacred kind, as a hymn.

Moth. The English name (Sax. *motha*) of an extensive genus of lepidopterous insects. *See* Phalæna.

Moth'er, Sax. *moder*. 1. A female parent.——2. A term formerly applied to many chemical preparations and plants, for various whimsical reasons.

Mother Carey's Chickens. A name given by sailors to the storm petrels.

Mother-of-Pearl. The shining internal part of those shells which produce pearls. The genus of shell-fish called *Pentadinæ* furnishes the finest pearls, as well as mother-of-pearl: it is found in the greatest perfection round the coasts of Ceylon.

Mother-water. A name for the liquid which remains after all the regularly crystallisable salts have been extracted, by evaporation and cooling, from any saline solution, as sea-water

Mo'tion. 1. Change of local position, from *moveo*, to move: opposed to rest. Motion is the effect of impulse; action proceeding from any cause, internal or external. In the growth of plants and animals there must be a *motion* of the component parts, though invisible. Chemical affinity produces often sensible motion of the parts of bodies. The mind produces *muscular motion*, but there are *animal motions* which are independent of the mind, as the *peristaltic motion* of the intestines, and the *motions* of the heart during life. *Mechanical motion* is effected by one body acting mechanically on another. No *perpetual motion* has yet been obtained.——2. Proposals made in an assembly or meeting are termed *motions*. A bill is introduced into parliament after *motion* from some honourable member, and the same honourable member may make a *motion* to adjourn ——3. In *painting* and *sculpture*, the change of place or position which, from certain attitudes, a figure seems to be making in a picture. ——4. In *music*, the manner of beating

the measure, so as to hasten or retard the pronunciation of the words or notes.

Mo'tive Power. In *mechanics*, the whole power or force acting upon a body.

Mo'tor. A mover, from *moveo*, to move. Applied to muscles, &c.

Mot'to (Italian). A word. By motto is now generally understood a phrase prefixed to something, as an essay, &c.; or added to a device, as on a seal.

Mould. 1. The matrix in which anything is cast.——2. In *carpentry*, a thin flexible piece of wood, whereby to form the different curves of the timbers.——3. In *paper-making*, a little frame, the size of the sheet of paper to be made, composed of several wires fastened together by wire still finer, and having a little ledging of wood, into which the wires are fastened used to *cast* the sheets of paper. ——4. Among *gold beaters*, a certain number of leaves of vellum, of a certain size, and laid over one another with leaves of gold or silver, to be beaten, placed between them.——5. In *anatomy*, the anterior fontanel or interstice between the parietal bones and the frontal of a child's head.——6. In *agriculture*, loose earth everywhere obvious on the surface of ground: the upper soil.——7. The white down or lanugo which grows on the surface of bodies when undergoing humid decay in air. This appears, on examination with a microscope, to be a luxuriant vegetation. ——8. In *architecture*. *See* Mouldings.

Mould'ings. In *architecture*, the small projecting ornaments of columns, &c., so called because their forms and dimensions are regulated by the workmen by means of the *caliber* or *mould*, an instrument of iron or hardwood, which serves as a gauge in all carved work. The regular mouldings are the fillet, listel or annulet; the astragal or bead; the torus; the scolia or trochilus; the echinus, ovolo, or quarter-round; the cyma reversa, inverted cyma or ogee; the cyma recta; the cavetto or hollow (q. v.).

Mould-Loft. A large room in a dock-yard, in which the parts of the ships are drawn out full size.

Mould'warp, } The mole, which throws
Mol'dywart. } up the mould of the earth.

Mou'line, } In *mechanics*, the roller of
Mou'linet. } a capstan, crane, &c.

Moult'ing. The fall of the plumage of birds.

Moun'tain. A term formed from the Latin adjective *montanus*, from *mons*, an elevation, and applied to the largest class of elevations on the earth's surface; but marking no definite altitude except that it is greater than a hill.

Moun'tain-limestone. A name common to a series of marine limestone strata, whose geological position is immediately below the coal-measures, and above the old red sand-stone. It exists in vast quantity in England and Wales, yields all the common limestone used in the country for building, and some varieties of marble, &c.

Moun'tain-soap. A mineral of a greenish-black colour. It has a greasy feel, adheres to the tongue, and soils paper. It is a hydrated silicate of alumina and iron, and occurs in secondary rocks of the trap formation.

Moun'tain-tallow A mineral found originally in Sweden, but since also in Scotland. It melts at 118° F., boils at 290° F.; is soluble in alcohol, but does not form soap with alkalies.

Mounts of Piety. In *Italy*, establishments of the nature of pawnbrokers' shops, where money is lent out to the poor on moderate interest and security.

Mousta'che. The beard of the upper lip, the cultivation of which affords harmless employment to many whose time would not be otherwise more usefully occupied.

Mouth. In *architecture*, the same as cavetto, which see.

Mo'vement. 1. The train of wheelwork in a clock or watch.——2. In *politics*, the *movement* party are those who are perpetually agitating for popular rights.

Moxa. In *surgery*, a Japanese word denoting a soft lanuginous substance, prepared from the young leaves of a species of mugwort (*Artemisia chinensis* or *Moxa japonica*), and employed by surgeons on the Continent as a means of forming an eschar, which in England is usually done with caustic.

M.S. On *monuments*, an abbreviation of *memoriæ sacrum*, sacred to the memory. MS. is an abbreviation of "manuscript," and MSS. of "manuscripts."

Mu'cic Acid. An acid originally called *saccholactic* and *saclactic acid* by the French chemists, because it was first obtained by Scheele from sugar of milk; but as all the gums afford it, and as the chief acid of milk is the oxalic, it is now generally called mucic acid. It is readily obtained by treating gum-arabic with dilute nitric acid, and applying heat, when a white powder precipitates, which is mucic acid. It is soluble in boiling water, and combines with alkalies, earths, and metallic oxides, forming a class of salts called *mucates*.

Mu'cilage, Fr. from Lat. *mucus*, the slimy discharge from the nose. Vegetable mucus: one of the proximate elements of vegetables. The same substance is gum when solid, and mucilage when in solution. Perhaps the purest specimen of mucilage is gum-arabic, which, when distilled *per se*, affords pyromucic acid,

and when treated with dilute nitric acid affords mucic acid.

Muck, Running a. Figuratively, an indiscriminate attack upon friends and enemies; such as is made by the Malays, when intoxicated with opium or bangue.

Mu'cor. Mouldiness. An old Latin word, retained by botanists to denote that genus of minute and evanescent fungi found on decaying bread and other vegetable matters.

Mucous Glands. Glands of the body which secrete mucus.

Mu'cous Membrane. The membranous lining of the canals and cavities of the body, which are exposed to the contact of air and other inorganic substances.

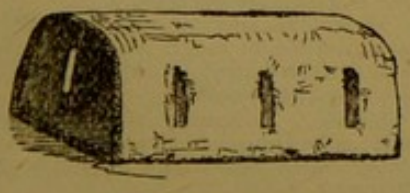
Mu'cro Cor'dis. The lower pointed end of the heart: *mucro*, a sharp point.

Mu'cus, Lat. from μυξα, the mucus of the nose. A name common to two substances: (1.) *Animal mucus:* one of the primary fluids of the animal body, generally combined with gelatine and albumen, but distinct from these substances. It forms a layer of greater or less thickness on the surface of the mucous membranes, and is renewed with more or less rapidity. It is not soluble in water, nor capable of mixing oil and water, which mucilage is, and it is soluble in the mineral acids, which vegetable mucus is not. (2.) *Vegetable mucus. See* Mucilage.

Mud-Sill. A sill of a bridge, &c., which is placed at the bottom of a river.

Muez'zin. In *Mohammedan countries*, the officer who proclaims the summons to prayer at the regular periods.

Muf'fle. 1. Germ. *muffeln*, to mask. To muffle the oars of a boat is to put some matting, &c. round that part which lies on the edge of the gunwale of the boat, to prevent its making a noise against the tholes. —— 2. Sp. *mufla*. A chemical vessel, in the shape of an oblong arch or vault, closed behind by a semicircular plane, and having a rectangular flat bottom, on which small vessels of any kind may be set to protect them from the actual contact of the fuel of the furnace



in which the muffle is placed. The muffle is entirely open at one end, and has sometimes small slits to allow free access of the hot air. It is used in cupellation.

Muf'ti, Mufta'ti. A high priest of the Mohammedan religion.

Muggleto'nians. A sect of fanatics, which arose in England, in 1657; so denominated from their leader Ludowic Muggleton, a tailor, who, with his associate Reeves, asserted that they were the two last witnesses of God mentioned in the Revelations.

Mu'gil. The name given by Linnæus to a genus of acanthopterygious fishes, forming the type of the family *Mugiloides*, Cuv. The common mullet (*M. cephalus*, Cuv.) is the best known of several species which the European seas produce. This fish is gregarious, and resorts in vast troops to the mouths of rivers. The flesh is much esteemed.

Mugilo'des. A family of acanthopterygious fishes: type *Mugil*, Lin. The other genera are the *Tetragonurus* and *Atherina* (the Aphyes of the ancients).—*Cuvier.*

Mulat'to. The offspring of a white woman by a negro, and *vice versâ*. The mixed descendants of Europeans and Indians are called *Mestinos*. The term *mulatto* is Spanish, from *mulo*, a mule: Lat. *mulus*.

Mul'berry. The *Morus nigra* is the common mulberry-tree, and its fruit is termed the Mulberry; but the name *mulberry* is common to all the species of the genus *morus*, of which there are nine.

Mulch. A name (*local*) for dung for manure.

Mule, Sax. *mul*, from Lat. *mulus*. 1. An animal of mongrel breed: usually applied to denote the offspring of a mare by an ass, and *vice versâ*. —— 2. The offspring of two plants of different species.

Mule, or Mule-Jenny. A machine employed in cotton-spinning, invented by Samuel Crompton, a weaver, of respectable character, and moderate circumstances, near Bolton; so named from its combining the principles of Arkwright's water-frame, and Hargreave's jenny. Like the former it has a system of rollers to reduce the roving; and like the latter it has spindles without bobbins to give the twist, and the thread is stretched and spun at the same time by spindles, after the rollers have ceased to give out the rove. The distinguishing feature of the mule is, that the spindles, instead of being stationary, as in both the other machines, are placed in a moveable carriage, which is wheeled out to the distance of 54 or 56 inches from the roller-beam, to stretch and twist the thread, and wheeled in again to wind it on the spindles. By this arrangement, comprising the advantages both of the rollers and spindles, the thread is stretched more gently and equably, and a much finer quality of yarn can therefore be produced.

Mu'lier. 1. In *law*, a married woman. ——2. Lawful female issue born in wedlock.

Mull. In *Scotland*, a term almost synonymous with cape.

Mullagitaw'ny. In *cookery*, a Coromandel dish; from the Tamul words *mulagar*, pepper, and *tanee*, water; as there is no meat whatever in the dish, being merely a kind of decoction of pepper

Mul'las. The priests of Tartary.

Mul'ler, from *mola*, a mill-stone. 1. A stone with (sometimes without) a handle, used for grinding colours and other matters on a large flat stone.——2. An instrument used by glass-grinders, being a piece of wood with the piece of glass to be ground cemented to one end, either convex in a basin, or concave in a sphere or bowl.

Mul'let. 1. In *ichthyology*. *See* Mugil. ——2. In *heraldry*, a figure, in addition to the family arms, made by the junior branches of a family, as the mark of their cadence.

Mul'lion, or Man'non. In *architecture*, the upright post dividing two lights in a window.

Multiarti'culate, Lat. *multus*, and *articulus*, joint. In *zoology*, applied to the antennæ of insects, &c. composed of a number of joints.

Multicap'sular, Lat. *multicapsularis*. Having many capsules: from *multus*, many, and *capsula*, a capsule.

Multicarin'ate, Lat. *multus*, and *carina*, keel. Applied to a shell traversed by many keel-like ridges.

Mul'tidentate, Lat. *multus*, and *dens*, tooth. Applied to a part armed with many tooth-like processes.

Mul'tifid, Lat. *multifidus*, many-cleft: from *multus*, many, and *findo*, to divide.

Multiflo'rous, Lat. *multiflorus*, many-flowered: from *multus*, many, and *flos*, flower.

Multilo'cular, Lat. *multilocularis*, many-celled: from *multus*, many, and *loculus*, a cell.

Multino'mial, Lat. *multus*, and *nomen*, name. In *algebra*, an expression consisting of several terms connected by the signs + or −. Called also *polynomial* or *polynome*.

Multipar'tite, Lat. *multipartitus*. Having many and deep divisions: from *multus*, many, and *partitus*, divided. Applied to leaves, &c.

Mul'tipede, Lat. *multipes*, an animal having more than four feet: from *multus*, many, and *pes*, a foot.

Mul'tiple. 1. Lat. *multiplex*, many-fold: from *multus*, many, and *plico*, to fold.——2. In *arithmetic*, a multiple is a number which contains another number a certain number of times: thus, 20 is a multiple of 2 or 5; it is also a *common multiple* of 2 and 5; but the *least common multiple* of 2 and 5 is 10.

Mul'tiple Points. In *analytical geometry*, when a curve intersects itself, the cutting point is called a multiple point.

Mul'tiple Values. In *algebra*, symbols which fulfil the algebraic conditions of a problem when several different values are given them.

Mul'tiplicand, Lat. *multiplicandus*,
Multiplica'tion, Lat. *multiplicatio*,
Multiplica'tor, Lat. *multiplicator*,
from *multus*, many, and *plico*, to fold. *Multiplicator* is an arithmetical operation by which any given number, called the *multiplicand*, is repeated any number of times or parts of a time, according as the *multiplicator* is a whole number or a fraction: thus, 12 multiplied by 3 is 36: the number 12 is the *multiplicand*, 3 is the *multiplicator* or *multiplier*, and 36 is the *product* arising from the *multiplication* of 12 by 3. Multiplication is called *simple* when the terms are abstract numbers, and *compound* when the multiplicand is a concrete number.

Mul'tiplying Glass. A glass whereby objects appear to be increased in number: otherwise called a *polyhedron*, being ground into several planes that make angles with each other.

Multisil'iquæ. The 26th natural order of plants according to Linnæus, from *multus*, many, and *siliqua*, a pod. The hellebores are examples.

Multispi'ral. Applied to univalve shells exhibiting numerous narrow coils.

Multistri'ate, *multus*; *stria*, streak. Marked with many streaks.

Mul'tivalve, from *multus*, many, and *valvæ*, valves. Multivalvular: having many valves: applied to mollusca which have, in addition to the two principal valves, small supplementary pieces of shell.——2. A multivalvular shell.

Multo'ca. The Turkish code of laws.

Multun'gulate, *multus*; *ungula*, hoof. The hoof of animals which is divided into more than two parts.

Mul'ture, Lat. *multura*, a grinding. An emolument given in Scotland to the lessee of a mill for grinding corn.

Mum. A sort of ale brewed from wheaten malt: much used in Germany, where it is called *mumme*. It is chiefly brewed at Brunswick.

Mu'mia. A variety of mineral pitch, soft and tough like shoemaker's wax when warm, but brittle in cold weather. Found in Persia.

Mum'my. An embalmed body: Lat. *mumia*, from Arab. *mum*, wax. Bodies dried in the sun, such as are found in the sands of Libya, are also called mummies, although the name appears to be properly applicable to those embalmed bodies taken from the catacombs of Egypt.

Egyptian mummy was highly esteemed for its medicinal virtues by the Arabian physicians, and subsequently a perfect rage for mummy prevailed in Europe. This induced the Jews to prepare all the dead bodies they could get, in such a manner as to resemble the ancient mummies, which they did by filling the cranium with asphaltum, pouring the same substance into incisions made in the limbs, and binding them up, and lastly exposing the bodies to the heat of the sun. This fictitious mummy was sold for the real, the Jews realised immense sums of money, and mummy retained its efficacy, till, unfortunately, towards the latter end of the 16th century, the slave of a Jew at Damietta, who carried on a great traffic in mummies, having been ill-used by his master, disclosed the mystery of the mummies to the pasha. This was the signal for a universal demand upon the coffers of Jewish manufacturers, and the traffic consequently ceased. The doctors found that they had been outwitted, and mummy went out of fashion.

Mumps. A popular name of that sort of quinsy which is accompanied by inflammation and swelling of the parotid glands. Technical name *Parotitis*.

Mun'dic. A variety of marcasite found chiefly in tin mines, and so named from its shining appearance.

Municip'ium. In *Roman antiquity*, a corporation, borough, or enfranchised city, where the inhabitants enjoyed their own laws and the privileges of Roman citizens (but some with and some without the votive suffrage). Hence our epithet *municipal* as applied to the laws, &c. of any particular city. The root is *municeps* (from *munus*, office, and *capio*, to take), a free citizen.

Mun'jeet (Indian). A species of *Rubia tinctorum* or madder, produced in various districts in India. It is used for the same purposes as the European madder, but is reckoned inferior.

Mu'niments. In *law*, all manner of writings, as charters, feoffments, releases, &c., relating to a person's estate or inheritance; a university, cathedral, &c.

Muræ'na. The eel. A genus of apodal fishes. This genus, according to Linnæus, has been successively divided into five or six genera: the principal are the *Anguilla*, Cuv. (eels proper); the *Conger*, Cuv. (conger eels); the *Muræna*, Thunberg. The last comprises the Murænæ properly so called, which have no vestige of pectorals; but have their branchiæ open on each side by a small hole. These are common in the Mediterranean. Name μύραινα, from μυέω, to flow.

Mu'ral. Appertaining to a wall; from *murus*, a wall. A *mural arch* is an arched wall placed exactly in the plane of the meridian for fixing a large quadrant, sextant, or other instrument, to observe the meridian altitude, &c. of the heavenly bodies.

Mu'ral Crown. A crown given, as a mark of distinction, among the Romans, to him who first scaled the walls of a besieged city, and there planted a standard.

Mu'rex. A genus of univalvular, spiral shells: animal a limax; inhabits the ocean, and has been held in high esteem from the earliest ages, on account of the dye which some of the species yield. Name *murex*, "the shell-fish of the liquor whereof purple colour is made: the purple colour itself." This genus, according to Linnæus, comprises all those shells of the order *Pectinibranchiata*, in which there is a salient and stringent canal, but the *Murex* of Brugueir includes only those which in addition to this character have varices across the whorls. The other subgenera are the *Ranella*, Lam., the *Fusus*, Brug., and the *Turbinella*, Lam.

Mu'riate. A salt formed by the union of the muriatic (hydrochloric) acid with a salifiable base. Those saline substances called muriates are in reality *chlorides* when dry, and *hydrochlorates* when in solution.

Muriat'ic. Pertaining to sea-salt (*muria*), as *muriatic acid*, called also *marine acid* and *spirit of salt*; its correct name is *hydrochloric acid* (q. v.). Chlorine was also formerly called *oxygenated muriatic acid*, being regarded as a compound of the muriatic acid with an equivalent of oxygen.

Mur'rain. An infectious and fatal disease among cattle, which particularly prevails in hot and dry seasons. Origin of the term is not well ascertained. The Spanish word *morrina*, and the Portuguese *morrinha* are synonymous.

Mur'rey or Sanguine. In *heraldry*, dark red.

Mur'rhine, Lat. *murrhinus*, from μυρρίνης. An epithet for a description of delicate ware brought from the east: Pliny says from Carmania, now Kerman, in Persia. The nature of the substance of which the vasa murrhina were composed is still doubtful, but the description seems to denote fluor spar.

Mur'zas. The hereditary nobility of the Tartars.

Mus. A genus of mammiferous quadrupeds: order *Rodentia*. The common mouse (*M. musculus*, Lin.), the black rat (*M. rattus*, Lin.), the Norway or brown rat (*M. decumanus*, Pall.), are well known species. The two large species appear to be natives of the East. The black rat found its way into Europe in the 10th century; the brown rat in the 18th century. This last belongs to Persia, where it lives in furrows. The mouse is known everywhere. Name *mus*, from μύς, from μύω, to hide.

Mu'sæ. A genus of plants. *Polygamia—Monœcia.* Name from μουσα, "the moss tree, whose leaves are so large that a child may be wrapped in them." The Plantain tree and Banana tree are well known tropical species. According to some, the name *musa* is a corruption of *mauz*, the Egyptian name of the Plantain tree; according to others, this plant was named *musa*, in honour of *Antonius Musa*, the physician of Augustus. Some again consider the origin of the name to have some connexion with *musa*, a song.

Mus'cadine Vine. *Vitis apiana.* A species of vine, thus named from the liability of its grapes to be attacked by bees and flies (*muscæ*). It yields the rich *muscadine* wine of Languedoc and Roussillon.

Mus'cæ Volitan'tes. A disease or affection of the eyes, in which dark spots and small serpentine figures appear to float before the person. The muscæ volitantes are commonly not observed when the person is young and in good health, but they exist in all eyes, however healthy, and may be observed by looking at a clear sky through a very small aperture, such as a pin-hole made in a card. The muscæ always appear to rise, their real motion of course being downwards.

Muschel Kalk (Ger.). A shell-limestone formation.

Mus'ci. *Mosses.* The 56th natural order of plants in Linnæus' system, and the 2nd order of the class Cryptogamia. *See* Muscus.

Muscic'apa. The *fly-catcher.* A genus of passerine birds of passage. The species are numerous, and form such subgenera as *Tyrannus*, *Muscipeta*, *Muscicapa*, *Gymnocephalus*, &c. The true muscicapa live on flies, whence the name from *musca*, a fly, and *capio*, to catch.

Muscle, Lat. *musculus*, dim. of *mus*, a mouse (being supposed to resemble a flayed mouse). 1. The muscles are the organs of motion in animal bodies, consisting of fibres susceptible of contraction and relaxation; one set according to the will (when in a healthy state), and therefore called *voluntary* muscles; another set perform their functions independently of the will, as the heart, stomach, intestines, &c., these are termed *involuntary* muscles. The muscles of respiration being in some measure under the control of the will are said to have a *mixed* motion. When the fibres of a muscle are placed parallel to each other, in a straight direction, it is called a *rectilinear* muscle; if the fibres cross and intersect each other, they constitute a *compound* muscle; when the fibres are disposed in the manner of rays, they form a *radiated* muscle, when they are placed obliquely, like the plume of a pen, it is a *penniform* muscle. When muscles act in opposition to each other, they are termed *antagonists*, and every *extensor* has a *flexor* for its antagonist, and *vice versâ*. Almost every muscle is composed of *fleshy* and *tendinous* fibres, occasionally intermixed, but the fleshy fibres generally prevailing in the *belly* or middle part of the muscle, and the tendinous ones at the extremities. *See* Muscular.——2. A bivalvular shell. *See* Mytilus.

Mus'cle Band. A substratum of imperfect ironstone and indurated shells (mostly resembling fresh-water muscles), found in the Derbyshire and Yorkshire coal fields.

Muscova'do. Unrefined sugar: the raw material from which loaf sugar is procured by refining. *See* Sugar.

Mus'covy Duck. The *Anas Moscata*, Lin., called also Sheldrake, and now placed in a subgenus under the name *Tadorna*. It is a native of South America, where it perches on trees.

Mus'cular. Pertaining to a muscle. *Muscular fibre:* the fibres which compose the body of a muscle are disposed in bundles, which are probably subdivisible *ad infinitum*. These muscles are essentially composed of fibrine and ozmazome. *Muscular motions:* these are of three kinds, viz., voluntary, involuntary, and mixed. *See* Muscle.

Muscus. A moss: from μοσχος, tender, in allusion to its tender and delicate consistence. Plural, *musci* (q. v.)

Mu'ses. Poetical deities which preside over the various branches of polite learning: said to be the daughters of Jove and Mnemosyné, and companions of Apollo upon Parnassus. All the functions of the Muses are sometimes united in Mnemé, Aœde, and Meleté; i.e. Memory, Song, and Meditation; but it is more usual to reckon nine, viz., Clio, to whom is ascribed the invention of history, Melpomene, of tragedy, Thalia, of comedy, Euterpe, of the use of the flute, Terpsichore, of the harp, Erato, of the lyre and lute; Calliope, of heroic verse, Urania, of astronomy, and Polyhymnia, of rhetoric.

Muse'um, μουσειον. Originally the name of a palace in Alexandria, and now used as a denomination for any apartment or building set apart as a repository for such things as have an immediate relation to the arts and sciences: a cabinet of curiosities.

Mush'room. The common name of numerous species of cryptogamic plants of the natural order Fungi, some of which are edible, and others poisonous. Name corrupted from French, *mousseron*, from *mousse*, moss. *See* Fungi, Phaleus, and Agaricus.

Mu'sic. 1. The science which treats of the properties, dependencies, and relations of melodious sounds.——2. The art of pro-

ducing melody and harmony by the due combination and arrangement of sounds. According to Hermes, μουσικη, comprehends the general knowledge of order, and this was also the doctrine of Plato, who taught that everything in the universe is music. Hence among the ancients, music had a much wider signification than we are inclined to give it.

Musical Glasses. A musical instrument, consisting of a number of glass goblets, tuned by pouring more or less water into them, and played upon with the end of a finger damped.

Musk. 1. In *zoology*, *see* Moschus.——2. An odoriferous substance, obtained from the *Moschus moschiferus*, or Thibet musk, which inhabits the Alpine mountains of the east of Asia. The musk is found in a little bag under the belly. It is imported from China.——3. The substance called *artificial musk*, is a tincture, prepared by the action of nitric acid on rectified oil of amber, and dissolving the product in alcohol.

Mus'ket. Fr. *mousquet*. A description of handgun used in war, originally fired by means of a match-lock, but now by a spring-lock fitted with a flint and steel.

Musketoo'n, Fr. *mousqueton*. A short thick musket, carrying 7½ oz. of lead: the shortest description of blunderbuss.

Musk-ox. A bovine quadruped of North America, the *Bos moschatus*, Gm. Considerably smaller than the common ox. The legs are very short and thick, and the hair is very long and matted.

Musk-rose. A species of rose, from which an odorous oil is extracted at Tunis.

Mus'lin. A fine thin cotton fabric, originally imported from the East, but now manufactured in Britain in vast quantity. The name is Indian, *mouseln*, Anglicised.

Musoph'aga. The Plantain-eater. A genus of birds. Order *Scansoriæ*. Name from *musa*, the plantain-tree, and φαγω, to eat; because its principal food is the fruit of the plantain and banana. One species is known, the *M. violacea*, Viell. Guinea and Senegal.

Mus'sulman. A Mahommedan. The term signifies "resigned to God," and is the dual number of *Moslem*.

Mus'tard. In *botany*, a name common to all the plants of the genus *Sinapis*, of which Don enumerates twenty-seven species; of which four are indigenous in Britain.——2. The ground seeds of the black-seeded (*M. nigra*), or white-seeded (*M. alba*), which are indigenous, and much cultivated in England, both for medicinal and culinary purposes. The black mustard is the most pungent.

Muste'la. The name given by Linnæus to a genus of carnivorous mammalia, of the digitigrade tribe, now subdivided into four subgenera; the polecats (*Pectorius*, Cuv.), the true weasel (*Mustela*, Cuv.), the skunks (*Mephitis*, Cuv.), and the white-tailed skunk (*Mydace*, F. Cuv.). The *Mustela*, Cuv., comprehends the marten (*M. martes*, Lin.), the sable (*M. zibellina*, Pall.), so highly valued for its fur, and several North American martens, indicated by travellers under the indefinite names of Pekan, Vision, Mink, &c. *See* Marten.

Mute. 1. In *grammar*, a letter which represents no sound: *k*, *p*, and *t* are mutes.——2. In *music*, a little utensil of wood or brass, used on a violin, to deaden or soften the sounds.——3. Among *undertakers*, mutes are persons employed to stand at the door of the deceased until the body is carried out.——4. In *law*, it is said of a person who refuses to plead to an indictment for felony, &c.

Mu'tule. In *architecture*, a projecting ornament of the Doric cornice, which occupies the place of the modillion in the other orders, and supposed to represent the ends of rafters.

Muz'arab. Christians under the Moorish government in Spain.

Muz'zle-lash'ing. The act of securing the muzzle of a gun, on board a ship, to the upper part of the port.

My'a. The Gaper. The name given by Linnæus to a genus of Mollusca; family *Inclusa*, Cuv. The shell is bivalvular and oblong, but the hinge varies, which circumstance has caused the genus to be variously subdivided. Name μυα, fr. μυς, Plin. ix. 35.

Myo'ale. A genus of aquatic insectivorous mammalia; the *Desmans*, of which the Russian musk-rat is the best known species. It is nearly as large as a shrew, inhabits the banks of rivers and lakes of Southern Russia, where it lives on worms, larva of insects, &c.

Myog'raphy, from μυς, a muscle, and γραφη, description. Description of the muscles of the body.

Myol'ogy, from μυς, a muscle, and λογος, discourse. The doctrine of the muscles.

My'opsy. from μυια, a fly, and οψις, vision. That state of vision in which *muscæ volitantes* are seen before the eyes; clumsily written sometimes *myodesopsy*.

Myoth'era. The Ant-catcher. A genus of passerine birds of the dentirostrine family. The species live on insects, chiefly on ants, and are found in both continents. The largest is about the size of a quail. Name from μυια, an insect, and θηριον, a beast.

Myot'omy, from μυς, a muscle and

τιμνω, to cut. The anatomy of the muscles of the human subject.

Myox'us. The Dormouse. A genus of mammals of the order *Rodentia*, Cuv. Name from μυς, a mouse, and οξυς, sharp, (the sharp-nosed mouse, or rat). The dormice pass the winter in lethargy like the marmots. The Common Dormouse (*M. avellanerius*, Lin.) constructs its nest of grass in the hollows of trees. The Garden Dormouse (*M. nitelea*, Gm.) shelters itself in holes of the walls. The Fat Dormouse (*M. glis*, Lin.) of the South of Europe is as large as the Norway rat, and nestles in the hollows of trees and fissures of rocks. This is probably the rat fattened by the ancients, among whom it was considered a delicacy of the highest description. There are some other less known species.

Myriagram'me, from μυρια, 10,000, and *gramme* (q. v.). A French weight equal to 10,000 grammes, or 26·795 lbs. troy.

Myriali'tre, from μυρια, 10,000, and *litre* (q. v.). A French measure of capacity equal to 10,000 litres, or 353·17146 cub. feet.

Myriame'tre, from μυρια, 10,000, and *metre* (q. v.). A French measure of length = 10,000 metres, or 10,936·389 Eng. yards.

Myriap'oda. An order of insects, commonly called *Centipedes*: from μυριος, innumerable, and πους, a foot. They are the only insects which have more than six feet in their perfect state, and whose abdomen is not distinct from the trunk. Cuvier divides them into two families, *Chilognatha* and *Chilopoda*.

Myr'iare, from μυρια, 10,000, and *are* (q. v.). A French superficial measure of 10,000 acres.

Myri'ca. The Candle-berry Myrtle. A genus of trees. *Diœcia—Tetrandria*. The Gale or Sweet Willow is the British type of the genus. The other species mostly belong to warm climates. One species, the *M. cerifera* of North America, yields a green wax, from which candles are made. Name borrowed from the Greek Μυρικη, which however appears to be the *Tamarix Gallica*.

Myrici'ne. The ingredient of wax which remains after digestion in alcohol. Dr. John, who first described it, gave it this name, because it is very abundant in the green wax of the Myrica cerifera. *See* Myrica.

Myr'icin. That portion of wax which is insoluble in water.

Myriophyl'lum. Water milfoil. A genus of indigenous perennial plants. *Monœcia—Polyandria*. Name from μυριος, innumerable, and φυλλον, a leaf, on account of its number of leaves. Two species.

Myriora'ma, from μυριος, innumerable, and οραμα, a picture. A moveable picture, capable of forming an almost endless variety of picturesque scenes, being painted on cards, which may be placed together in numberless combinations.

Myris'tica. The Nutmeg-tree. A genus of three species. *Diœcia—Monadelphia*. The true nutmeg and mace tree (*M. moschata*) is a native of the East Indies. The other species, of Santa Fé and Surinam, produce nutmegs of very inferior quality.

Myrmecoph'aga. The Ant-eater. A genus of many animals, with a long muzzle, terminated by a smooth toothless mouth, from which it protrudes a filiform tongue, which it insinuates into ant-hills and the nests of Termites, whence these insects are drawn by being entangled in the viscid saliva which covers it. The Ant-eaters inhabit the western continent, and are placed by Cuvier among the ordinary Edentata. Name from μυρμηξ, an ant, and φαγω, to eat.

Myrme'leon. The Lion-ant. A genus of neuropterous insects: family *Planipennes*, Cuv. Name from μυρμηξ, an ant, and λεων, a lion, in allusion to the number of ants destroyed by the larva of the common European species, the *M. formicarium*, Lin.

Myrmillo'nes. A species of Roman gladiator.

Myrob'alan. Dried fruit of the plum kind, brought from the East Indies; so named from μυρον, an unguent, and βαλανος, a nut, because it was formerly used in ointments, though now expunged from the pharmacopœias. There are five species of myrobalans, varying from the size of olives to that of gall-nuts. They are all bitterish, and unpleasant to the taste.

Myrox'ylon. The Balsam-tree of Peru. A genus. *Diandria—Monogynia*. Name from μυρον, ointment, and ξυλον, wood. This tree, the *M. peruiferum*, affords the Peruvian balsam, and grows in the warmest parts of South America. There are three sorts of the balsam, that of incision, the dry balsam, and the balsam of lotion.

Myrrh. Μυρρα. 1. A drug obtained by incision from a tree (not known botanically) which grows on the eastern coast of Arabia Felix, and that part of Abyssinia situated near the Red Sea, and called by Bruce, Troglodyte.——2. In *botany*, a species of Stork's-bill, the *Pelargonium myrrhifolium*, a tree of the Cape of Good Hope.

Myr'tle. 1. In *botany*. *See* Myrtus.——2. *Dutch Myrtle* is a name of the *Myrica Gale* or Sweet Willow.——3 *Myrtleberry*, another name for the Bleaberry.

——4. *Candleberry-myrtle*, the *Myrica cerifera*, the North American plant which affords the *myrtle-wax*. *See* MYRICA.

MYR'TUS. Myrtle. A genus of trees. *Icosandria—Monogynia*. Name from μυρρα, myrrh, because of its smell, or Myrrha, a virgin fabled to have been turned into this tree. The species are natives of warm climates: only one is found in Europe, and that in the warmest parts. The tree which affords the clove-bark, and that which bears the Jamaica pepper, (the allspice or pimenta), are referred to the genus by some. *See* CARYOPHYLLIS and PIMENTA.

MYS'TERIES. A kind of dramatic spectacles in vogue during the early part of the middle ages; so called because they taught the mysterious doctrines of Christianity, and represented the miracles attributed to saints and martyrs. They preceded the *Moralities*.

MYS'TICS. A religious sect, professing to have direct intercourse with the Spirit of God.

MYS'TICISM. In *religion*, applied to enthusiastic ideas of more direct communication with God than is given in revelation.

MYTHOL'OGY, from μυθος, a fable, and λογος, discourse. A system of fables respecting the deities which heathen nations have supposed to preside over the world and its affairs.

MYT'ILUS. A genus of bivalve shell: animal, an ascidia. The *true Mytili*, or *Sea Muscles*, have a close shell, with equal, convex, and triangular valves: the anterior and longest side of the shell allowing passage to the byssus. The muscle is a littoral shell, moored to rocks, stones, crustaceans, &c.; and the *M. edulis*, Lin., or common muscle, is very common on most European shores.

MYX'INE. The *Hag*. A genus of chondropterygeous fishes, placed among the *Cyclostomi* by Dumeril. The body is cylindrical, and the animal has no vestige of eyes; the tongue acts like a piston, and the spine of the back is in the form of a cord. Name from μυξα, mucus, in allusion to the vast supply of mucus which the animal pours out through the pores of its lateral line, to such an extent that the water of the vases in which they are kept seems to be converted into a jelly. They attack and pierce other fishes, like the lampreys.

N.

N, the fourteenth letter of the English alphabet, was used by the ancients as a numeral signifying 900, and, with a dash over it, for 9000. In *medical prescriptions*, N stands for *numero*, in number; as **N. xij**, twelve in number.

NA'BOB. A title in India, which in its origin signified a *deputy*, and was first assumed by subordinate officers, who ruled over districts under the soubah. In the declension of the power of the Mogul, many of the Nabobs obtained independent sovereignty.

NA'CARAT. A fine linen fabric, dyed fugitively of a pale red colour, which ladies rub upon their face to give them a delicate roseate hue. From Spanish *nacar*, the lustre of mother-of-pearl.

NA'CRE (French). 1. Mother-of-pearl, or any substance resembling it.——2. Of a pearly lustre.

NA'CREOUS: applied to a surface which reflects iridescent light.

NA'DAB. The high-priest of the Persians, whose office and dignity are very similar to that of the mufti of Turkey.

NA'DIR. The point of the heaven immediately opposite to the zenith. The term is Arabic.

NÆ'NIA. In *Roman antiquities*, a funeral dirge sung to the music of flutes.

NÆ'VUS. A natural mark upon children at birth.

NA'IADS. Ναιαδες. Water nymphs: mythological deities, who presided over brooks and fountains.

NA'IANT, swimming, from ναω, to swim. An epithet applied to fishes borne across the escutcheon as if swimming.

NAIL. A word originally applied to a claw or talon (Sax. *naegel* or *nægl*, from a root signifying to catch). 1. The fingers and toes of man are provided with *nails*; but the nails on the feet of birds and inferior animals are usually termed *claws*.——2. In *joinery*, &c., the small spikes of iron, &c. used to fasten parts together are called *nails*. These are of various kinds: as *buck nails*, with flat shanks; *clasp nails*, or *brads*, with flat heads; *clench nails*, used by boat-builders; *dog nails*, used to fasten hinges; *rose nails*, with square shanks; *scupper nails*, for nailing canvass, &c. to wood; *square nails*, for hard wood; *tacks*, for fixing paper, &c. on wood. There are also *deck nails*, *port nails*, &c., used by ship-builders; *clout nails*, with flat heads, for fixing iron work, clouts to axles, &c. ——3. *Nail* is also the name of a measure of length equal to the 1-sixteenth of a yard.

NA'IVETE', Fr. *naïveté*. Native simplicity; unaffected ingenuousness

NA'KED, not covered. *Naked flowers* are such as are furnished with a corolla, but have no calyx. *Naked seeds* are seeds not inclosed in any pod or case. *Naked flooring*, the framing of one or more rows of equidistant beams of timber (*joists*) for supporting the boarding.

NANKEE'N, or NANKIN. A species of cotton cloth, manufactured chiefly in the

province of Kyang nan, in China, the capital of which is Kyang-ning, corrupted by Europeans into *Nanking*.

NAPH'THA, *ναφθα*. An inflammable liquid mineral substance, of the bituminous kind, perfectly colourless when pure, exhaling an agreeable bituminous smell, and which occurs in considerable springs in different parts of Persia, in Sicily, and in Italy. It is used instead of oil, and differs from petroleum, obtained by distilling coal, only by its greater purity and lightness. It is composed of 8 carbon and 12 hydrogen by volume; sp. gr. ·755.

NAPHTHAL'IC ACID. A crystalline product, resembling benzoic acid, obtained from naphthaline.

NAPH'THALINE. A greyish-white substance, found during the rectification of the petroleum of the coal-gas works, incrusting the pipes; and may be obtained in thin white scales by re-sublimation in glass vessels. It has a strong smell of naphtha, is insoluble in water, but very soluble in ether, and moderately so in alcohol and oils. It is a solid bicarburet of hydrogen. Sp. gr. 1·048.

NA'PIER'S RODS, } A set of rods, made
NA'PIER'S BONES. } of bone, ivory, horn, or the like, contrived by Lord Napier for facilitating the arithmetical operations of multiplication and division. They form essentially a moveable multiplication table, and are valuable in cases of lengthened and continuous processes of multiplication and division.

NA'PLES YEL'LOW. A fine yellow pigment, called *giallolino* in Italy, where it has long been prepared by a secret process. It is employed in oil-painting, and also for porcelain and enamel, but is now, in a great measure, superseded by chromate of lead.

NARCE'IA, from *ναρκη*, torpor. A vegeto-alkaline base contained in opium.

NARCISSUS. Daffodil. An extensive genus of perennial plants. *Hexandria—Monogynia*. Name borrowed from the Greek *Ναρκισσος*. The species are all hardy; five are British, of which the common daffodil (*N. pseudo-narcissus*), is the most known.

NARCOT'IC, from *ναρκόω*, to stupify. A term applied, both substantively and adjectively, to medicines which have the power of diminishing the activity of the nervous system. To the class of narcotics belong opium, hemlock, henbane, belladonna, aconite, digitalis, tobacco, &c.

NAR'COTINE. The active principle of any narcotic, but chiefly applied to the active principle of opium, obtained by digesting that substance in ether. The ethereal tincture, being filtered and evaporated to the necessary extent, deposits crystals of *narcotine*, called also, from its discoverer, *Salt of Derosne*. It is distinct from morphia.

NARD. Spikenard. The *Lavendula spica*, an odoriferous shrub, called also Indian nard (*Spica Indica*). It is used by the Orientals as spice. *Celtic nard*, the *Valeriana Celtica*, a plant which is a native of the Alps.

NAR'DUS. 1. Mat-grass. A genus. *Triandria—Monogynia*. Name borrowed from the Greek *ναρδος*, said to be of Oriental origin. One species, *N. stricta*, a British perennial.——2. The *nardus* of the ancients is believed to have been the *Lavendula spica*. *See* NARD.

NAR'WAL, } Germ. *narhwal*. The Sea-
NAR'WHAL, } unicorn (*Monodon monoceros*, Lin.). *See* MONODON.

NA'SAL, Lat. *nasus*, nose. A nasal pronunciation is given to particular letters in some languages, as in French to *m* and *n*, in certain positions.

NAS'CENT, Lat. *nascens*. Beginning to exist, from *nascor*, to be born.

NAS'CENT STATE. The state of gaseous bodies at the moment of their evolution.

NASIL'UM (Lat.). Freight. Anciently the money put into the mouths of deceased persons, to pay their fare across the Styx.

NASTUR'TIUM. A genus of herbaceous plants. *Tetradynamia—Siliquosa*. Named, *quòd nasum torqueat*, because the seed when bruised irritates the nose. The species are hardy; four are natives of Britain, of which the water-cress and water-radish are examples.

NA'SUA. The generic name given by Storr to the Coati, a plantigrade nocturnal animal of the warm parts of America. The red coati (*Viverra nasua*, Lin.) is the type of the genus. It has the dragging gait of the racoon, and a singularly long and flexible snout, from which it takes its name; *nasus*, a nose.

NASU'TA, Lat. *nasus*. In *zoology*, the prolongation of the muzzle into the form of a nose.

NA'TIONAL DEBT. Money borrowed by the government on the security of the taxes, which stand pledged to the lenders for the payment of the interest. *See* FUNDS.

NATIV'ITY. The day of a person's birth, from *natus*, born. The term is used in speaking of the saints; as the *nativity* of St. John: but *The Nativity* is understood to mean that of Jesus Christ, or Christmas-day.

NAT'ROLITE. A variety of prismatic zoolite, found in small reniform, rounded, or irregular masses, composed of minute fibres; so named from the large proportion of soda or *natron* (24·5 per cent.) which it contains. Its colour is commonly yellowish brown, owing to about 1·75 of oxide of iron which it contains.

NA'TRON. Native sesqui-carbonate of soda, which occurs in Egypt and other hot countries, in the bottoms of salt lakes, which are sometimes dried up by the heat of the sun. In the province of Sukena, in Northern Africa, it exists, under the name of *Trona*, crystallised along with sulphate of soda: in Columbia it is dug up in vast quantities under the name of *Urao*. It is said to take its name from the lake *Natron* in Judea. It is never found pure.

NAT'URAL. Appertaining to nature, as 1. *Natural History*, a description of the natural productions of the earth, water, and air; such as beasts, fish, birds, insects, worms, reptiles, plants, minerals, &c. These are arranged sometimes in *artificial* and sometimes in *natural orders*, from their external habits and characters. The branches of natural history are zoology, ichthyology, ornithology, entomology, botany, mineralogy, and meteorology. —— 2. *Natural Philosophy*, the science which considers the properties of natural bodies, and their mutual action on one another, appropriately called *physics* (q. v.). It comprehends mechanics, hydrostatics, hydraulics, optics, electricity, magnetism, galvanism, and, in its widest sense, chemistry.——3. In *music*, *natural harmony* is that produced by the natural and essential chord of the mode. A *natural* or a *natural note* is a note which, according to the usual order of the scale, is opposed to *flat* and *sharp* notes, which are called *artificial*.

NATURALIZA'TION. In *law*, the investing of an alien with the rights of a native-born subject.

NAU'MACHY. A representation of a sea-fight: Lat. *naumachia*, from ναυς, a ship, and μαχη, fight. The *naumachia* formed an important part of the Circensian games among the Romans. The *naumachiarii*, or those who fought in these exhibitions, were gladiators, slaves, and criminals, who were doomed to die unless saved by the interposition of the people or of the master of ceremonies.

NAUS'COPY, from ναυς, a ship, and σκοπεω, to view. The art of ascertaining, at a very great distance, the approach of vessels; or, being on a vessel, the approach to land.

NAU'SEA, Lat. from ναυσια, from ναυς, a ship. Originally and properly sea-sickness, but now applied generally to sickness at the stomach with inclination to vomit.

NAU'TICAL INDICA'TOR; is a somewhat complicated machine invented by James Hunter, M.P.S., Glasgow (1817), for finding the latitude, longitude, and variation of the compass without a meridian observation. The same machine was afterwards patented (1823) by Joseph Bordwine, Esq., Professor of Fortification at the East India Company's Military College at Addiscombe. The invention, however, is believed to be equally due to both, as there is no proof that Mr. Bordwine knew anything of Mr. Hunter's machine.

NAU'TILUS. A little sailor, from *nauta*, a sailor. A genus of univalve multilocular marine shells, inhabited by a cephalopoda. At present the nautilus is an inhabitant of the tropical seas, but its fossil remains are found in strata of every age, from the mountain-limestone upwards, and in every latitude. It takes its name from it being possessed of a hydraulic apparatus, by which it is enabled so to modify its specific gravity as to float or sink itself at will: on the surface it navigates its little skiff with great dexterity; at the bottom it creeps with the boat uppermost.

NAVAL CROWN. *Navalis corona*. Among the Romans, a crown given to him who first boarded an enemy's ship. It was a circle of gold surmounted by nautical emblems.

NAVE, Sax. *nafa*, the middle. 1. The middle part or body of a church, distinct from the aisles or wings.——2. In *mechanics*, the centre piece of a wheel, in which the spokes are fixed, and through which the axle passes.

NAVIC'ULAR, Lat. *navicularis*, boat-like; from *navicula*, a little boat. Applied, 1. In *anatomy*, to two bones, one of the wrist and the other of the ankle, from their supposed resemblance to a boat.—— 2. In *botany*, to parts of plants, from their shape.

NAVIGA'TION, from *navis*, a ship. The art and science by which ships are guided upon the ocean from one port or harbour to another. The sailing of boats and other craft on rivers, canals, &c., is termed *inland navigation*: when vessels are conducted along coasts, or from one port to another on the same coast, it is *coasting*.

NAVIGA'TORS. 1. Sailors.——2. Men accustomed to work upon canals, railways, &c.

NAVI'RE. An order of knighthood instituted in France, in 1269, by St. Louis.

NAZ'ARENES. A name originally given to all Christians, but afterwards appropriated to a sect who blended the Mosaic law with the Gospel; from Nazareth.

NAZ'ARITES. Jews who professed great purity of life, i.e., abstained from wine, and did not shave or cut the hair of the head.

N.B. for *Nota Bene*, mark well.

NEAP. Decrescent, from Sax. *hnipan*, to fall. Applied only to those tides which happen when the moon is in the middle

of the second and fourth quarters. The highest spring tide is three days after the full or change; the lowest neap tide is four days before the full or change.

Neaped. The situation of a ship which is left aground on the height of the spring tide, so that she cannot be floated off till the next spring tide.

Neat, Ital. *nette*. 1. In *commerce*. *See* Net.——2. Sax. *neat*. Cattle of the bovine genus, as bulls, oxen, and cows: sometimes used tautologically, in *neat cattle*.

Nebula, Lat. from νεφος, νεφελη, fog. 1. A dark spot, a film in the eye, or a slight opacity of the cornea.——2. In *meteorology*, a cloudy appearance.——3. In *astronomy*, a cluster of telescopic stars, or of stars not distinguishable from each other, but which exhibit a dim, hazy light, appearing like a cloud when viewed with the telescope. In a paper read before the Royal Society of London, Sir John Herschel gives the places of 2500 nebulæ and clusters of stars, of which 500 were discovered from the time of Sir William Herschel. ——4. In *heraldry*, a line drawn with undulations, resembling the form of clouds; or a shield or charge divided by several such lines drawn across it.

Necess'ity, Doctrine of. That scheme which represents all human actions and feelings as being under the direction of laws entirely similar to those which govern the material universe.

Neck of a Capital. In *architecture*, the space between the annulet of the capital above, and the astragal at the top of the shaft below.

Nec'ronite, from νεκρος, dead. Fœtid felspar; a mineral which, when rubbed or pounded, emits a fœtid odour like that of putrid flesh. It occurs in small masses, in limestone, near Baltimore.

Necro'sis, from νεκροω, to destroy. 1. Mortification of the bones.——2. The absorption which takes place when deer shed their horns.

Nec'tar, νεκταρ. 1. The drink of the gods.——2. In *pharmacy*, a drink made of wine and honey.——3. In *botany*, juices secreted by glands placed on the organs of fructification.

Nec'tarine. 1. Sweet as nectar.——2. The name of the produce of the *Amygdalus nucepersica*, a fruit which differs from the common peach, of which it is a species, in having a smooth rind and firmer flesh.

Nec'tary, Lat. *nectarium*, the nectar or honey cup. An accidental part of a flower, which does not come under the description of any of its organs, but which may be defined as that part of the corolla which secretes the sweet juices or honey. It has numerous forms.

Nee'dle, Sax. *nedl*. 1. A small instrument of steel pointed at one end, with an eye at the other to receive a thread, used in sewing. Mr. S. Cocker, of Sheffield, has invented machinery by which needles may be produced at a penny per 1000.——2. The *magnetic needle* is a small piece of magnetised steel, sustained on a pivot, in the centre of a compass: its south pole points always in the direction of the magnetic north pole, by which means the mariner is guided in crossing the ocean.

Ne Exeat Regno. A writ to restrain a person from going out of the kingdom without the king's license.

Neg'ative, Lat. *negativus*, from *nego*, to deny. A term which applies denial; opposed to *affirmative* or *positive*. Thus, "matter is not spirit," is a *negative* proposition. In *algebra*, the *negative sign* is that which denotes subtraction, and *negative quantities* are such as have the negative sign prefixed: opposed to *positive quantities* and *positive sign*. Thus in the expression $a - ab + ax$, the term ab, which has the negative sign — prefixed, is a negative quantity, and the term ax, which has the positive sign + prefixed, is positive. a is also a positive quantity, the sign + being understood. *Negative electricity*, according to the theory of Dr. Franklin, is that state of a body wherein it has less electricity than its natural share. At present it is termed the *resinous electricity*, in contradistinction to the vitreous. A *negative pregnant* is a negation of one thing implying the affirmation of another.

Ne'groes. A variety of the human species, deriving their name from one of their most striking characteristics, the black colour of their skin. Ital. and Sp. *negro*, black, from Lat. *niger*. The females are *negresses*. The negro country seems to be the central portion of Africa, but the peculiar negro formation is observable in eastern and western portions of that continent, and is most strongly developed in Guinea.

Ne Injus'te Vex'es. A writ of prohibition to the lord, not to distrain or vex his tenant needlessly.

Nelum'bium. The Sacred Bean: a genus of perennial plants. *Polyandria—Polygynia*. Name Latinized from the *Nelumbo*, the Ceylonese name of the *N. speciosum* of India, which produces the sacred bean. The species are natives of hot climates.

Nemæ'an Games. Games celebrated in ancient Greece, deriving their name from Nemæa, a village between the cities Cleonæ and Philus, where they were celebrated every third year.

Nem. Con. For *Nemine contradicente* (no one opposing). A phrase chiefly used in the House of Commons, when anything is carried without opposition. *Nemine*

dissentiente (no one dissenting), is similarly applied in the House of Lords.

NE'MESIS. A Greek divinity, the goddess of Vengeance.

NEOC'ORUS. The guardians of the Grecian temples.

NEOL'OGY, from νεος, new, and λογος, a word; the introduction of new words into a language. The progress of science requires perpetual exercise of *neology*, but unnecessary *neologisms*, especially in scientific language, are at all times to be reprehended.

NEOME'NIA, from νεος, and μην. A monthly festival, in ancient mythology, in honour of all the gods; but especially Apollo, who was called Neoménos.

NE'PA. The *water-scorpion*: a genus of hemipterous insects. Family *Hydrocorisæ*. This genus was formed by Linnæus, but it is now variously divided. Named *nepa*, a scorpion, from the species, which inhabit stagnant waters, preying on the smaller aquatic insects.

NEPEN'THES, νηπενθες. 1. "A drug which banishes sorrow, allays wrath, and causes oblivion of all evils." The preparation of hemp, known in the East under the name of *bangue*, is supposed to have been the νηπενθες which Homer tells us Helen cast into the wine (Odyss. lib. iv. v. 220). In that passage, however, the word is merely an epithet of φαρμακον.——2. The preparation now called *laudanum*.——3. The *pitcher-plant*: a genus. *Diœcia—Monandria*. Ceylon and China.

NEPH'ELINE. A mineral, usually found in volcanic productions, crystallised in six-sided prisms, and named from νεφελη, a cloud, in allusion to its yellowish-white colour. It is the Sommite of Jameson, being found only in cavities of lava at Mont Somma. It is composed of silex, alumina, lime, and oxide of iron.

NEPHE'LIUM. A genus of trees. *Monœcia—Pentandria*. One species. East Indies.

NEPH'RALGY, Lat. *nephralgia*, from νεφροι, the kidneys, and αλγος, pain. Pain of the kidneys, not attended by fever.

NE'PHRITE, kidney-stone (νεφριτης, from νεφρος, a kidney). A subspecies of jade, formerly worn by persons from an absurd notion that it relieved disease of the kidneys. Its colours are green, gray, and white; its constituents are silex, lime, alumina, soda, potash, iron, manganese, and water. It is chiefly found in the East, and in some parts of Germany, and is worked into handles for sabres, daggers, knives, &c.

NEPHRI'TIS. Inflammation of the kidneys (νεφροι).

NE PLUS ULTRA, *no further beyond*. The utmost extreme of anything.

NEP'OTISM, from Lat. *nepotes*, nephews, relations. A species of favour so called, in the grant of the Roman pontiffs, to which many of the Italian nobility owe their high rank.

NEPTU'NIAN, pertaining to the ocean, the domain of Neptune. The *Neptunian theory* of *geology* was that originated by Werner, who attempted to show that all the formations have been precipitated from water, or from a chaotic fluid. This theory, which received at first almost unanimous assent, was successfully opposed by the *Vulcanic theory* of Dr. Hutton, so beautifully expanded and illustrated by Lyell and some other geologists of the present day.

NER'EIS. The Sea-nymph. A genus of articulata: order *Dorsibranchiata*. The Nereides are described by Cuvier as having an even number of tentacula, attached to the sides of the base of the head; and a little further forwards, two others that are biarticulate, behind which are two simple ones. They have been called *Sea-centipedes*.

NER'ITA. The Sea-snail. The name given by Linnæus to a genus of mollusca, which is now variously subdivided: order *Pectinibranchiata*: family *Trochoida*, Cuv. Name borrowed from the Greek νηρίτης, described by Pliny. The Nerita is a littoral univalve shell, semi-globose, depressed beneath, and having no umbilicus.

NE'RIUM. The Rose-bay. A genus of shrubby and arborescent plants. *Pentandria—Monogynia*. Name from νηρος, humid, because the species grow in moist places. The Oleander is the best known European species.

NER'OLI. The name given by perfumers to the essential oil of orange flowers, procured by distillation with water, in the same way as the other volatile oils.

NERVE, Lat. *nervus*, from νευρον. 1. "In the *anatomy of the ancients* (says Dr. K. Grant), the nerves and tendons were confounded under this name, and this accounts for the opposite meanings of the word *nervous*, which sometimes signifies strong, sinewy, and at others weak and irritable. In the language of *modern anatomy*, the nerves are those long white cords which arise from the brain and spinal cord, and are distributed in all parts of the frame, endowing it with sensation and voluntary motion. They are distinguished into *cerebral* and *spinal*: the cerebral nerves are generally reckoned as nine pairs; the spinal are thirty pairs, and are divided into twelve pairs of dorsal, five pairs of lumbar, and five of sacral."——2. In *botany*, applied to a congeries of

vessels, running like a rib or cord in most leaves.

NER'VOUS. Appertaining to a nerve: applied—1. In *medicine*, to fevers and affections of the nerves, and to medicines which act on the nervous system.——2. In *anatomy* and *physiology*, to the structure and functions of parts.——3. In *botany*, to leaves which have hard fibres, or nerve-like cords. The *nervous system* of the more perfect vertebral animals consists of the brain and its nerves, the spinal cord and its nerves, and the ganglia of the Sympathetic and filaments connecting them with each other. The nervous system is the seat of sensation, volition, and motion; but by what means conveyed is yet a mystery. Much has been written about a subtle *nervous fluid*, on which the nervous phenomena of the animal are said to depend; but the hypothesis is entirely gratuitous so far as our present knowledge goes. Nor is the hypothesis of the celebrated Hartley, which ascribes sensation and voluntary motion to vibration, in the nervous substance, less free from objection. The theory of Dr. Wilson Philip, which infers that the nervous and galvanic energies are identical, perhaps approaches near the truth, although his experiments do not legitimately lead to such a conclusion.

NERVUR'ES. 1. In *botany*, the veins of leaves. 2. In *entomology*, corneous tubes for expanding the wing and keeping it tense.

NESS. A terminational syllable, in several names of places, supposed to be derived from the French *nez*, or the German *nase*, nose, where there is a headland or promontory,—as Inverness, Durness, Sheerness.

NESTS, ESCULENT. A species of nest, built by swallows peculiar to the Indian Isles, much esteemed in China as an edible.

NESTO'RIANS. Followers of Nestorius, a heretic of the fifth century, who taught that Christ was divided into two persons.

NET, Sax. *net*, from the same root as *knit*. 1. An instrument formed with twine or thread interwoven with meshes: for catching fish, fowls, and wild beasts. ——2. *Net*, or *nett*, from Ital. *netto*, pure, free, as the *net* profits of a transaction; also clear of all tare and tret, or free of any deductions of weight.

NE'THINIMS. The servants of the Jewish priests and the Levites.

NET'TING. A sort of fence formed of net-work of ropes, common in ships.

NET'TLE-RASH. An eruption on the skin, like the wheals caused by the sting of a nettle. *See* URTICARIA.

NEU'RALGY, Lat. *neuralgia*, from νεῦρον, a nerve, and ἄλγος, pain. Pain in a nerve, of which *tic-douloureux* and *sciatica* are species.

NEUROL'OGY, from νεῦρον, a nerve, and λογος, discourse. The doctrine of the nerves and nervous system.

NEURO'MA, νεῦρος. A tumour formed upon a nervous trunk

NEUROP'TERA, from νεῦρον, a nerve, and πτερον, a wing. An order of insects in which the wings are finely reticulated, generally naked and diaphanous. The abdomen is destitute of a sting, and is rarely furnished with an ovipositor. Cuvier divides them into three families; the *Subulicornes*, the *Planipennes*, and the *Plicipennes*. The Dragon-flies, the Termites, and the Lily-flies, are examples.

NEUROT'OMY, from νεῦρον, a nerve, and τεμνω, to cut. 1. Dissection of the nerves. ——2. The division of a nerve.

NEU'TER, Lat. comp. of *ne* and *uter*, not either; belonging to neither gender: applied in grammar to nouns which are neither masculine nor feminine. 1. A *neuter verb* is one which expresses an action or state limited to the subject, and which is not followed by an object, as *I walk;* but the term *intransitive* is more appropriate.——2. An animal which belongs to neither sex. The working bees are *neuters;* and those individuals among the Termites called *soldiers* are *neuters*. Their business is to keep the *labourers* at work.

NEU'TRAL, from *neuter*. 1. In *chemistry*, applied to salts formed by the combination of an acid with an alkali, and which possess neither alkaline nor acid properties.——2. In *botany*, applied to such flowers or florets as have neither stamens nor pistils, and of course produce no seed. ——3. In *politics*, not engaged on either side in a dispute between nations.

NEUTRALIZ'ATION. In *chemistry*, the combination of an acid and an alkali, in such proportions that the compound evinces none of the properties of the ingredients, or does not affect the colour of litmus or turmeric.

NEUVA'INES, Fr. *neuf*, nine. In the *Roman Catholic Church*, prayers offered for nine days to obtain the favour of Heaven.

NEW'EL. In *architecture*, the upright cylinder or pillar around which winding stairs turn, thence called *newel stairs*.

NEW STYLE. In *chronology*, the days of the year, according to the Gregorian Calendar, adopted in England A.D. 1753.

NEW'TONIAN PHILOSOPHY. The doctrine of the universe as propounded by Sir Isaac Newton.

NEW ZEALAND FLAX. *See* PHORMIUM.

NIEBELUNGEN, LAY OF THE. The oldest existing monument of German epic poetry.

NICARAG'UA OR PEACH WOOD. The wood of a tree of the same genus (*Cæsalpinea*)

as the Brazil and Japan woods, and which grows principally in the vicinity of the lake of Nicaragua. It is used as a dye-wood for the same purposes as Brazil wood, but is much inferior. The best brings, including duty, 20*l.* per ton in London.

Ni'cene Creed. A particular creed, drawn up by the ecclesiastics of the Council of Nice, and since adopted by the Church of England.

Nick'el. A metal of a silver white colour, very hard and difficultly fusible, but malleable, and may be drawn into wire of $\frac{1}{50}$ of an inch, and rolled into plates $\frac{1}{500}$ of an inch thick. It is an ingredient in all meteoric iron, and is found in Bohemia, associated with arsenic, in the mineral termed *Kupfernickel* (base copper); in the Hartz combined with cobalt, iron, and copper, in *arsenic-nickel;* as a sulphuret of nickel in *Haarkies;* as a sulphuret and arseniate in *nickel-glance;* and with sulphur and antimony in *nickle-spiess.* All the ores of nickel are coppery coloured, generally covered more or less with a greenish-grey efflorescence, and all its solutions in acid are nearly grass-green. It forms ductile alloys with silver and iron, and combines with copper and zinc to form German silver. Sp. gr. of nickel, 8·93.

Nicolai'tans. A sect in the ancient Christian church, so named from Nicolas, a deacon of the Church of Jerusalem. The most distinguishing tenet was that all married women should be in common, to prevent jealousy. Rev. ii.

Nicotia'na. Tobacco. An extensive genus of herbaceous plants. *Pentandria—Monogynia.* Named after Nicot, who first brought it to Europe (1560). The *N. tabacum*, an annual plant, of which there are seven or eight varieties, is that used for smoking. It is a native of Virginia, in North America. It is narcotic, emetic, purgative, diuretic, and sternutatory. These properties depend on the nicotine which it contains.

Nic'otine. A peculiar principle obtained from the leaves and seeds of the tobacco (*Nicotiana tabacum*), by Vauquelin. It is colourless, has an acrimonious taste, a pungent smell; mixes in all proportions with water and alcohol, and is highly poisonous. It combines with acids, and forms salts acrid and pungent like itself.

Nic'titating Membrane (the) of birds and fishes, is a thin membrane which covers the eyes, and thereby protects them from the injurious effects of too intense light, particles of dust, &c., without entirely obstructing the sight, being so pellucid that it is quite pervious to light.

Niddin. A species of minor excommunication among the Hebrews, which lasted a month.

Nid'ged Ash'lar. Ashlar squared by means of a cuvil or pointed hammer.

Nid'ulate, Lat. *nidulans*, from *nidulor*, to place in a nest. An epithet for the seeds of some fruits which nestle as it were, or are embedded on their surface, as in the strawberry.

Nie'llo (It.) A method of plate engraving.

Nigel'la. Fennel-flower. A genus of annual plants. *Polyandria—Pentagynia.* Name *Quasi nigrella*, in allusion to its black seed. The love-in-a mist, and the devil-in-a-bush are species.

Night-fire. Ignis fatuus or will-o'-the-wisp.

Night'ingale. A bird; the *Motacilla luscinia*, Lin., a well-known songster of the night. It builds on trees, and does not begin to sing till the young ones are hatched.

Night'shade. In *botany*, the *deadly nightshade* is a British perennial plant, the *Atropa belladonna.* The *American nightshade* is a species of *Phytolacca.* The *woody nightshade* is a species of *Solanum*, the bitter-sweet. The *Palestine nightshade* belongs to the same genus. The *bastard nightshade* belongs to the genus *Rivina;* the *enchanter's nightshade* to the genus *Circæa;* the *Malabar nightshade* to the genus *Basella;* and the *three-leaved nightshade* to the genus *Trillium.*

Ni'hil Al'bum. White nothing. Flowers or oxide of zinc.

Nilom'eter, } A contrivance, among the
Nil'oscope. } ancient Egyptians, to measure the height of the water in the river Nile in its overflowings.

Nim'bus. 1. A circle representing luminous rays, on certain ancient medals, round the heads of emperors and demigods, answering to the *areolæ* or circles of light painted round the heads of saints. ——2. The *rain-cloud*, a shape assumed by a cloud previous to its ultimate resolution and fall in rain.

Ninth. In *music*, one of the dissonant intervals.

Nip'pers. 1. Small pincers.——2. The fore-teeth of a horse.——3. In a *ship*, certain pieces of cordage used to fasten the cable to the messenger or royal, when the former is drawn into the ship by the application of some mechanical contrivance to the latter. *Nipper men* are those employed to bind the nippers about the cable and royal.

Ni'si Pri'us. A judicial writ which lies in a case where the inquest is panelled, and returned before the justices of the bench, one party making petition to have this writ for the ease of the country, that the case may be tried before the

justices of the same county. The purport of the writ is this: the sheriff is commanded to bring to Westminster the men impanelled at a certain day, before the justices *nisi prius justiciarii ad assisas capiendas venerint*, that is, unless the justices shall first come into the county to take assizes, which they always do in the vacation preceding each Easter and Michaelmas term. Hence courts directed to try matters of fact in the several counties, are called *Nisi Prius* or *Nisi Prius Courts*.

NITID'ULA. A genus of coleopterous insects of the pentamerous division, of which Colobicus, Thymalus, Ips, Cercus, and Byturus, are subgenera.

NI'TRE, *νιτρον*, saltpetre. Nitrate of potash, found ready formed in the East Indies, in Spain, in the kingdom of Naples, and some other places, in considerable quantities. It is an important ingredient in the manufacture of gunpowder, and from it we obtain nitric acid.

NIT'RIC ACID. An acid composed of nitrogen and oxygen, and obtained by the action of sulphuric acid on nitrate of potash (*nitre*) with the aid of heat. Nitric acid cannot be isolated. For the purposes of the arts it is commonly used in a dilute state, and generally contaminated with sulphuric and muriatic acids, under the name of *aquafortis*, of which there are two kinds: *double aquafortis*, which is about half the strength of nitric acid, and *single aquafortis*, which is again about half the strength of the double. A mixture of nitric acid (2 pts) with hydrochloric acid (1 pt.) forms *aqua regia*, the only solvent of gold and platinum. Pure nitric acid is perfectly colourless.

NIT'RIC OXIDE. Deutoxide of nitrogen.

NIT'RITE. A salt formed by combination of nitrous acid with a salifiable base.

NIT'ROGEN, from *νιτρον*, nitre, and *γενναω*, to generate. A gaseous principle, called also *azote*, constituting four-fifths of our atmosphere. It is neither combustible nor a supporter of combustion; possesses neither taste nor smell, and does not combine directly with any known substance, though indirectly it unites with oxygen (in five proportions), hydrogen, and carbon, and forms some of the most energetic compounds we possess. *Mixed* with oxygen it constitutes atmospheric air; *united* with oxygen it forms aquafortis; *united* with hydrogen it forms ammonia, and with hydrogen and carbon it forms prussic acid. It enters largely into the composition of animal bodies. Sp. gr. 0·9722.

NITROGLYCERINE, TRINITRINE, or TRINITRO-GLYCERINE. A violent and dangerous explosive body produced by the action of concentrated nitric acid on glycerine. Three atoms of typical hydrogen are thereby replaced by $N O_2$

NI'TRO-LEU'CIC ACID. When leucine is dissolved in nitric acid, and the solution evaporated to a certain point, it passes into a crystalline mass, which, being pressed between blotting paper and redissolved in water, yields by concentration fine, divergent, and nearly colourless needles of *nitro-leucic acid*. It unites with bases, and forms salts which fuse on red-hot coals.

NI'TRO-MURIAT'IC ACID, } *Aqua*
NI'TRO-HYDROCHLOR'IC ACID. } *regia*. When nitric acid (2 pts.) and muriatic acid (1 pt.) are mixed together, they become yellow, and acquire the power of readily dissolving gold and platinum, which neither of them possesses separately. The acids by mixture are partially decomposed, and water, chlorine, and nitrous acid gas, are produced, so that aqua regia is really a mixture of chlorine, nitrous acid, and water.

NI'TRO-NAPH'THALASE. A compound obtained from the action of nitric acid on naphthaline.

NI'TRO-SULPHU'RIC ACID. An acid resulting from the mixture of one of nitre and eight or ten of sulphuric acid.

NI'TROUS ACID. An acid which is most easily obtained by exposing nitrate of lead to heat in a glass retort, when the acid in question comes over in the form of an orange-coloured liquid. Boils at 82°.

NI'TROUS GAS. Nitric oxide; deutoxide of nitrogen. A colourless, elastic, gaseous body, which has no sensible taste, and is neither alkaline nor acid. It is exceedingly hurtful to animals, producing instant suffocation whenever they attempt to breathe it. It combines with oxygen, and forms *nitrous acid gas*.

NI'TROUS OXIDE. Protoxide of nitrogen, called also *laughing-gas*, from the peculiar pleasurable excitement, often accompanied with laughter, which it produces upon those who inhale it. It was discovered by Dr. Priestley in 1772, but was first accurately described by Sir H. Davy in 1799. It is readily obtained by heating nitrate of ammonia in a glass retort by means of a spirit lamp. It has been called gaseous oxide of nitrogen.

NI'ZAM. The title of great officers of state in the Asiatic governments.

NI'ZAMUT ADAWLET. A court of criminal justice in India.

N. L., for *non liquet*, it does not appear. A form of verdict in ancient law, equivalent to the *ignoramus* of a modern grand jury.

NOA'CHIAN DELUGE. The deluge related by Moses, and from which only Noah and his family were saved.

NOBIL'ITY. Rank conferred by express authority of the governing power. The hereditary nobility of all European states

is the offspring of military despotism: that of England originated in the Norman Conquest.

No'BLE. 1. In *numismatics*, a gold coin, value 6*s*. 8*d*. It was struck in the reign of Edward III., with the emblem of a ship, commemorative of a famous victory gained by him over the French at Sluys in 1340.——2. In *ichthyology*, a name of the *Aspidiphorus Europæus*, Yarr. and Cuv., called the armed bullhead, sea-poacher, pogge, lyre, pluck, &c., &c.

NOCTHOR'US. The generic name given by Fred. Cuvier to the Douroucouli, a quadrumanous mammifer, which differs from the Sagouins in its greater nocturnal eyes, and the ears, which are for the most part hidden under the hair. It is a native of South America.

NOCTILU'CA, Lat. *nox*, night, and *luceo*, to shine. A name anciently given to phosphorus.

NOCTUR'NA. A family of Lepidopterous insects formed by Cuvier, of the genus *Phalæna*, Lin., the species of which seldom fly except at night or after sunset: hence the name from *nocturnus*.

NOCTUR'NÆ. A family of Accipitrine birds, comprehending the owls (*Strix*, Lin.), which are to be found abroad only after sun-set.

NOCTUR'NAL, Lat. *nocturnus*, pertaining to night; from *nox*, night. 1. In *astronomy*, a *nocturnal arc* is that part of the orbit of a heavenly body described during the night. The *nocturnal semi-arc of the sun* is that portion of a circle which he passes over, between the point of the horizon wherein he sets, and the lower part of one meridian.——2. A *nocturnal* or *nocturlabe* is an instrument, chiefly used at sea, to take the altitude or depression of some stars about the pole, in order to find the latitude and hour of the night. It consists of two circles fitted to each other, yet moveable together, with a moveable index; all three fixed together by a rivet, which is pierced through the centre with a small hole, through which the star is to be viewed.

NOD'DY. 1. A bird (the *Sterna stolida*, Lin.) celebrated for the blundering manner in which it throws itself on vessels at sea.——2. A description of carriage, drawn usually by one horse.

NODE, from *nodus*, a knot. In *botany*, a joint which has only a small elevation, as observed in the stems of some grasses. In *surgery*, a hard circumscribed tumour, proceeding from a bone, and caused by a swelling of the periosteum. In *astronomy*, a point in the orbit of a planet which intersects the ecliptic. There are two such points in the orbit of every planet: that where the planet ascends northward, above the plane of the ecliptic, is called the *ascending node*, or *dragon's head*; and that where a planet descends to the south is called the *descending node*, or *dragon's tail*. The first is marked ☊, and the latter ☋. In *dialling*, a small hole in the gnomon, which indicates the hour by its light, as the gnomon does by its shadow.

NOD'ULAR. In the form of a nodule or small lump. *Nodular iron ore* is a variety of argillaceous oxide of iron, which occurs in small masses, often spherical, oval, or nearly reniform, but sometimes in little parallelopipeds, with the angles rounded off. These nodules have been called *ætites* and *eagle-stones*.

NODULE. Lat. *nodulus*. A small knot or lump, from *nodus*, a knot. A rounded but irregular-shaped mineral mass of small size.

NOE'TIANS. In *ecclesiastical history*, a sect named from Noetus, an Ephesian, who held that there was only one person in the Deity.

NOG'GING. In *architecture*, brick-work carried up between upright pieces or quarters. *Nogging-pieces*, the horizontal timbers fitted between the quarters, to steady them.

NO'LI ME TAN'GERE. Touch-me-not. 1. A species of malignant herpes, or lupus, which affects the skin and cartilages of the nose, and sometimes destroys the whole nose.——2. An annual species of the indigenous balsam-plant. *See* IMPATIENS.

NOL'LE PRO'SEQUI, in *law*, is where a plaintiff does not declare in a reasonable time, which is regarded as a confession that he has no real cause of action.

NO'MA (Lat.) from νέμω, to eat. An ulcer that attacks the skin, and often the cheek or ulva, of young girls. It appears, at first, in somewhat livid spots, and in a few days becomes gangrenous.

NOM'ADES. Tribes who lead a wandering and pastoral life. The term is from the Greek νομας, νομαδος, living on pasturage. Nomadic tribes are still to be found in the northern parts of Asia; and the Numidians, in Africa, are supposed to have been so called from this practice.

NO-MAN'S-LAND. A space in the middle of a ship, when she is stowed upon the booms.

NOM DE GUE'RRE (French). A fictitious name, or a name assumed for the time.

NOM'BRIL. The centre of an escutcheon.

NO'MENCLATURE. A systematic classification of the terms of a science, as the *nomenclature* of botany, from *nomen*, a name, and *calo*, to call.

NOM'INALISTS. A sect of school-philosophers of the fourteenth century, the disciples of Ocham, or Occam, who maintained that names, and not things, are the object of dialectics. They founded the university of Leipzig.

NOM'INATIVE, from *nomino*, to name. 1. Pertaining to the name which precedes the verb, or the first case of nouns.——2. The first case of nouns and adjectives: the case which primarily designated the name of anything.

NOMO'CANON, νομος, law, κανων, canon. In *ecclesiastical law*, a work in which canons of the church and imperial laws are collected and compared.

NONÆ ET DECIMÆ. The contributions of tenants of the Church were anciently so called; the nonæ or ninth being the rent, and the decimæ or tenth the tithe due to the Church.

NONAGES'IMAL, Lat. *nonagesimus*, ninetieth. Noting the 90th degree of the ecliptic; called the *mid-heaven*.

NON'AGON, from *nonus*, nine, and γωνια, an angle. A figure of nine sides and nine angles.

NON ASSUMPSIT. In *law*, a general plea in a personal action, by which a man denies that he has made any promise.

NON CLAIM, in *law*, is where a person fails to demand his claim within a reasonable time, by which he is precluded from enforcing it.

NON COM'POS MENTIS. Not of sound mind or judgment.

NON-CONDENSING ENGINE. A high-pressure steam-engine is sometimes so called, because it is not provided with the apparatus for condensing the steam, so as to form a vacuum in the steam cylinder.

NON-CONDUCTOR. A substance which is *not* a conductor. Wool, fur, and water are *non-conductors* of heat; glass, sealing-wax, and sulphur are *non-conductors* of electricity. There is, however, perhaps, no body in nature which is absolutely a *non-conductor* of heat or electricity; but the term is nevertheless applied to such substances as transmit the energies very slowly.

NONCONFOR'MIST. One who refuses to conform to the rites and worship of the established church. The name has been particularly applied to those clergymen who were ejected from their livings by the Act of Uniformity, in 1662.

NONES, Lat. *nonæ*. In the *Roman calendar*, the fifth day of January, February, April, June, August, September, November, and December; and the seventh day of March, May, July, and October. *See* CALENDAR and IDES.

NON EST FACTUM. In *law*, a plea where an action is brought upon a bond, and the defendant denies it to be his deed.

NON EST INVEN'TUS. He is not found. The sheriff's return to a writ when the defendant has not been found.

NONIL'LION, from *nonus*, nine, and million. The number of nine million millions

NO'NIUS. *See* VERNIER.

NON LIQUET. It does not appear. A verdict given by a jury when a matter is to be deferred till another day of trial, not being sufficiently clear. The Romans used the same phrase, marked N. L. (q.v.).

NON-NATURALS. *Res non naturales*. Old physicians comprehended under this name air, eating and drinking, sleeping and watching, motion and rest, the retentions and secretions, and the affections of the mind, as not entering into the composition of bodies, yet as necessary to their existence.

NON-JURORS. In *history*, adherents of James II., who refused to take the oath of allegiance to the Hanoverian family at the revolution: from *non*, and *juro*, to swear.

NON OBSTAN'TE, Notwithstanding. A clause in statutes and letters-patent, importing that a thing may be done, *notwithstanding* an act of Parliament to the contrary.

NON SEQ'UITUR. It does not follow.

NONSENSE. In *law*, "something grammatically correct, but unintelligible in the sense!"

NON'SUIT. *Non prosequitur*. The renunciation of a suit by the plaintiff, commonly on the discovery of some error or defect when the matter is ready for the verdict of the jury.

NOON. Mid-day: called *apparent*, as shown by the sun-dial, and *mean*, as shown by a clock.

NO'PAL. The Mexican name of the *Cactus opuntia*, a plant upon which the cochineal insect feeds. It is termed in English the *prickly pear*.

NO'RIA. A hydraulic machine used in Spain for raising water. It nearly resembles the Persian wheel, but is inferior in practice.

NOR'FOLK CRAG. An English tertiary formation belonging to the older pliocene, and consisting of irregular beds of ferruginous sandy clay mixed with marine shells.

NOR'MA. *Euclid's Square*. A small constellation south of the Scorpion. It contains 12 stars, all below the fourth magnitude.

NOR'MAL, Lat. *normalis*, according to a square or rule (*norma*). 1. Perpendicular, as a *normal line* which forms with another line a right angle.——2. Relating to the rudiments, or elements, as a *normal school*, in which boys are instructed in the elementary branches of education.

NOR'MAN. 1. In *nautical language*, a short wooden bar, thrust into a hole of the windlass to fasten the cable to. It is only used when there is little strain on the cable.——2. In *geography*, &c., pertaining to Normandy.

NOR'ROY, for *north-roy*. North-king. The title of the third of the three kings at arms, or provincial heralds.

Nor'thern Lights are more commonly termed *Aurora Borealis*.

Nor'thern Signs are Aries, Taurus, Gemini, Cancer, Leo, and Virgo, which are on the north side of the equinoctial.

Nor'thing. In *navigation*, the difference of latitude which a ship makes in sailing towards the north.

North Pole, is that point of the heaven which is 90° every way distant from the equinoctial. Its place is pointed out within 2½° by the *North Pole Star*, in the tail of Ursa Minor.

Nor'way Spruce. A species of the Fir-tree, the *Pinus abies*, which grows abundantly in Norway and other parts of the north of Europe.

Nosings of Stairs. The parts of the tread boards of the steps which project over the risers.

Nosog'raphy, from νοσος, a disease, and γραφη, description. Description of diseases.

Nosol'ogy, from νοσος, a disease, and λογος, a discourse. A classification of diseases, with names and definitions, according to the distinctive character of each class, order, genus, and species. Cullen's system of nosology is that generally adopted in this country.

Nos'talgy, Lat. *nostalgia*, from νοστος, a return, and αλγος, pain. A vehement desire to return to one's native country, attended with melancholy, loss of appetite, and want of sleep. Mountaineers are peculiarly liable to this affection.

Nos'toc. A vegetable jelly of a greenish colour, regarded by Linn. as a cryptogamic plant, and hence placed by him in the genus *Tremella*. It is frequent, especially in sandy soils, and immediately after rain in summer, and is vernacularly termed witches' butter, fallen stars, &c. It is edible.

Nos'trum. A Latin word which means *our own*, and is applied to all quack medicines, the composition of which is kept secret.

No'tables. In *French history*, the deputies of the states under the old régime, appointed and convoked by the king on certain occasions.

Not'acantha. A family of dipterous insects, so named from νωτος, the back, and ακανθος, a spine, because the scutellum is generally armed with teeth or spines. The Notacantha are divided by Latreille into three divisions, the *Mydasii*, the *Decatoma*, and the *Stratiomydes*.

Nota'rial Acts, are those acts in the civil law which require to be done under the seal of a notary, and are admitted as evidence in foreign courts.

Not'ary, Lat. *notarius*, from *notus*, known. A legal officer, whose business it is to attest deeds and writings, protest bills, enter and extend a ship's protests, &c. He is usually styled a *notary public*.

Nota'tion, from *noto*, to mark. The method of expressing, by means of appropriate characters, any proposed quantity: thus—1. In *arithmetic*, we call the method of expressing numbers by means of the nine digits and cipher, *notation*; and we use the same term for the method adopted in the higher analysis to express an operation by means of appropriate symbols.——2. In *music*, the method of expressing or representing by characters (*notes*), all the different sounds and modifications of the same.

Notch-board. A board which is grooved or notched for the reception and support of the ends of steps in a stair-case, &c.

Notch'ings. Hollows cut in the faces of a piece of timber, &c., usually of a rectangular form, for the reception and support of the tread-boards of a stair, &c.

Note, Lat. *nota*, from *notus*, known. A mark, as, 1. In *music*, a character which marks the pitch and time of a sound, as a semibreve.——2. A minute, memorandum, or short writing, intended to assist the memory.——3. A short remark, or passage of explanation, in the margin of a book, or at the bottom of a page.——4. A written or printed paper, acknowledging a debt and promising payment, as a *promissory note*, a *bank note*.——5. An official paper sent by one diplomatist to another.——6. A billet.

Notonec'ta. The *Boat-fly*. A genus of Hemipterous insects established by Linn., but now divided into *Coriza* and *Notonecta proper*. They compose the tribe *Notonectides* of the family *Hydrocorisæ*, Cuv., and take their name from their habit of swimming on the back.

Nottur'no. In *music*, a composition in which love and tenderness form the theme.

No'tus. A Latin name of the south wind.

Noun. A term altered from *nomen*, a name: that sound, or combination of sounds, by which a thing is called, whether material, as *house*, or immaterial, as *guile*.

Novac'ulite. The hone-stone or Turkey-oil-stone. A variety of argillaceous slate named from *novacula*, a razor.

Nova'tians. In *ecclesiastical history*, the followers of Novatius, a heretic.

Nov'el, Lat. *novellus*, dim. of *novus*, new. 1. In *civil law*, the *novel constitutions*, or simply the *novels*, are those decrees or constitutions which are supplementary to the code and posterior in time to the other books. These contain new decrees of successive emperors. 2. In *common law*, the assize of *novel disseizin* is an action in which the demandant recites a com-

plaint of the disseizin in terms of direct averment, whereupon the sheriff is commanded to reseize the land and chattels thereon, and keep the same in custody till the arrival of the justices of assize. In *literature*, a *novel* is a fictitious tale, or narrative in prose, generally intended to exhibit the operations of the passions, and particularly of love. Historical novels are usually termed romances. *See* ROMANCE.

NOVEM'BER, from *novem*, nine. The ninth month of the ancient Roman year, which began with March; but now the eleventh month of the year. It has 30 days.

NOVENNA'LIA, Lat. *nine*, and *year*. Festivals in honour of the dead, held every *nine years*.

NO'VENSILES. Anciently, the generic name of deified heroes and demigods.

NOV'ICE, Fr. from Lat. *novitius*, from *novus*, new. 1. A person not yet skilled in an art or profession into which he has entered.——2. In *monasteries*, one who has not completed the novitiate.

NOVI HOM'INES. Among the Romans, such persons as by their personal merit alone had raised themselves to curule dignities.

NOVI'TIATE. In *monasteries*, a year or other prescribed time of probation for the trial of a novice (*novitius*), to determine whether he has the requisite qualities for living up to the rules to which his vows bind him.

NOY'ADES, Fr. *noyer*. A peculiar punishment practised in the first French Revolution, which consisted in launching the victims in a boat, out of the bottom of which a plug could be withdrawn.

NOY'AU (Fr.). A delightful liqueur flavoured with bitter almonds, or the kernels of peach stones, and containing prussic acid.

NUBECULE, Lat. *nubecula*, a little cloud. A disease of the eye, in which objects appear as through a mist.

NU'CLEUS, Lat. a kernel, a *nuce*, from the nut. 1. Anything about which matter is gathered or conglobated.——2. In *astronomy*, the solid part of a comet, as distinguished from its nebulosity.

NUDE COMPACT, } *Nudum pactum*. A
NUDE CONTRACT. } promise made without any consideration, and therefore not valid.

NU'DIBRANCHIATA. An order of Mollusca, the second of the class Gasteropoda, so named from *nudus*, naked, and *branchiæ*, their branchiæ being exposed on some part of the back. The genera are all marine, the individuals often swimming in a reversed position with the foot on the surface, concave like a bateau, and employing the margin of their mantle and their tentacula as oars.

NUDIPEDA'LIA Lat. *nudus*, and *pes*, foot. An ancient religious rite, on account of some public calamity, in which the votaries appeared barefooted.

NUL'LAH. A hydrographic term in India, for a natural canal or small branch of a river.

NUL'LIPORES, Lat. *nullus*, none, and *porus*, a pore. Plants which have no visible pores on their surface.

NUL TIET RECORD. The replication which the plaintiff makes to the defendant, when the latter pleads a matter of record in bar of the action, and it is necessary to deny the existence of such record.

NUM'BER. 1. In its extended signification, it refers to every abstract quantity that can be made the subject of arithmetical computation; but in a more limited sense, it means only several things of the same kind, and may be defined a multitude of units. Numbers of this latter sort are termed *integral*, and are distinguished into various classes, as absolute, abstract, abundant, amicable, cardinal, circular, composite, concrete, figurate, homogeneal, irrational, ordinal, perfect, polygonal, prime, rational, &c., all of which are distinguished from *fractional* numbers. *See* FRACTION. The *number of direction* is one of the 35 numbers between the Easter limits, or between the earliest and latest days on which Easter can fall, viz., 22nd March and 25th April; and is so called because it serves as a direction for finding Easter for any year, being the number which expresses how many days after the 21st March Easter-day falls. For *golden number*, *see* GOLDEN NUMBER and CYCLE.——2. In *grammar*, a modification (marking *singular* and *plural*), of nouns, verbs, &c., to accommodate them to the variety of their objects, considered with regard to number.

NUMBERS. *Poetical numbers* are those measures of order and quantity of syllables which constitute feet, as distinguished from *rhetorical numbers*, where the harmony is measured only by the agreeable effects produced upon the ear by the cadence of the articulations.

NUME'NIA, νεος and μην, month. Grecian festivals celebrated monthly in honour of all the gods of antiquity.

NU'MERAL. Pertaining to number; expressing number; standing as a substitute for figures, as—1. *Numeral letters*, the Roman capital letters, as I. for 1, X. for 10, L. for 50, C. for 100, D. for 500, M. for 1000.——2. *Numeral characters*, these are 1, 2, 3, 4, 5, 6, 7, 8, 9, 0. They were brought to Europe by the Arabians, who received them from India, according to some.——3. *Numeral algebra* is that wherein numbers are employed, in contradistinction to *literal algebra*, where the letters of the alphabet only are employed to represent quantities.

NUMERA'TION. The art of numbering, from *numero*, to number. Numeration is the art of reading, as numbers expressed by figures; notation is the art of writing such numbers. These terms are however often used synonymously.

NUMERA'TOR. That which numbers. *See* FRACTION.

NU'MIDA. The *Pintado* or *Guinea-fowl*: a genus of Gallinaceous birds, of which there are two species, both natives of Africa. In a wild state they live in flocks, and prefer the vicinity of marshes. The plumage is slate-coloured, everywhere sprinkled with small white spots.

NUMISMATICS. That branch of archæology which treats of coins and medals: from *numisma*, coin. The word *numismatology* has been used in the same sense.

NUM'MULITES. Lenticular stones. A genus of multilocular fossil shells. Order *Cephalopoda*. Name from νομισμα, coin, and λιθος, stone, in allusion to a supposed resemblance to pieces of money. The nummulites are the most widely diffused of all fossils, forming entire chains of calcareous hills, and immense bodies of building-stone. The pyramids of Egypt are built of them.

NUN, Sax. *nunne*. 1. A woman devoted to religion, under a vow of perpetual chastity.——2. In *ornithology*, the blue titmouse.

NUN'CIO. *Nuntio*. A kind of spiritual ambassador from the Pope. Lat. *nuncius*, a messenger.

NUN'CUPATIVE, from *nuncupo*, to declare; existing only in name. A *nuncupative will* is one made by the verbal declaration of the testator, and depends merely on oral testimony for proof.

NUN'DINÆ. Market days among the Romans: *quasi novem-dinæ*, every ninth day. Hence also the term was applied to the first eight letters of the alphabet, which were repeated successively from the first to the last day of the year, and of which one always expressed the market days.

NUT. 1. The fruit of certain trees and shrubs, consisting of a hard shell inclosing a kernel. Various kinds are distinguished, as *walnuts*, *chesnuts*, *hazel-nuts*, *cocoa-nuts*, *butter-nuts*. *See* also NUX, JATROPA, and PISTACIA.——2. In *mechanics*, the small hollow or interior screw upon the end of a screwed-bolt or other male screw to fasten it.

NUTA'TION, from *nuto*, to nod. A term used in astronomy for that kind of vibratory motion of the axis of the earth, by which its inclination to the ecliptic varies a few seconds, and as often returns to its former position. The period of these variations is nine years.

NUT'GALLS. Excrescences formed on the leaves of the oak by the puncture of an insect. *See* GALL-NUTS.

NUT'MEG. The fruit of the genuine nutmeg-tree (*Myristica moschata*), a native of the Moluccas, but which has been transplanted to other congenial climates.

NU'TRIA, or NEUTRIA. The commercial name of the skins of the Conia (*Myopotamus coipus*, Comaner), an animal which lives in burrows along the banks of rivers, through a great part of South America. The skins are valuable for their fur, which is largely used in the hat manufacture, and take their name from some similarity of the animal which produces them to the otter, called by the Spaniards *nutria*.

NUTRI'TION, from *nutrio*, to nourish. The completion of the assimilating processes in living bodies. The food, changed by a series of decompositions, and rendered similar to the being which it is designed to nourish, applies itself to those organs, the loss of which it is to supply, or the growth of which it is to promote, and this identification of nutritive matter to the living organs of the system constitutes nutrition.

NUX. The Latin word for nut (q. v.). The *nux vomica* is the fruit of a species of Strychnos, which grows in various parts of the East Indies. The fruit is about the size of an orange, covered with a smooth crustaceous yellow bark, and filled with a fleshy pulp, in which are embedded several round flat seeds, covered with a kind of woolly matter, and internally hard and tough like horn. The taste is extremely bitter and acrid, but the substance has no remarkable smell. It is known as a virulent poison. *See* STRYCHNIA.

NUZ'ZER. A term in India for a sort of compulsory present made to a superior.

NYCTAL'OPY, Lat. *nyctalopia*, from νυξ, night, and ωψ, the eye. A defect of vision in which the person sees little during bright day, but tolerably well by the dull light of evening, called also *nyctalops*.

NYL'GHAU, } Blue-bull. The Persian
NYL'GAU. } name of a species of antelope, the *Antilopa pictu*, Gm. It has two small smooth horns bent forward, and the upper and under parts of the neck maned India.

NYMPH, Lat. *nympha*, from νυμφη. 1. In *mythology*, a goddess of the mountains, forests, meadows, rivers, and lakes, named according to their places of residence, places of dominion, &c., as the *oceanides* or nymphs of the ocean, the *nereides* of the sea, the *naiads* of the fountains, the *dryads* and *hamadryads* of the forests and groves.——2. In *entomology*, the second state of an insect passing to its perfect form: another name for the *pupa*, chrysalis, or *aurelia* (q. v.).

NYMPHÆ'A. The water-lily. A genus of perennial plants. *Polyandria—Mono-*

gynia. Named from νυμφα, a water-nymph, because it grows in watery places. The white and yellow water-lilies, the Egyptian and the Indian lotus, and the Pontic or Egyptian bean, are species.

NYSTAG'MUS, Lat. from νυσταω, to nod with sleep. A disease of the eyes, in which there is an involuntary motion, such as happens when a person is very sleepy. It is also defined an involuntary agitation of the oculary bulbs.

O

O is the fifteenth letter and the fourth vowel of the English alphabet. As a numeral, O was sometimes used by the ancients for 11, and with a dash over it for 11,000. It was also used as a mark of triple time, from the notion that the ternary or number 3 is the most perfect of numbers, and is properly expressed by a circle, the most perfect figure. O with an apostrophe after it is used in Irish names to signify *son*, as O'Neil for *son of Neil* or Neilson. It answers to the Celtic *Mac*.

OAK, Sax. *ac*, æc. 1. In *botany*, a name common to the whole genus *Quercus*, of which there are three British species, the common oak (*Q. robur*), the long-peduncled oak (*Q. pedunculata*), and the durmast (*Q. pubescens*).——2. The wood of the oak-tree (*Q. robur*), which, when cut at the age of 60 or 70 years, is the best wood known. It is also one of the most picturesque trees, and is deservedly styled the "lord of the forest." The *Jerusalem oak* is the *Chenopodium botrys*; the *sea-oak* is the *Fucus vesiculosus*; the *oak-leather* is the *Xylostroma giganteum*; the *oak lungs* is the *Lichen pulmonarius*.

OAK'UM, Sax. *æcemba*. The substance into which old ropes are reduced when they are untwisted, loosened, and drawn asunder; principally used in caulking the seams, tree-nails, and bends of ships.

OAR, Norm. *ower*. A long piece of timber, flat at one end, and round or square at the other, for rowing boats. To *boat the oars* is to cease rowing; to *ship the oars* is to place them in the rowlocks.

OAST. A kiln for drying hops.

OAT, Sax. *ate*. A plant of the genus *Avena*, of which *oats* are the seeds. The cultivated oat is the *Avena sativa* of botanists, and to which the name *corn* is commonly applied in Scotland. This plant is the hardiest of all the cereal grasses. It thrives best in latitudes north of Paris, to the south of which it is little known. There are many varieties indigenous to Britain.

OB; signifies inversely or inverted, as ob-conic, ob-cordate, &c.

OBE'AH. A species of witchcraft practised among the negroes, the apprehension of which, operating upon their superstitious fears, is frequently attended with the fatal consequences dreaded.

OB'ELISK, Gr. οβελισκος, dim. of οβελος, a spit. A truncated, quadrangular, and slender pyramid, intended as an ornament, and frequently enriched with inscriptions in bas-relief. Obelisks have also been frequently raised in honour of distinguished individuals, their achievements, &c.——2. In *printing*, a mark referring the reader to a note in the margin, thus †.

O'BELUS. In *diplomatics*, a mark resembling a needle, thus ——.

OBIT'UARY, from *obitus*, death. 1. A list and account of persons deceased.——2. A register of obitual anniversary days.

OB'JECT. In *grammar*, that which is produced, influenced, or acted on by something else; that which follows a transitive verb.

OB'JECT-GLASS. In *optical instruments*, is that which is placed towards the object, the other extreme lens being called the *eye-glass*.

OBJEC'TIVE, Fr. *objectif*, belonging to the object. In *perspective*, the *objective line* is that drawn on the geometrical plane, the representation of which is sought in the draught or picture. In *grammar*, the *objective case* is that which follows a transitive verb or a preposition: that case in which the *object* of the verb is placed when affected by the act expressed by the verb.

OB'LATE, Lat. *oblatus*, flattened: opposed to *prolate*. The earth is *an oblate* spheroid, having its polar axis shorter than its equatorial diameter, in the proportion of 331 to 332.——2. In *ecclesiastical history*, a person who, on entering the monastic life, made a donation of all his goods to the community; also, one dedicated by his parents from early life to a religious order.

OBLIGA'TION, Lat. *obligatio*, from *ob* and *ligo*, to bind. In *law*, a bond with a condition annexed, and a penalty for nonfulfilment. The person to whom the bond is given is called the *obligee*, and he who signs it is styled the *obligor*.

OBLIGA'TO (It.) In *music*, a part written for a particular instrument.

OBLI'QUE, Lat. *obliquus*, aslant. In *geometry*, something slant, or inclining from the perpendicular, as *oblique* ascension, *oblique* descension, *oblique* circle; *oblique* planes in dialling, *oblique* sailing in navigation. *Oblique* case in grammar. See these terms. *Oblique*, in botany, sometimes means twisted. *Oblique motion*, in music, when one part holds on a sound, while the other rises and falls on any other note.

OBLIQ'UITY, Lat. *obliquitas*. *See* OBLIQUE. Deviation from a direct line. In *ethics*, deviation from moral rectitude. In *geo-*

metry, deviation from parallelism, or from perpendicularity. The *obliquity of the ecliptic* is the angle which the ecliptic makes with the *equator*; it is 23°, 27′.

Ob'long. In *geometry*, a rectangle whose length is greater than its breadth.

Obŏe (It.) A musical wind instrument sounded through a reed.

Ob'olus, *ὀβολος*. A brass coin among the ancient Greeks, worth about a penny farthing sterling.

Ob'ovate. Ovate with the broader end uppermost: *ob* and *ovatus*, ovate. Applied to leaves.

Obscu'rants. A nickname, applied in Germany to those writers who sought to obstruct the progress of enlightenment.

Obser'vants. A branch of the Franciscan order.

Observa'tion, from *observe*. A term, in astronomy and navigation, for the operation of measuring, with some proper instrument, the angular distance, altitude, &c., of a celestial body.

Obser'vatory, Lat. *observatorium*. A place fitted up with the proper instruments and conveniences for observing the heavenly bodies. Observatories are usually built in the form of a tower, and covered with a terrace. Those of Greenwich, Paris, Munich, and Palermo, are the most celebrated ones of modern times. That of Greenwich was built in 1676, by order of Charles II., at the instance of Sir Jonas Moore, surveyor-general of the ordnance; a circumstance from which the office of astronomer-royal has been placed under that department.

Obsid'ian. A volcanic production of a greenish-black colour; the *Obsidianum vitrum* of Pliny, and vernacularly termed *volcanic glass*. It is a compound of silica, alumina, potash, lime, soda, with slight admixture of the oxides of iron and manganese. The fracture is either vitreous or pearly: hence the two varieties, *vitreous obsidian* and *pearl-stone*.

Obsid'ian-stone. The *Obsidianus lapis* of Pliny. Another name for the Chian marble.

Obsid'ional Coins, are such as were struck in a besieged place, to supply the scarcity of other current money.

Obsid'ional Crown. A crown or garland made of the grass, &c. which grew in a besieged place, and given by the Romans to the general who delivered it from the enemy.

Obstrua'tor. A stopper up; from *obstruo*, to stop up. The name of two muscles of the thigh, which shut up the aperture between the os pubis and the hip-bone, and rotate the thigh.

Ob'struent, Lat. *obstruens*, hindering, from *obstruo*, to hinder. Obstruents are medicines supposed to have the power of closing the orifices of the ducts or vessels of the body.

Obtem'per, Lat. *obtempero*, I obey. In *Scotch law*, to comply with the judgment of a court.

Obtura'tor Muscles, Lat. *obturare*, to close up. Muscles which fill up openings in the bones.

Obtu'se, Lat. *obtusus*, blunt: opposed to *acute*. An *obtuse angle* is one greater than 90° or a right angle; an *acute angle* is less than 90°. *See* Angle.

Ob'verse. 1. In *numismatics*, the side of a medal or coin on which is the face or head; the other side is the *reverse*.——2. An *obverse leaf* is one having the base narrower than the top.

Occiden'tal, Lat. *occidens*, setting. Applied to precious stones of inferior hardness and beauty.

Occip'ital. Belonging to the occiput or hind part of the head, as the *occipital bone*, which forms the posterior and inferior part of the skull.

Oc'ciput. In *anatomy*, the hind part of the head; the protuberance immediately above the neck.

Occult', Lat. *occultus*, invisible, secret, undiscoverable. An *occult line* in a draught is a dry line not intended to be seen when the plan is finished. The *occult sciences* are the imaginary sciences of the middle ages, such as alchemy and astrology.

Occulta'tion, from *occult*. An astronomical term, applied to the time that a star is hid from our sight by the interposition of any other heavenly body, as the moon, between it and the eye of the observer.

Oc'cupancy, Oc'cupant, Occupa'tion, } from *ob* and *capio*, to seize. In *law*, the taking possession of things which do not belong to any body is termed *occupancy*, and is the foundation of property. He who takes possession is termed the *occupant*, and holds it by right of *occupancy*. Property so possessed is said to be in the *occupation* of A. B.——2. *Occupation* is also used in the sense of *calling* or *trade*. Thus agriculture, manufactures, and commerce, furnish the most general *occupations* of life.

O'cean, Lat. *oceanus*, Gr. *ὠκεανος*. A name which seems to have for its origin greatness or extent, used to designate the great mass of salt water which covers more than three-fifths of the surface of the globe, and which for convenience is usually spoken of as if divided into three portions: the *Atlantic ocean*, which divides Europe and Africa from America, the *Pacific ocean*, or South Sea, which divides America from Asia, and the *Indian ocean*, which separates the East Indies from Africa. These, however, are only parts of the vast whole.

Ocean'ides. Sea-nymphs. Sea-shells as distinguished from the Naiads or fresh water shells.

Ochloc'racy, from ὄχλος, a multitude, and κρατέω, to govern. A term synonymous with *democracy* (q. v.).

O'chre, from ὠχρος, pale. An argillaceous earth, coloured red, yellow, or brown, by admixture of oxide of iron. The red ochre is termed red chalk, and ruddle or reddle in England, and contains often so much iron that it may be reckoned an ore of that metal. Yellow ochre may be rendered red or reddish brown by calcination in a reverbatory oven, which peroxidizes the iron. Armenian bole is a variety of ochre. Ochre when finely ground is used as a pigment.

Oc'hrea, Lat. *a boot*. In *botany*, applied to membranous stipules, that surround the stem like a sheath.

Oc'rea. 1. In *antiquity*, a kind of military shoe or short boot, made of tin, and ornamented with gold and silver.——2. In *botany*, the membrane which enfolds the flower-stalks in *Cyperus*.

Oct'ahedrite. A pure oxide of titanium, crystallized in acute, elongated octaëdrons. Colours, blue, bluish-black, and brown; lustre, splendent; fracture, foliated; easily broken, and scratches glass. Sp. gr. 3·8. Found in veins in Dauphiny, Norway, Spain, and some parts of South America.

Octah'dron, } from ὀκτω, eight, and
Octahe'dron, } ἕδρα, a base. A geometrical solid, contained by eight equilateral plane triangles: it consequently consists of two equal square pyramids, joined together at their bases. It is one of the five regular bodies. Epithet, *octahedral* or *octaëdral*.

Octæte'ris, ὀκτω and ἔτος, year. A cycle or period of eight years, at the end of which three lunar months were added.

Oc'tagon, from ὀκτω, eight, and γωνια, an angle. 1. A geometrical figure having eight angles and as many sides.——2. In *fortification*, a place which has eight sides.

Octan'dria, from ὀκτω, eight, and ανηρ, a male. The name of the 8th class of plants in the sexual system of Linnæus, consisting of such as produce hermaphrodite flowers with eight stamens. It contains four orders, Monogynia, Digynia, Trigynia, and Tetragynia.

Oc'tans Hadlienus. Hadley's Quadrant. The polar constellation in the southern hemisphere.

Oc'tant, Lat. *octans*. 1. The eighth part of a circle, or 45 degrees.——2. *Octant* or *octile* is also a term in ancient astronomy for one of the aspects, viz., when two plants are distant from each other 45 degrees.

Oc'tave, from *octavus*, eighth. In *music*, an eighth or harmonical interval consisting of seven degrees or twelve semitones. It is the most perfect of the chords, consisting of six full tones and two semitones major. It contains the whole diatonic scale. *See* Chord.

Octa'vo. A book in which the sheets are each folded into eight leaves. The word is also used as an adjective, as an *octavo* volume. The correct phrase is a *book* or *volume in octavo*.

Octo'ber, from *octo*, eight. The eighth month of the ancient Roman year which began in March, but the tenth month of the year in the modern calendar.

Octoden'tate, Lat. *octodentatus*, eight-toothed. Having eight teeth.

Oc'tofid, from *octo*, eight, and *fidus*, cut, separated into eight segments.

Octoloc'ular, Lat. *octolocularis*, eight-celled; *octo* and *oculus*, an eye. Having eight cells for seeds: applied in *botany*.

Octopet'alous. Having eight petals: *octo* and *petalum*, a petal or flower-leaf.

Octosper'mous. Eight-seeded: *octo* and σπερμα, seed: applied in *botany*.

Oc'tostyle, from ὀκτω, eight, and στυλος, a column. 1. A temple with eight columns on its principal façade.

Oc'troi. An old French term from *auctoritas*, signifying a grant of some commercial privilege to a person or company.——2. Tolls levied at the gate of some French towns upon articles of food brought to market.

Oc'uli, plural of *oculus*, an eye. *O. cancrorum*, crab's eyes: stony concretions found in the head of the *Astacus fluviatilis*.

Oc'ulus. The Latin word for *eye*. The *oculus beli* is a semipellucid gem of a grayish white colour, variegated with spots of yellow, and having a black central nucleus; the parts answering to the pupil and iris of the eye. *Oculus mundi* (eye of the world), is another name for *hydrophane* (q. v.). *Oculus cati* (cat's eye), is a beautiful variety of sapphire, otherwise called *asteria* (q. v.) and bastard opal.

O'dalisks, Turk. *oda*, chamber. Female slaves employed about the seraglio.

Ode (Lat.) from ᾠδη. A poetical composition, adapted to be set to music. The *ode* consists of unequal verses, in stanzas or strophes. The ancient odes had originally only one stanza, but afterwards they were divided into three parts, the *strophe*, the *antistrophe* and the *epode*.

Ode'on, ᾠδειον. A sort of theatre among the Greeks and Romans, devoted to poetical and musical contests.

Odom'eter. An instrument for measuring the distance passed over by a post-chaise or other carriage. It is so attached as to show, by means of an index and dial, the number of revolutions made by the wheel.

ODONTAL'GICS. Medicines for the relief of odontalgy, or toothache. The best is creosote.

ODON'TOID, from *οδους*, a tooth, and *ειδος*, like. Toothlike, dentate.

ODONTOL'OGY, from *οδους*, a tooth, and *λογος*, discourse. The science of the teeth; their anatomy and functions.

O'DOUR, Lat. *odor*, smell. This, which is the emanation of an odoriferous body, is generally ascribed to a portion of the body itself converted into vapour: but, from some experiments of M. Robiquet, it would seem probable, that in many cases the odour is owing not to the substance itself, but to a gas or vapour resulting from its combination with an appropriate vehicle, capable of diffusion in space.

ŒCON'OMY, *οικος*, house, *νεμω*, I distribute. In *architecture*, the proper laying out of a building into separate apartments.

ŒCUMEN'ICAL, *οικουμενικος*. General, as respects the whole inhabited world.

Œ'CUS. In *ancient architecture*, an apartment adjoining a dining-room.

ŒDE'MA. from *οιδεω*, to swell. A tumour: restricted now to a minor degree of anasarca.

ŒDE'MATOID, from *οιδημα*, œdema, and *ειδος*, like. Like to an œdema.

ŒDEMOSAR'CA, from *οιδημα*, œdema, and *σαρξ*, flesh. A tumour of a nature between the œdema and sarcoma.

ŒNAN'THE. Water Drop-wort. A genus of perennial plants. *Pentandria—Digynia*. Name from *οινος*, wine, and *ανθος*, a flower, because the flowers smell like the vine. There are four British species of this plant, of which the most known is the hemlock dropwort, an actively poisonous plant, which has often proved fatal, being eaten by mistake instead of water-parsnip. It is the most deleterious of all the plants produced by this country.

ŒN'OMANCY, from *οινος*, wine, and *μαντεια*, prophecy. A Grecian mode of divination, by pouring out wine in libation, and observing its colour, sound, &c.

ŒSOPHAGOT'OMY, from *οισοφαγος*, the gullet, and *τεμνω*, to cut. The operation of cutting into the gullet, to extract a foreign body.

ŒSOPH'AGUS, *οισοφαγος*. The gullet, from *οισω*, to carry, and *φαγω*, to eat; because it carries the food into the stomach. It extends between the pharynx and the upper orifice of the stomach.

Œ'STRUS. The Gad-bee. A genus of dipterous insects, of the athericerous family. The œstri resemble large and densely pilose flies, and their hairs are frequently coloured in bands, like those of the Bombi. They deposit their eggs on the body of various herbivorous quadrupeds, each species being usually a parasite of one particular species of mammiferous animal. The ox, horse, ass, rein-deer, stag, antelope, camel, sheep, and hare, are all subject to be inhabited by the larvæ of œstri, and all exhibit an extraordinary dread of the insect, when it is buzzing about them for the purpose of depositing its eggs. The species are named from the animals they infest.

OF'FERTORY, Lat. *offertorium*. Primarily, an anthem chanted, or a voluntary played on the organ, during the offering, and a part of the mass in the Catholic church: but since the reformation it denotes certain sentences in the communion-office, read while the alms are being collected.

OF'FICE. 1. Some particular charge or trust, or dignity attended with a public function. Thus we speak of the *office* of secretary of state, of treasurer, of a judge, of a sheriff, of a justice of the peace, &c. We also describe *offices* as civil, judicial ministerial, executive, legislative, political, municipal, diplomatic, military, ecclesiastical, &c.——2. A place or apartment appointed for the discharge of any particular duty or employment. The term is also used generally in the plural, *offices*, for subordinate buildings belonging to a farm.

OF'FICER. A person authorized to perform some public duty. *Officers* are civil, military, and ecclesiastical. The *great officers of state* are the lord high steward, the lord high chancellor, the lord high treasurer, the lord president of the council, the lord privy-seal, the lord chamberlain, the lord high constable, and the earl-marshal, with numerous subordinate officers. In the army there are *general officers*; as generals, lieutenant-generals, major-generals, and brigadiers. *Staff-officers* are such as belong to the general staff, as quarter-master-generals, adjutant-generals, aides-de-camps. *Commissioned-officers* are such as hold their appointments by a commission from the Crown; *non-commissioned-officers* are sergeant-majors, quarter-master-sergeants, &c., down to fife-majors, appointed by the superior officers of the regiments. *Brevet-officers* are such as hold a higher rank than they receive pay for. *Subaltern-officers* are all below the rank of captain. In the *navy*, the *commissioned officers* hold their commissions from the lords of the admiralty. *Flag-officers* are admirals, who hoist flags at the mast-head. *See* ADMIRAL. The *petty-officers* are appointed by the captains of ships.

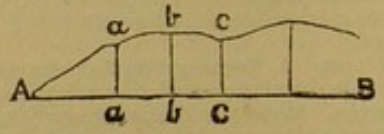
OFFI'CIAL. 1. Relating to an office.—— 2. An ecclesiastical judge appointed by the bishop, chapter, archdeacon, &c., with charge of the spiritual jurisdiction.

Offic'inal, Lat. *officinalis*. Relating to a shop (*officina*) as *officinal medicines*, which are directed by the colleges of physicians to be kept in the shops.

Offici'na Sculpt'oris. The *Sculptor's Shop*. A small constellation on the S. of Cetus. It contains 12 stars, none of which exceeds the fifth magnitude.

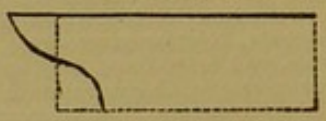
Of'fing. In *nautical language*, that part of the sea which is at a considerable distance from the shore, where there is deep water, and no need of a pilot to conduct the ship.

Off'set. 1. A shoot or sprout from the roots of a plant.——2. In *surveying*, a perpendicular measured on the side of an irregular figure: thus *aa'*, *bb'*, &c. are



offsets drawn perpendicular to the base line AB. These offsets are usually measured with an *offset-staff*, made of light wood, ten links in length.——3. In *accounts*, a sum *set-off* against another sum or account as an equivalent.——4. In *building*, when the face of a wall is not one entire or continued surface, but is formed by two or more continued surfaces, each rising from the horizontal base which forms the top part of the wall below; the line thus connecting the two surfaces is called an *offset*; the term however having reference only to the superior part of the wall, or that part above the *offset-line*.

Ogee'. In *architecture*, a moulding the same as the *cyma reversa*, or *cymatium* of



the ancients. It consists of two members, the one concave, and the other convex, somewhat like S.

O'gham, } A peculiar kind of steno-
O'gum. } graphy, found on ancient Irish monuments.

O'give, (pron. *ojive*). An arch, or a branch of a Gothic vault, which, instead of being circular, passes diagonally from one angle to another, forming a cross with the other arches. The centre where the ogives cross is termed the *key*; their members or mouldings are called *nerves*, *reins*, and *branches*, and the arches which separate them, *double arches*. The key is usually cut in form of a rose, or *cul de lamp*.

Ogy'gian. Relating to Ogyges, one of the most celebrated of the ancient monarchs of Greece, and during whose reign a deluge happened which so inundated the territories of Attica, that they remained waste for nearly 200 years. This is generally supposed to have occurred 1764 years before the Christian era, and is spoken of as the *Ogygian Deluge*.

Oil, Sax. *æl*, from *ælan*, to kindle. A proper juice of a fat or unctuous nature, either solid or fluid, indissoluble in water, combustible with flame, and volatile in so very different degrees as to give rise to the denominations of *volatile* and *fixed* oils. The *volatile oils*, called also *essential oils*, are often almost as liquid as water sometimes viscid, very combustible, have an acrid taste, and a strong fragrant odour, are soluble in alcohol, and imperfectly in water, evaporate at a temperature not higher than 212°, and leave no stain on paper. These oils are almost all obtained from vegetables, and they exist in every part of plants, the root, the bark, the wood, the leaves, the flower, and even the fruit, but never in the substance of the cotyledons. The *fixed oils*, called also *fat oils*, are liquid, or easily become so, when exposed to a gentle heat; have an unctuous feel, and a mild taste; are very combustible, and insoluble in water, and very slightly so in alcohol. Their boiling point is never under 600° F., and they leave a greasy stain on paper. These oils are numerous; some of them are obtained from animals, and others from vegetables, by simple expression.

Oil-gas. An illuminating gas, obtained by decomposition of a fat oil (usually train oil), much in the same way that coal gas is manufactured. It is somewhat richer than the common coal gas.

Oil of Bricks. The product of distillation of a brick soaked in oil.

Oil of Vitriol. Sulphuric acid.

Ol'bers. A name sometimes given to the planet Pallas, because discovered by Dr. Olbers in 1802.

Oldenlan'dia. A genus of plants of two species: *Pentandria—Digynia*. Named in honour of Oldenland, a Danish botanist. The root of one species, the *O. umbellata*, which grows wild on the coast of Coromandel, affords the beautiful red dye so much admired in the Madras cottons.

Old'er-pliocene. *See* Pliocene.

Old Red Sandstone. The lowest member of the carboniferous group of strata. It consists of many varieties of siliceous sandstones, and conglomerates of various colours, but red predominates.

O'lea. The *Olive-tree*. A genus of nine species: *Diandria — Monogynia*. Name from ἐλαία, oil, because the earliest and best known species, the *O. europæa*, is that which affords the olive-oil. It is a

native of the south of Europe. All the other species are natives of warm climates.

Olecra'non, from ωλενη, the ulna, and κρανον, the head; the elbow. The process of the ulna upon which a person leans.

Ole'fiant Gas. The name originally given to bi-carburetted hydrogen, because, when it combines with chlorine gas, it condenses into an oily-looking fluid: *olefiant*, from *oleum*, oil, and *facio*, to make, the oil-making gas.

Ol'eine. The thin oily part of fats, naturally associated in them with glycerine, margarine, and stearine.

O'leo-resins. Native combinations of resins with the essential oils, forming balsamic and terebinthinate substances.

Olera'ceæ, from *olus*, a pot-herb. The name of a natural order of plants in Linnæus' natural method, consisting of such as have incomplete and inelegant flowers heaped together in the calyces, as spinage, mint, beet, &c.

O'leron Laws. Laws relating to maritime affairs, so called because sanctioned by Richard I. at the Isle of Oleron, in Aquitaine.

Olfac'tory Nerves. *Nervi olfactorii*. The first pair of nerves are so termed because they are the organs of smell (*olfactus*).

Olib'anum. A gum-resin, called also *thus* and *frankincense*. It was formerly much used in medicine, but is now chiefly used as incense in Roman Catholic churches. The gum has been supposed to be a product of the *Juniperus lycia*, but the plant which yields it is now generally believed to be the *Boswellia serrata*. The best is brought from Turkey. The name *olibanum* is the Arabic *lubanon* with the prefix *al*, corrupted into *ol*; the name therefore meaning the *white-incense* or *the Frank-incense*. At present benzoin is called *lubahn*, which is a general name in Arabia for incense, and *olibanum* is called *condhur* (whence the Greek name κονδρος.)

Oligarch'y, ολιγαρχια. A form of government which places the supreme power in a few hands.

Oli'va. 1. A genus of gasteropods of the order *Pectinibranchiata*, and family *Buccinoida*, Cuv., so named from the oblong and elliptical shape of the shell (*oliva*, an olive.) Recent species inhabit various depths, but chiefly a muddy bottom, and fossil species are found in the London clay.——2. The gum of the olive-tree.

Ol'ive. 1. A fruit, the produce of the *Olea* or olive-tree. It is a smooth oval plum, about three quarters of an inch in length, of a deep violet colour when ripe, whitish and fleshy within, bitter and nauseous, but replete with a bland oil, for which it is chiefly cultivated. ——2. The olive-tree, the wood of which is beautifully veined, and has an agreeable smell. It takes a high polish.

Ol'ive-oil. An insipid, inodorous, pale-greenish-yellow-coloured, viscid fluid; unctuous to the feel, inflammable, and incapable of combining with water, obtained from the fruit of several species of the olive-tree, but especially from that of the *Olea europæa*. Olive-oil is the lightest of the fixed oils, and is largely used in some parts of Europe as an article of food and in the arts. The best is that known in our markets by the name of *Florence oil*, but by far the largest portion of olive-oil brought to England is from Gallipoli, and is hence known commonly by the name of *Gallipoli oil*.

Ol'ivile. The name given by Pelletier to the substance which remains after gently evaporating the alcoholic solution of the gum which exudes from the olive-tree. It is a white, brilliant, starchy powder.

Ol'ivine. A mineral, usually of an olive-green colour, which occurs in granular concretions, of a foliated structure and conchoidal fracture, in basalt. It is a constituent of many lavas, and is itself composed of silex, magnesia, lime in small quantity, and oxide of iron. As a gem, olivine is of inferior value.

Oliv'inite. An ore of copper, of an olive-green colour. It is a hydrated phosphate of copper, occurring with quartz in micaceous clay-slate in drusy cavities.

Ol'læ. Roman sepulchral earthen vessels, containing the ashes of inferiors.

Ol'la Podri da (Span.) Putrid mixture. A favourite dish in Spain, being a mixture of meats and vegetables stewed; it sometimes turns putrid among the poorer classes, as they serve up the same dish so often, whence the name. In England it is frequently applied to any incongruous mélange.

Olla'ris Lapis, } Potstone, found abun-
Ollite. } dantly near the lake of Como, in beds of primitive slate, and manufactured into pots (*ollæ*); called also *ollite*.

Olym'piad. Ολυμπιας. A period of four years, by which the Greeks reckoned their time. The first olympiad corresponds to the 775th year before the Christian era, and the 22nd before the building of Rome. This computation took its rise from the olympic games, which were celebrated in every four years, near the city Olympia, in Peloponnesus. These games consisted of gymnastic exercises, horse-racing, chariot-racing, &c.

Oma'gra, from ωμος, the shoulder, and αγρα, a seizure. Gout in the shoulder

Om'bre. A game at cards. (The Spa

nish *hombre*, man.) Usually played by three persons.

Om'bre de Sol'eil. Shadow of the sun. A heraldic phrase when the sun is borne in armoury, so that the eyes, nose, and mouth, which at other times are represented, do not appear, and the colouring is so slight that the field is seen through it.

Ombrom'eter, from ομβρος, rain, and μετρον, measure. A rain-gauge.

Om'ega. The name of the last letter of the Greek alphabet, as Alpha is the first; hence *alpha* and *omega*, the first and the last.

Omen'tum. The caul or epiploon. An adipose membranous viscus of the abdomen, attached to the stomach, and lying on the anterior surface of the intestines, so named from *omen;* because the soothsayers prognosticated from an inspection of that part of the sacrifices.

Om'nibus. The dative plural of the Lat. word *omnes*, all, meaning therefore *for all.* A well-known carriage for conveyance of passengers. Omnibuses are of Parisian origin.

Om'nium. The genitive plural of the Latin word *omnis*, all, meaning therefore *of all.* 1. A word in common use among stock-brokers, to denote the aggregate of certain portions of different stocks in the public funds.——2. It also denotes the securities which the subscribers to a loan receive from government, and is therefore the subject of extensive speculations.

Omniv'ores, Lat. *omnis*, all, and *voro*, I devour. An order of birds, which feed on both animal and vegetable substances.

Omoc'otyle, from ωμος, the shoulder, and κοτυλη, a cavity. The cavity in the extremity of the neck of the scapula, in which the head of the humerus is articulated.

O'mo-hy'oid. An epithet for a muscle situated between the hyoid bone and the shoulder, and which pulls the hyoid bone (*os hyoides*) obliquely downwards.

O'moplate. A name of the scapula, from ωμος, the shoulder, and πλατυς, broad.

Om'phacine, from ομφακιον, the juice of unripe grapes. An epithet for whatever pertains to, or is expressed from, unripe fruit; as omphacine oil, which is expressed from green olives. The juice of unripe grapes, though properly named *omphacion*, is sometimes termed *verjuice;* but this name is more commonly applied to the juice of unripe wild apples or crabs.

Omphaloce'le, from ομφαλος, the navel, and κηλη, a tumour. An umbilical hernia.

Omphalot'omy, from ομφαλος, the navel, and τεμνω, to cut. The operation of dividing the umbilical cord.

Om'phalos. Ομφαλος. The navel

Oneirocrit'ics, ονειρος and κρινω, I judge. The science of interpreting dreams.

Oneirod'yny, Lat. *oneirodynia*. Disturbed imagination during sleep: from ονειρον, a dream, and οδυνη, anxiety. Walking in sleep and nightmare are species.

Onei'romancy, from ονειρον, a dream, and μαντεια, divination. Divination by dreams.

On'glee. In *heraldry*, an appellation given to the talons or claws of wild beasts or birds, when borne of a different colour from that of the body of the animal.

On'ion. A well-known bulbous plant, the *Allium Cepa*, cultivated for culinary purposes all over Europe. The onion is biennial, and a native of Spain and Portugal. *See also* Scilla.

Onis'cus, Lat. from ονος, an ass. 1. The stock-fish.——2. A genus of crustaceans composing the order *Isopoda*, Cuv. This genus, by Linné, is now divided into six sections and numerous subgenera. Some are aquatic, and others terrestrial. Among the latter are the wood-louse, hog-louse, church-bug, &c.

On'omancy, ονομα, name, and μαντεια, prophecy. A species of divination from the letters of a person's name.

Onom'atope, } Ονοματοποια. 1. A gram-
Onomat'opy. } matic figure, in which words are formed to resemble the sound made by the thing signified.——2. a word whose sound corresponds to the sound of the thing signified: from ονομα, name, and ποιεω, to make.

On'onis. Rest-harrow. An extensive genus of plants, mostly herbaceous: class *Diadelphia:* order *Decandria*. Name from ονος, an ass, because it interrupts asses in ploughing!

Ontol'ogy, from οντα, being, and λογος, discourse. A part of the science of metaphysics, which investigates and explains the nature and essence of all beings, their qualities and attributes.

O'nus. Burden, from ονος, an ass. By *onus probandi* is meant the burden of proving a fact, or the obligation of establishing it by evidence.

O'nyx. Ονυξ. 1. A semipellucid gem of little value. The name is applied to any stone of the gem-order exhibiting two or more colours strongly contrasted, as banded jasper, chalcedony, &c.; but more particularly the chalcedony, when it is marked with white, and stratified with opaque and translucent lines. The name *onyx* was originally given to any stone presenting somewhat the appearance of the human nail: ονυξ, a finger nail.——2. In *surgery*, an abscess or collection of pus between the lamellæ of the cornea:

so called from its resemblance to the stone called onyx, and *unguis*, from its resemblance to the nail of the finger.

O'OLITE, from ὠὸν, an egg, and λιθος, stone; eggstone. A species of limestone composed of globules clustered together, commonly without any visible cement; hence called also *roestone*, from its resemblance to the roe of a fish. The oolite in England forms a considerable formation, commencing with the Portland beds above, and terminating in the *inferior oolite* resting upon the lias. These beds comprehend sandstones, marls, and clays; and are exceedingly rich in fossil remains of ammonites and belemnites. Many limestones in other groups are oolite.

OOST, } A stove in which the picked
OAST. } hops are dried.

OOZ'E. 1. Soft mud or slime.——2. The liquor of a tan-vat.

OÖZO'A, ὠὸν, egg, ζωον, animal. A primary division of the animal kingdom, in which the nervous and sanguiferous systems are completely developed, corresponding to the *Acrita*.

O'PAL. An ornamental stone of moderate value, a sub-species of indivisible quartz, of which there are several varieties, found in different parts of Europe and the East Indies. The principal of these are—(1.) The *noble opal*, a milk-white or pearly-grey variety, with a beautiful play of very various and rich colours; (2.) *Fire opal*, a variety which by reflected light exhibits, as its position is varied, elegant and most beautiful iridescent colours, particularly emerald-green, golden-yellow, flame and fire-red, violet and purple, and celestial blue, beautifully blended; (3.) When the colour is arranged in small spangles, it takes the name of the *Harlequin opal*; and (4.) When the stone is a monochromatic yellow, it is named *Golden opal*; (5.) The *semi-opal* is a feebly translucent variety, of a white, grey, or brown colour; (6.) *Menilite* is a variety occurring in small irregular roundish masses, often tuberose, often bluish or striped, and generally translucent. These varieties consist of silex in various proportions, from 85 to 95 per cent., combined with oxide of iron and water. The semi-opal contains a little alumina. Prof. Ehrenberg states that some specimens of semi-opal which he has examined consist almost exclusively of the shells of infusoria, some partially dissolved, and others unaltered. He has also found indications of animalcular shells in the noble opal.

OPALES'CENCE. A coloured shining lustre, reflected from a single spot in a mineral when held in some particular position: iridescence.

OPAL'IZED WOOD. Wood petrified by silica, resembling opal.

OP'ERA (Lat., Ital., Sp., Fr., Eng.). A dramatic composition, set to music, and sung on the stage, accompanied with musical instruments, and enriched with magnificent dresses, dancing, &c. According as the serious or the comic character prevails, the opera is termed *opera seria* or *opera buffa* (the *opera comique* of the French). The *grand opera* is confined to music and song.

OP'ERA-GLASS. An optical instrument, so called from its use in theatres, and sometimes termed a *diagonal perspective*, from its construction. It consists of a tube about four inches long, in each side of which there is a hole, exactly against the middle of a plane mirror, which reflects the rays falling upon it to the convex lens, through which they are refracted to the concave eye-glass, whence they emerge parallel to the eye at the hole in the tube. The instrument is not intended to magnify objects more than two or three times. The peculiar artifice is, that a person at a small distance may be observed without exciting suspicion, for the instrument points to a different object from that viewed, and as there is a hole in each side of the tube, it is not even known on which hand of the observer the object is situated.

OPERAM'ETER. Work-measurer. A machine consisting of a train of toothed wheels, working in a box, having indexes attached like the hand of a clock, and a dial-plate, whereby the number of rotations of a shaft projecting from the posterior part of the box is shown. This shaft is to be attached, in any convenient way, to the working parts of rotatory machinery, to show the revolutions, &c. made in a given time. It is particularly useful in the machinery for dressing cloths.

OPER'CULUM (Latin) a cover. 1. The lid or cover of the *peristomium*, or fringe of mosses.——2. The flap which covers the gill or organ of respiration in fishes.——3. A lid by means of which many of the mollusca close the aperture of their shells. It is testaceous in some, and in others horny or cartilaginous.

OPERET'TA, diminutive of *opera*. A short musical drama of a light character. The French *vaudeville* belongs to this species of composition.

OPHI'ASIS, from οφις, a serpent. A form of porrigo which commences at the occiput, and winds to each ear, and sometimes to the forehead, with a sort of serpentine course.

OPHICEPH'ALUS. A genus of acanthopterygious fishes, resembling the *Anabas*, Cuv., in most of its characters, and also in the habit of creeping out of the water. The Indian jugglers often exhibit it out of the water; and in the markets of China, the larger species are cut up alive for

distribution. Name from *οφις*, a serpent, and *κεφαλη*, a head.

OPHICLEI'DE, *οφις*, serpent, *κλεις*, key. The bass wind-instrument in a brass band.

OPHID'IA, from *οφις*, a serpent. The third order of the class Reptilia, in Cuvier's arrangement, comprising three families, Anguina, Serpentia, and Nuda. The ophidians are reptiles without feet, thin, extremely elongated; the body moves by means of the folds it forms when in contact with the ground.

OPHIOL'OGY, from *οφις*, a serpent, and *λογος*, discourse. The branch of natural history which treats of the serpent tribe of reptiles.

O'PHIOMANCY, from *οφις*, and *μαντεια*, prophecy. Divination from serpents.

OPHIOR'RHIZA. Snake-root. A genus of plants. *Pentandria—Monogynia.* Name from *οφις*, a serpent, and *ῥιζα*, root, the root of a species, the *O. mungos*, being regarded in Java, Sumatra, &c., as a specific for the bite of the *naja*, a venomous serpent. It is also regarded as an antidote to the poison of the bite of a mad dog.

O'PHITE, *οφιτης*. The green porphyry or serpentine. From *οφις*, a serpent.

OPHIU'CHUS. A constellation of the northern hemisphere, named also *Serpentarius* and *Serpens*, and anciently *Æsculapius*, from *οφις*, a serpent.

O'PHRYS. The Twyblade. A genus of perennial plants. *Gynandria—Monandria.* Name *οφρυς*, from *οφυς*, the eyebrow, because it was thought to promote the growth of the hair of the eyebrows. Europe; five species British.

OPHTHAL'MIA, from *οφθαλμος*, the eye. A term universally applied to an inflammation of the membranes of the eye, or of the whole bulb of the eye; but which, according to the modern nomenclature of diseases, should be called *ophthalmitis.*

OPHTHALMODYN'IA, from *οφθαλμος*, the eye, and *οδυνη*, pain. A vehement pain in the eye, with or without a little redness, and not produced by inflammation.

OPHTHALMOP'TOSIS, from *οφθαλμος*, the eye, and *πτωσις*, a fall. A protrusion of the globe of the eye on the cheek, canthus, or upwards, the globe itself being scarcely altered in size.

OPHTHALMOS'COPY, from *οφθαλμος*, the eye, and *σκοπεω*, to view. A branch of physiognomy, which treats exclusively or principally of the eyes.

OPISTHOT'ONIC. Bent backwards; from *οπισθιν*, backwards, and *τεινω*, to draw. Applied to a form of tetanus in which the body is bent backwards.

OPIUM (Lat.) from *οπιον*, from *οπος*, juice. The inspissated juice of the white poppy, *Papaver somniferum*, a native of some parts of Asia, but now naturalised in various parts of Europe. Opium is chiefly prepared in India, Turkey, and Persia; it has a peculiar, strong, heavy, narcotic odour, and a bitter taste, and, when good, has a reddish-brown or fawn colour. It is little used in Europe except as medicine, but is pretty extensively used as a masticatory, and in smoking, in Turkey and India; but the great consumption of opium is in China, where its importation is strictly prohibited by the government.

O'POBAL'SAM, from *οπος*, juice, and *βαλσαμον*, balm. The Balm or Balsam of Gilead. It is the produce of a tree, the *Amyris Gileadensis*, indigenous to Arabia and Abyssinia, and early transplanted to Judea. It is obtained by making incisions into the bark, by which the juice flows out. It is now chiefly used by the Turkish ladies as a cosmetic, but was formerly in high repute as a medicine. It is rarely, if ever, brought to this country; what passes under the name is *Canada balsam*, which is merely fine turpentine.

OPODEL'DOC. In medicine, a camphorated soap liniment. Steer's opodeldoc is composed of Castile soap, rectified spirit, camphor, spirit of hartshorn, and some essential oil.

OPOP'ANAX, } A gum-resin, obtained
OPOP'ONAX. } from a species of parsnip, the *Pastinaca opoponax*, a native of the south of Europe and Asia Minor. Name from *οπος*, juice, and *πανακ*, the panacea. It is imported from Turkey, but is as yet little used in medicine.

OPOS'SUM. A genus of quadrupeds. Order *Marsupialia.* They belong to America. *See* DIDELPHIS.

OPPILA'TION, from *oppilo*, to shut up. The obstruction of the passages of the body by redundant or peccant humours.

OPPOSITIFO'LIATE, Lat. *oppositifolius*, being opposite to a leaf. Applied to a flowerstalk when opposite to a leaf.

OPPOSI'TION, Lat. *oppositio*. 1. In *astronomy*, the situation of two heavenly bodies, when distant from each other 180°, that is, diametrically opposite.——2. In the *fine arts*, contrast.

OPSI'OMETER, *οψις*, sight, and *μετρον*, measure. An instrument for measuring the limits of vision of a person. Same as optometer.

OP'TATIVE, Lat. *optativus*, expressing desire, from *opto*, to wish. The *optative mood*, in grammar, is that form of the verb in which wish or desire is expressed.

OP'TICS, *οπτικη*. The science of the nature and laws of vision; from *οπτομαι*, to see, from *ωψ*, the eye. Optics is a mixed mathematical science, including

catoptrics, dioptrics, and perspective; and considers the nature, composition, and motion of light; the whole doctrine of colours, and all the circumstances of vision; the construction and management of optical instruments, &c.

Op'tic, Op'tical. Relating to optics or to vision. The *optic nerves* are the second pair springing from the crura of the *medulla oblongata*, and passing thence to the eye. The *optic inequality* of a heavenly body is an apparent irregularity which arises from the situation of the eye of the observer, and not from any real irregularity in the motion of the moving body. The *optic place* of a star is its place as seen by the eye.

Op'tical Square. An instrument used in surveying, for laying out perpendicular lines. It is made of brass, in the shape of a circular box, and containing two principal glasses of the sextant, viz. the index and horizontal glasses, fixed at an angle of 45°, so that while viewing an object by direct vision, any other, forming a right angle with it, will appear by reflection at the spot where the observer is situated.

Op'timates. Grandees, from *optimus*, best. A division of the Roman people, opposed to *populares*, though it does not certainly appear what were the characteristic differences between these two parties.

Op'time. A scholar of the first class of mathematics at Cambridge.

Op'timism, from *optimus*, best. The philosophical and religious doctrine which maintains that this world, notwithstanding its apparent imperfections, is the best that could have been devised; and that the existing order of things in the universe is that adapted to produce most good.

Op'tion. At the *Stock Exchange*, a percentage given for the option of putting or calling, i. e. selling or buying, stock in time bargains at a given price.

Optom'eter, from ὀπτική, vision, and μέτρον, measure. An instrument to measure the limits of distinct vision, and determine with exactness the comparative strength of the sight.

Opun'tia. The Indian fig-tree. A species of cactus which grows abundantly in the south of Europe, and takes its name, *ab opunte*, from the city *Opus*, near which it flourished. De Candolle makes it the type of an extensive genus.

Or. The French word for *gold*: used in *heraldry* to express gold-colour or yellow, represented in engraving by small dots.

O'ra. A Saxon coin, supposed to be worth about one shilling and sixpence sterling.

Or'ache. In *botany*, the *Atriplex sativa*, used often as a substitute for spinach. The *wild orache* belongs to the genus Chenopodium.

Or'acle, Lat. *oraculum*. The reply or answer of a god, from *oro*, to utter: also, by metonymy, the god who gave oral replies to the inquiries of men. The most celebrated of the ancient oracles were those of Apollo at Delphi, and Jupiter Ammon at Thebes. These were consulted, through the medium of priests and priestesses, on all momentous occasions, and never failed to give suitable responses, many of which are famous for their ambiguity. The superstition indeed was mainly supported, and it was kept up for many centuries, by the ambidexterous nature of the oracular saying, for whichever way the event happened, the oracle was certainly correct in the revelation.

Or'ange. The well-known fruit of the orange-tree. The sweet orange is the produce of the *Citrus sinensis*, or *Citrus nobilis*, or Mandarin tree, and the bitter or Seville orange is the produce of the *Citrus aurantium*. The true orange is a native of China, but was long since transplanted to other countries by the Portuguese. It now grows abundantly in the south of Europe.

Or'angemen. The name given by the Catholics of Ireland to their Protestant countrymen, on account of their adherence to King William, (of the house of Orange), while the former party supported the cause of James II.

Orang'-outang'. The satyr or great ape, the *Simia satyrus*, Lin., which of all animals is considered as approaching most nearly to man, in the form of his head, height of forehead, and volume of brain. The body is covered with coarse red hair, the face bluish, and the hinder thumbs very short, compared with the toes. He inhabits only the most eastern countries, such as Malabar, Cochin-China, and particularly the great island of Borneo, whence he has been occasionally brought to Europe by the way of Java. He is mild and gentle, easily rendered tame and affectionate, but his intelligence does not appear to be much superior to that of the dog. The popular name *orang-outang*, (often written *ourang-outang*), is composed of two Malay words: *orang*, a reasonable being, and *outang*, wild, or of the woods: hence, "Wild Man of the Woods." The orang-outang is very generally confounded with the chimpansé (q. v.); and there is a monkey of Borneo, known only by his skeleton, called the *Pongo*, which is either of the species of, or one closely allied to, the orang-outang. He is the largest monkey known, and in size is nearly equal to man.

Or'ator. In *ancient Rome*, the *orators* were advocates for clients in the forum, and before the senate and the people. They were employed in causes of importance, instead of the *patrons*. In *modern*

usage, a public speaker; an eloquent public speaker; a person who can speak two hours at a time without taking a drink of water. In *chancery*, a petitioner.

Orato'rio, Ital. from *oratorium*. 1. A place of worship.——2. A sacred drama, in imitation of theatrical pieces, but always on sacred subjects, and accompanied by grave and solemn music, vocal and instrumental.

Or'atory, Lat. *oratoria*, from *orator*. 1. The art of speaking, according to the rules of rhetoric, in order to persuade. It consists of four parts, invention, disposition, elocution, and pronunciation. The speaker must be just and pertinent to the subject; must be methodical in all the parts of his discourse; and must embellish it with the beauties of language, and pronounce it with eloquence.——2. Among *Romanists*, a close apartment near a bed-chamber, furnished with an altar, a crucifix, &c. for private devotions.

Orb', Lat. *orbis*. A hollow sphere, or space contained between two concentric spherical surfaces. The ancient astronomers conceived the heavens to consist of several vast azure, transparent orbs or spheres, inclosing one another, and including the bodies of the planets.

Orb'it, Lat. *orbita*, a track, from *orbis*, a wheel. 1. In *astronomy*, the path of a planet or comet; the curve line which a planet describes in its periodical revolution round its central body. The orbits of the planets are elliptical, having the sun in one of the foci.——2. In *anatomy*, the two cavities under the forehead, in which the eyes are situated, are called *orbits*, each of which is composed of seven bones; the frontal, maxillary, jugal, lachrymal, ethmoid, palatine and sphenoid.

Or'chanet. 1. A plant, the *Anchusa tinctoria*.——2. A bitter astringent substance obtained from the *Lithospermum tinctorium*.

Or'chestra. Ορχηστρα. The place in the ancient theatres where the chorus used to dance; in the modern theatres the name is given to the place where the musicians sit. From ορχεομαι, to dance.

Or'chis. An extensive genus of perennial plants. *Gynandria — Monandria*. Named ορχις, from the testicular form of the roots. There are nine indigenous and fourteen exotic species.

Or'cine. The substance which furnishes the colouring matter of archil or orchil. Orcine is, however, itself colourless, forming colourless crystals, which have the shape of flat four-sided prisms, terminated by a bihedral summit, and which melt by heat into a transparent liquid. It is soluble in water and alcohol; nitric acid causes it to assume a blood-red colour; and when exposed to the joint action of air and ammonia it becomes a deep violet colour.

Or'deal. In *law*, trial by fire or water, now abolished in Europe. The term is Sax. *ordal*, or *ordael*, which signifies complete judgment; and the practice of ordeal seems to have had its origin in the belief that the substances used had each its peculiar presiding deity, that had perfect control over it. The two forms of it practised in England were the *fire-ordeal* and the *water-ordeal*. The first was performed by taking into the hand a bar of red-hot iron, walking barefooted and blindfolded over nine red-hot ploughshares, laid lengthwise at unequal distances, &c.; and if the person escaped unhurt, he was adjudged innocent, otherwise he was condemned as guilty. The *water-ordeal* was performed, either by plunging the bare arm to the elbow in boiling water, or by casting the person suspected into a river or pond of cold water, and if he floated without effort to swim, it was an evidence of guilt; but if he sunk (*and was drowned*) he was acquitted. It is from these barbarous practices that we have our proverbial phrase, to *go through fire and water*.

Or'der, Lat. *ordo*. Regular disposition or methodical arrangement of things; a term of very extensive application, as—1. In *natural history*, a subdivision of a class which is itself further divided into genera, as these are into species.——2. In *architecture*, a system or arrangement of the several members, ornaments, and proportions of columns and entablatures, from the diversity in which have sprung the *Five Orders*, transmitted from antiquity: the Doric, the Ionic, the Corinthian, the Tuscan, and the Composite (q.v.). There is no standard of proportion common to the three Grecian orders: each has its own peculiar symmetry; the capitals are the distinguishing features.——3. In *geometry*, a rank or division in a series of curves, lines, &c.: thus, the first order of curves are such as are expressed by a simple equation; those of the second order by a quadratic equation, &c.——4. In *military* and *naval affairs*, the word *order* has various significations, as *order of battle*, the disposition of troops or ships for battle. There are *orders* from the commander-in-chief: the general issues *orders*; so we have brigade *orders*, general *orders*, and standing *orders*.——5. In *society*, we recognise *orders* of nobility, *orders* of knighthood, military *orders*, and higher and lower *orders*; we moreover speak of clergymen being *in orders*, meaning thereby that these individuals belong to some one of the clerical *orders*, which are three in number, namely, bishops, priests, and deacons: these constitute

the *holy orders*.——6. Courts of law, as Chancery, Queen's Bench, &c., issue *orders* regarding causes there depending; and on particular occasions *orders* are made by magistrates at the sessions.——7. In the *fine arts*, *order* is the harmonious disposition of the parts of a work.

Or'derly. In *military affairs*, the *orderly books* are those books in which the sergeants write the general and regimental orders. *Orderly sergeants* are those petty officers who attend on superiors.

Or'dinary. 1. In *common* and *canon law*, one who has *ordinary* or immediate jurisdiction in matters ecclesiastical. The bishop is usually the *ordinary* of the diocese, and the archbishop is the *ordinary* of the whole province. The *ordinary* of Newgate is a person who attends on condemned criminals, to prepare them for death.——2. The establishment of persons employed by government to take charge of ships of war laid up in harbours. Hence a ship *in ordinary* is one laid up, under the direction of the master attendant.——3. In *heraldry*, a portion of the escutcheon comprised between straight or other lines.

Or'dinate, Lat. *ordinatus*. Regular, methodical. 1. An *ordinate figure* is one whose sides and angles are equal.——2. In the *theory of curves*, any right line drawn from a point in the absciss to terminate in the curve: if drawn perpendicularly to the absciss, it is called a *right ordinate*. The ordinates are bisected by the right line called the axis.

Or'dination. 1. Admission to holy orders, or initiation of a person into the priesthood.——2. In *presbyterian* and *congregational churches*, the act of settling or establishing (placing in Scotland) a licensed preacher over a congregation with pastoral charge and authority.

Ord'nance, from *ordinance*. A general name for all sorts of great guns used in war. The *Board of Ordnance* is the board which provides guns, ammunition, and arms of every description, for public service.

Ordon'nance. In *architecture*, the same as *œconomy*, which *see*.

Ore, Sax. *ore*, or *ora*. A native compound of a metal and some mineralising substance: a metal in the mineral state. The name is only applied to mineral bodies which contain the metal in such quantities as to be worth the labour of extracting it; and they are styled *rich* or *poor* ores according as they contain more or less of the metal. The ores are exceedingly numerous.

Or'fraies, Fr. *orfrois*. Cloth embroidered with gold.

Or'gan. Ὄργανον. 1. A part of an animal or vegetable which has a determinate office in its economy: thus the eye is the organ of vision, the ear of hearing, the muscles of motion, &c. A catenation of organs destined to one function is called an apparatus; thus, although the lungs be the immediate organ of respiration, the *apparatus* of respiration consists of the lungs, air passages, muscles, nerves, &c., of respiration, without which the function could not be performed.——2. In *music*, the largest and most harmonious of the wind instruments. It is blown by bellows, and consists of numerous pipes of various sizes, and stops which are touched by the fingers. The instrument is sometimes constructed of immense size: that of the Cathedral Church at Ulm, in Germany, is 90 feet high, and 28 broad; it is blown by 16 pair of bellows, and its largest pipe is 13 inches in diameter.

Orga'nic. Pertaining to an organ or to organs; consisting of organs, or containing them, as the organic structure of living bodies. *Organic bodies* are such as contain organs on the action of which depend their growth and perfection: animals and plants belong to this division of nature, and when these are found in the earth in a mineral or fossil state, they are styled *organic remains*, and their study forms *oryctology*. There are also *organic diseases*, in which there is a visible change of the structure of the organ, as opposed to *diseases of function*, in which the action only of the organ is changed. The examination of the nature and composition of organic matter constitutes *organic chemistry*. The *organic description of curves* is the method of describing them on a plane by means of instruments, as the compasses and ruler. The *organic laws* of a state are the laws directly concerning the fundamental constitution of the state.

Organisa'tion. 1. The construction of the parts of an animal or vegetable body, with reference to a determined function.——2. The arrangement of the parts of a complex body, in a suitable manner for service. Governments, armies, &c., are *organised*, and their *organisation* is good or otherwise, according as their parts or organs are duly adapted for the end proposed, and to each other.

Or'ganon, ὄργανον. In *philosophy*, nearly synonymous with *method*, and implying a body of rules and canons for direction.

Or'ganzine. A description of silk usually imported from Italy into this country. It is washed, spun, and thrown in a particular manner, long kept secret.

Or'gies, pl. Lat. *orgia*, from ὄργια, from ὀργή, fury. Ancient revels, sacrifices, &c., in honour of Bacchus, held during the night by the Bacchæ.

Or'gues. 1. In *fortification*, a French term for long pieces of timber pointed and shod with iron, and hanging over a

gateway, to be let down in case of attack. ——2. A machine composed of several musket barrels united, by means of which several explosions are made at once to defend breaches.

Or'ichalch, Orichal'cum. } Lat. *orichalcum*, mountain brass; ὀρος and χαλκος; or gold-brass, *aurichalcum*. The brass of the ancients.

Or'iel, Or'iol. } Old Fr. *oriol*, a sort of recess or small apartment. The *oriel window* is a projecting angular window, commonly of a triagonal or pentagonal form, and divided by mullions and transoms into different bays and compartments.

Or'iflamb, Fr. *oriflamme*. An ancient royal standard of France.

Orig'anum. The *Marjoram*: a genus of plants. *Didynamia—Gymnospermia*. Name ορειγανον, from ορος, a mountain, and γανος, joy. The British type, the *O. vulgaris*, is a perennial plant, but some of the exotic species are permanent.

Or'igenists. Followers of Origen of Alexandria, a celebrated Christian father, who held that the souls of men have a pre-existing state; that they are holy intelligences, and sin before they are united to the body; and that Christ will be crucified hereafter for the salvation of devils, &c., &c.

Orig'inal, Lat. *originalis*. In *law*, where the parts of an indenture are interchangeably executed between the parties, that part executed by the grantor is called the *original*, the others, *counterparts*. In the *fine arts*, a work not copied, but the artist's own: a copy of his own work is a *duplicate*. In *theology*, *original sin* is the corruption of nature derived to us from our first parents.

Oril'lon. In *fortification*, a small rounding of earth, lined with a wall, raised on the shoulders of such bastions as have casemates to cover the cannon in the retired flank.

Ori'on, Ωριων. In *astronomy*, one of the most extensive and brightest constellations of the southern hemisphere: mentioned in the Book of Job, and in other parts of the Bible. When it comes to the meridian, there is then above the horizon the most splendid view of the celestial bodies which the starry firmament affords to the eye of the beholder, and this is visible to the whole inhabited world, because the equinoctial passes nearly through the middle of the constellation. Orion contains 78 stars, of which two are of the first magnitude, four of the second, and four of the third.

Orle, Or'let, } Fr. *ourlet*, Ital. *orlo*, a hem. 1. In *architecture*, a fillet or band under the ovolo of the capital: by some applied also to the plinth of the base of a column or pedestal.——2. In *heraldry*, an ordinary in the form of a fillet round the shield.

Or'lop, Dut. *overloop*, a running over. A platform of planks, laid over the beams in the hold of a ship of war, whereon the cables are usually coiled. It contains also the sail-rooms, the purser's, surgeon's, boatswain's, and carpenter's cabins, and the several officers' stove-rooms. In three-decked ships, the second and lowest decks are sometimes called orlops.

Ornithich'nites, from ὀρνις, a bird, and θιγω, to touch. The name given by geologists to certain footmarks of birds, observed in the rocks of different formations. The most remarkable are perhaps those of the new red sand-stone of the valley of Connecticut, described by Prof. Hitchcock, in the American Journal of Arts and Sciences.

Ornith'olite, from ὀρνις, a bird, and λιθος, stone. A fossil bird. The name is also given to stones of various colours, bearing the figure of birds.

Ornithol'ogy, from ὀρνις, a bird, and λογος, discourse. The department of natural history which treats of birds; describes their structure, teaches their economy, and arranges them in classes, orders, genera, and species.

Ornith'omancy, from ὀρνις and μαντεια, prophecy. Divination by birds.

Ornithorhyn'cus. The duck-bill. A mammiferous animal peculiar to New Holland, and thus generically named by Blumenbach; from ὀρνις, a bird, and ῥυγχος, a beak, in allusion to the form of the muzzle, which presents the closest external resemblance to the bill of a duck or spoonbill. Cuvier places it in the order *Edentata*, and division *Monotremata*. It is aquatic, inhabiting the rivers and marshes in the neighbourhood of Port Jackson.

Orog'raphy, from ορος, a mountain, and γραφη, description. Description of mountains, as to their heights, scenery, &c.

Orol'ogy, from ορος, a mountain, and λογος, discourse. Description of mountains as to their structure, geological relations, &c.

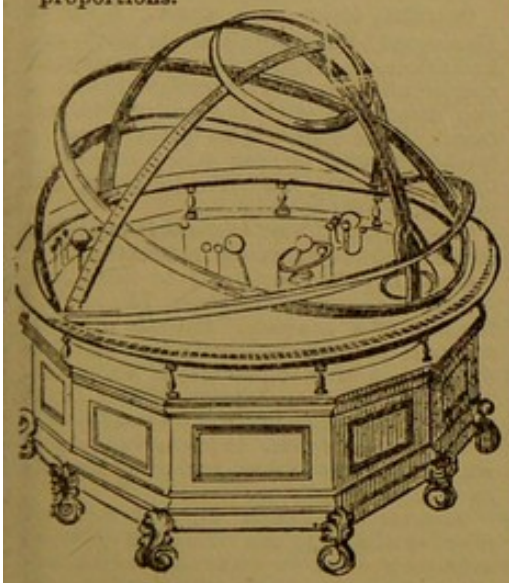
Oromas'des. In *Persian mythology*, the principle of good.

Or'pheus, Orphus. } 1. A fish, the ορφος of Pliny, caught in the Archipelago. It is a broad flat fish, said to weigh sometimes 20lbs.——2. A mythological personage, a son of the Thracian river Æagrus and the muse Calliope. The *Orphean mysteries*, the mysteries of which Orpheus was the founder.

Or'piment. Yellow sulphuret of arsenic: the golden pigment (*auripigmentum*)

of the Latins. It occurs in lamellar masses, composed of indistinct crystalline particles, for the most part in kidney and other imitative forms; it volatilizes before the blow-pipe with a white smoke, and with the odour of both sulphur and arsenic. Sp. gr. 3·4 to 3·6. It is found in veins, in various metalliferous formations, in various parts of the world, but the finest comes from Persia, in brilliant yellow masses; this is commonly termed *golden orpiment*. Orpiment is used as a pigment, and is prepared also artificially for this purpose.

Or'rery. A machine constructed for the purpose of representing and illustrating the movements and phases of the planetary system. This machine was invented by George Graham, but it takes its name from the circumstance of the Earl of Orrery having procured a copy of Graham's machine, by means of a workman of the name of Rowley; it was named after the Earl by Sir R. Steele, on the supposition that his machine was the first of the sort constructed. Orreries convey only very rude and contracted notions of the planetary movements and proportions.



Or'ris. The plant *iris*, of which *orris* seems to be a corruption: fleur-de-lis or flag-flower.

Or'ris-root. The root of a white flowering species of iris, the *Iris florentina*, a native of the south of Europe. It is used in the manufacture of hair powder and some other articles, on account of its grateful odour. *See* Orris.

Orse'dew, } *Manheim* or *Dutch Gold*, an
Orse'due. } inferior sort of *gold-leaf* (rather *brass-leaf*) prepared principally at Manheim from a sort of fine brass.

Orthocer'ata, } An extinct genus of
Orthocer'atite. } cephalopods, inhabiting polythalmous straight shells: hence the name from ὀρθος, straight, and κερας, a horn. The orthoceratite (says Mr. Kemble) resembles an ammonite unrolled, having its chambers separated by transverse septa, concave externally and convex internally, the septa being pierced by a siphuncle. There are many varieties, some of which are upwards of two feet in length. Part of the pavement of the palace of Hampton Court, and that of the hall of University College, Oxford, are composed of marble containing remains of orthoceratites. Some species, found in the carboniferous limestone of Dumfries-shire, are nearly the size of a man's thigh.

Orthod'romics, from ὀρθος, straight, and δρομος, course. The art of sailing in the arc of a great circle, which is the shortest distance between two points on the surface of the globe.

Or'thogon, from ὀρθος, straight, right, and γωνια, an angle. A rectangular figure.

Orthograph'ic. 1. Relating to orthography.——2. An *orthographic projection of the sphere* is one in which the eye is supposed to be at an infinite distance: so called because being made on a plane, passing through the middle of the sphere, and the eye placed vertically at an infinite distance, all the perpendiculars fall in the common intersection of the sphere, with the plane of the projection.

Orthog'raphy, from ὀρθος, right, and γραφη, writing, description. In *grammar*, that branch which teaches how words should be spelled. In *geometry*, the art of delineating the foreright plan of any object, and of expressing the heights or elevations of each part, so called because it determines things by perpendicular lines falling on the geometrical plane. In *perspective*, the foreright side of any plane, that is, the side or plane that lies parallel to a straight line, that may be imagined to pass through the outward convex points of the eyes, continued to a convenient length. In *architecture*, the elevation of a building, showing all the parts in their true proportions In *fortification*, the profile or representation of a fortress, or other work, in all its parts, as they would appear if perpendicularly cut from top to bottom.

Orthopnœ'a, from ὀρθος, erect, and πνοη, breathing. 1. A disease of the lungs, in which respiration can only be performed in an upright posture.——2. Inability of breathing in a recumbent posture.

Orthop'tera. An order of insects, the

6th in Cuvier's arrangement. Named from ὀρθος, straight, and πτερον, a wing, being characterised by two straight wings, covered with soft and flexible cases or elytra. They compose the two families, *Cursoria*, or runners, and *Saltatoria*, or jumpers. The *Cockroaches* are examples of the first, and the *grasshoppers* and *crickets* of the second. All the orthoptera are terrestrial; some are carnivorous, some omnivorous, but the greater number feed on living plants.

Or'tive, Lat. *ortivus*, rising, or eastern. The *ortive amplitude* of a heavenly body is an arc of the horizon, intercepted between the point where a star rises and the east point of the horizon, the point where the horizon and equator intersect.

Or'tolan. A bird, the *Emberiza hortulana*, Lin., about the size of a lark; builds in hedges, is very fat, and common in France, &c. in autumn. It is highly celebrated in the annals of gastronomy, and under the name of *Miliaria* was sold at enormous prices to the epicures of Rome.

Orvie'tan. A medicine once celebrated as an antidote to poisons. Named after *Orvietanus*, a mountebank, who invented it, or from *Orvieto*, a town in the Papal territories.

Oryctog'nosy, from ὀρυκτος, a mineral, and γνωσις, knowledge. 1. The name given by Werner to what is otherwise more generally named *mineralogy* (q.v.) ——2. That branch of mineralogy which has for its object the classification of minerals, and the determination of their nomenclature.——3. Oryctology.

Oryctog'raphy, Oryctol'ogy, } from ὀρυκτος, a fossil, and λογος, discourse. 1. That part of geology which treats of fossils.——2. The same as oryctognosy.

Ory'za. *Rice*. A genus of annual plant. *Hexandria — Digynia*. Name corrupted from the Arabic *orez*. One species, the *O. sativa*, which affords the rice, the chief food of the inhabitants of all parts of the east. It grows naturally in moist places, and only comes to perfection in localities where the ground is occasionally overflowed with water.

Oscheoc'ele, from οσχεον, the scrotum, and κηλη, a tumour. 1. Any tumour of the scrotum.——2. A scrotal hernia.

Oscilla'tion, Lat. *oscillum*, from *cillo*, to move; vibration. The reciprocal ascent and descent of a pendulum. The *axis of oscillation* is a right line, passing through the point of suspension parallel to the horizon. The *centre of oscillation* is that point in an oscillating body into which, if all the matter were collected, the vibrations would be performed in the same time.

Oscillator'ia. Minute organised beings, having the power of making oscillatory movements.

Os Coc'cygis. The tail-bone: the first bone of the tail of tailed animals.

Oscula'tion, from *osculo*, to kiss. A term in geometry for the contact between any given curve and its *osculatory circle*; i. e. a circle having the same curvature as the given curve.

Os'culatory (*see* Oscultation). 1. An *osculatory* is a tablet or board with the picture of Christ, the Virgin, &c., kept in Romish churches, to be kissed by the priest, and then delivered to the people for the same purpose.——2. For *osculatory circle* (*see* Oscultation).

Osian'drians. In *ecclesiastical history*, a sect of the Lutherans, founded by Osiander.

Os'mazome, from οσμη, odour, and ζωμος, juice. A peculiar animal principle, obtained by digesting cold water for some hours on slices of raw muscular fibre, evaporating the liquor to dryness, and treating the fixed remainder with alcohol, and finally dissipating the alcohol by a gentle heat. It has a brownish yellow colour, and the taste and smell of soup.

Os'mium, from οσμη, smell. A metal discovered by Tennant in crude platinum, and thus named by him from the pungent and peculiar smell of its oxide. It occurs also associated with the ore of iridium. Osmium has a dark grey colour, readily combines with oxygen when heated in the air, and is insoluble in acids, but readily soluble in potassia.

Os'naburg. A sort of coarse linen, first imported from Osnaburg in Germany.

Oss'pray, Oss'prey. } The sea-eagle or fish-hawk (*Falco ossifraga*, Lin.) about the size of a peacock. It feeds on fish, which it takes by suddenly darting upon them when near the surface of the water. The name is a corruption of the Latin *ossifraga*, the bone-breaker (*os* and *frango*).

Os'seans or Os'sei. In *ichthyology*, a primary division of fishes, including such as have a bony skeleton.

Ossifica'tion, from *os*, a bone, and *facio*, to make. 1. The formation of bone: osteogony.——2. In *pathology*, the conversion of membraneous or muscular substances into a bony substance.

Os'seous, Lat. *osseus*, bony. *Osseous breccia* is a mass of fragments of the bones of animals, cemented together by a calcareous gangue, and commonly found in fissures and caves.

Osten'sive, from *ostendo*, to show; showing. An *ostensive demonstration* is one which plainly and directly demonstrates the truth of a proposition, in contradistinction to an apogogical one, or one which depends upon a *reductio ad absurdum*.

Osteocol'la, from *οστεον*, a bone, and *κολλαω*, to glue. Glue-bone, stone, or bone-binder. A peculiar carbonate of lime, found in some parts of Germany, in loose sandy grounds, spreading from very near the surface to considerable depths, ramifying like the roots of a tree. It is of a whitish colour, soft whilst under the earth, friable when dry, rough on the surface, for the most part hollow within, but always bearing evidence of its having been deposited on some fibrous matters, as the roots of plants. It takes its name from a ridiculous notion not yet entirely vanished, that it promotes the coalition of fractured bones, and the formation of callus.

Os'teo-sarco'ma, } from *οστεον*, a bone,
Os'teo-sarco'sis, } and *σαρκωμα*, a fleshy tumour. A term that is very vaguely applied to any tumour which contains a mixture of bony and soft matter. It is most commonly applied, however, to a tumour commencing in the medullary structure of a bone, and afterwards blended with osseous matter.

Os'tiary. Lat. *ostium*, a mouth. The opening by which a river disembogues itself.

Os'tracism. *Οστρακισμος*, from *οστρακον*, a shell. 1. Banishment by the people of Athens of a person whose merit and influence gave umbrage to them; so named from the shell on which the name or the note of acquittal or condemnation was written. The shell, however, was a piece of baked earth called *testa* by the Latins.——2. Banishment.

Ostracit'es. Fossil oyster-shell: *ostrea*, an oyster.

Os'trea. A genus of testaceous Acephala, comprehending, according to Linné, all those which have but a small ligament to the hinge, inserted into a little depression on each side, and without teeth or projecting plates. The genus is now divided into *Ostrea proper* or true oysters, which are irregular, inequivalve, and lamellated; shell inhabited by a tethys: *pectens*, which are distinguished from the true oysters, principally by two angular productions called *ears*, which widen the sides of the hinge; *limæ*, which differ from the pectens in the superior length of their shell in a direction perpendicular to the hinge. There are, also, certain fossils which belong to the ostrea of Linné, as the hinnita, plagiostoma, pachytes, dianchora, and podopsis. Name *ostrea*, from *οστρακον*, a shell.

Os'trich. A bird of which there are two species, constituting the genus *Struthio*, Lin. The ostrich of the eastern continent (the *S. camelus*, Lin., of the sandy deserts of Arabia and Africa), has been celebrated from the earliest ages. It attains the height of from 6 to 8 feet, lives in great troops; lays eggs weighing nearly 3lbs., feeds on grass, grain, &c., and runs with such speed that no animal can overtake it in the race. The loose flexible feathers of its wings are highly valued for ornamental purposes of dress, and the coarse part of the plumage, called *hair*, to which it bears a resemblance, is used in the manufacture of hats. The American ostrich (*S. rhea*, Lin.) is about one-half smaller than the oriental species. When taken young it is easily tamed.

O'tary. In *zoology*, the *Phoca jubata*, Gm., or sea-lion of Steller and others, of which there appears to be three or four species. The otaries are regarded as seals with external ears, but they differ from the seals also in the characters of their teeth, feet, &c., so as in fact to form a distinct genus.

O'tis. A genus of birds. The bustards. Order *Grallatoriæ*; family *Pressirostres*. Name borrowed from the Greek *ὠτις*. The most known species is the great bustard (*O. tarda*, Lin.). It seldom flies, and feeds indifferently on grain, herbs, worms, and insects. It builds on the ground among grain.

Ot'omys. The name given by F. Cuvier to a genus of animals nearly allied to the Field Rats, from *ωτος*, an ear, and *μυς*, a rat, on account of the large size of the ears.

Ot'tar of Roses. An essential aromatic oil, obtained from the flower-leaves of the rose. *See* Attar.

Ottav'a Rim'a. Octuple rhyme. An Italian form of versification, consisting of stanzas of two alternate triplets and a couplet at the end.

Ot'ter. A mammiferous animal, of which there are several species. *See* Lutra.

Ot'to, Arab. *otr*, essence. A term signifying essence, and usually applied to essential oils extracted from flowers, as the otto of roses. *See* Attar.

Ot'toman, Turkish. Relating to Turkey or the Turks. The term originated in Othman, or Osman, the name of the first Sultan, who assumed the government about 1300 A.D.

O'tus. In *ornithology*, a subgenus of Strix, comprehending the horned owls, or those owls which have tufts of feathers on the forehead, (vulg. *horns*), which they can erect at pleasure. The best known species is the *Strix otus*, Lin., or common owl. Name from *ὠτὸς*, eared, in allusion to the *horns*.

Ouch. A socket in which a precious stone is set.

Ouisti'tis. A small genus of Quadrumana, similar to the Sakis, and for a long

time confounded with them in the great genus of monkeys. The common ouistitis, the *Simia jacchus*, Lin., is found in Paraguay, and nearly every part of South America.

Ounce, Lat. *uncia*, the twelfth part of anything. 1. A weight, the twelfth part of a pound troy, and the sixteenth part of a pound avoirdupois.——2. An animal of the Lynx tribe.

Uranog'raphy, *ουρανος*, heaven, and *γραφω*. I describe. A description of the heavens.

Urol'ogy, or Uros'copy, *ουρος*, *λεγω*, I speak, and *σκοπιω*, I view. The judgment of diseases from an examination of the urine.

O'us. In *chemistry*, a termination for those acids which contain of the acidifying principle, as oxygen, one equivalent less than the acid of the same elements, whose name ends in *ic*. Thus, sulphur*ous* acid is O_2S, and sulphur*ic* acid is O_3S. *See* Acid. We also speak of nitr*ous* and nitr*ic* oxides: these follow the same law; but such terms are now being laid aside.

Out'crop. A term used by miners and geologists, to express the exposure at the surface of a stratum, bed, or vein.

Out of Trim. The state of a ship when she is not properly balanced for sailing.

Outlaw'ry. The punishment of a person who, being called into law, and lawfully sought, according to the usual forms, contemptuously refuses to appear. All the goods and chattels of the person so outlawed are forfeited to the Crown, and all profits of lands, so long as the outlawry lasts. The man is moreover out of the protection of the law.

Out'licker. A small piece of timber, made fast to the top of the poop of a ship, and standing outright astern.

Out'lier. 1. One not belonging to a group, flock, or some specific collection of individuals.——2. Among *agriculturists*, an animal which is not taken into the fold at night with the others.——3. In *geology*, a detached rock at some distance from the principal mass.

Out'post. In *war*, a body of men posted beyond the main guard.

Outre' (Fr.). In the *fine arts*, exaggerated, overstrained.

Outrig'ger. A strong beam fixed on the side of a ship and projecting from it, in order to secure the masts in the operation of careening, by counteracting the strain it suffers from the effort of the careening tackle; also a boom, occasionally used in the tops to thrust out the breast backstays to windward, to increase the angle of tension, and give additional security to the topmast.

Out'work. The part of a fortification most remote from the main fortress or citadel: such are ravelins, or half-moons, tenailles, hornworks, crownworks, &c.

O'va, plural of *ovum*, an egg. In *architecture*, ornaments in the form of eggs, carved on the contour of the ovolo, or quarter-round, and separated from each by anchors and arrowheads.

O'vary, Lat. *ovarium*. 1. That part of the body where the *ovaria* are lodged. In the mammiferous subject ovaria are two flat oval bodies, suspended in the broad ligaments a little below the Fallopian tubes.——2. the lower part of the pistil of a flower, containing the rudiments of the future plants.

O'vershot-wheel. *See* Water-wheel.

O'vert Act, Fr. *ouvert*, open. In *law*, a manifest act implying criminality.

Ov'erture, Fr. *ouverture*, opening. In *music*, the symphony in the theatres which precedes the drawing up of the curtain.

Ova'tion. A Roman custom of granting an inferior kind of triumph to military leaders.

Ovip'arous, from *ovum*, an egg, and *pario*, to produce. An epithet for animals which lay eggs inclosed in a calcareous shell.

O'vis. The sheep. A genus of well-known ruminant mammiferous animals. The Argali of Siberia (*O. Ammon*, Lin.) inhabits the mountains of Asia, and attains the size of the fallow-deer. The Mouflons of America, Africa, and Sardinia, belong also to this genus. It is from the Mouflon or the Argali that we are supposed to derive the innumerable races of our woolly animals, which, next to the dog, are most subject to variation.

Ovipos'itor, Lat. *ovum*, and *pono*, I place. In *insects*, the instrument by which it deposits its eggs.

Ov'olo. In *architecture*, a round moulding, whose profile and sweep, in the Ionic and Composite capitals, is usually the quadrant of a circle or *quarter-round*.

O'vo-vivip'arous, from *ovum*, an egg, and *viviparous* (q. v.). A distinctive epithet for those animals, as the salamander and the viper, which never lay their eggs, these being hatched within the body of the parent, so that, although originally contained in eggs, the offspring are brought forth in a living state.

O'vum (Lat. Egg). In *anatomy*, the body formed by the female in which, after impregnation, the development of the fœtus takes place. In *architecture*, the same as *ovolo*.

Owl'ing. The offence of transporting wool or sheep out of England, contrary to statute; so called because usually done during night, when owls are awake!

Ox. A name common to all the animals of the genus *Bos*, Lin., but especially to the *B. taurus*, Lin., known by its flat

forehead, round horns, placed at the extremities of the salient line or ridge which separates the forehead from the occiput. Some have regarded it (Cuvier says erroneously) as a variety of the Aurochs (*B. urus*, Gm.).

Oxal'ic Acid. An acid which takes its name from its existing in considerable quantity in the juice of the wood-sorrel (*oxalis acetosella*). This juice is almost pure bioxalate of potash, and in a crystallised state forms an article of commerce, under the name of *salt of sorrel*, or very erroneously, *salt of lemons*, and was long supposed to be analogous to tartar. The acid, however, is obtained most readily and most economically from sugar, by the action of nitric acid. It crystallises from its solutions; the crystals are quadrilateral prisms, the sides of which are alternately broad and narrow, and summits dihedral; they effloresce in dry air, and deliquesce slightly in damp air. The acid acts as a violent poison in the quantity of two or three drachms. The best antidote is lime in some convenient form, as chalk.

Ox'alis. Wood-sorrel. A very extensive genus of herbaceous plants. *Decandria—Pentagynia*. Name from οξυς, acid, on account of the acidity of its juice. Out of 77 species enumerated, two are British, of which the *O. acetosella* is the best known, being, from its peculiar grateful acid taste, much used in salads. *See* Oxalic Acid.

Ox'gang, Germ. *ochs*, and *gang*, walk. Formerly used to signify as much land as an ox could plough in a season.

Oxida'tion. The process by which metals and some other elements are converted into oxides by combination with oxygen. *See* Oxide.

Ox'ide. A substance combined with oxygen, without being in the state of an acid. As many substances are susceptible of several degrees of oxidisement, several terms have been used to distinguish them: thus we have the black and red oxides of iron and of mercury, the white oxide of zinc, and the black oxide of manganese; but, in the new chemical nomenclature, the terms *protoxide*, *deutoxide* (or *binoxide*), *tritoxide*, signifying the first, second, and third stages of oxidisement, are substituted for the old specific names. And if only two oxides of a substance are known, the appellation *protoxide* denotes that at the minimum, and *peroxide* that at the maximum.

Oxycoc'cus. The cranberry. A genus of permanent plants. *Octandria—Monogynia*. Name from οξυς, acid, and κοκκος, berry. There are two American and one British species, the *O. palustris*.

Ox'ygen from οξυς, acid, and γινναω, to generate. An elementary body which exists sometimes in a solid, but which can be examined only in the gaseous form: it is never distinctly perceptible to the human senses except in its combinations. It forms 21 per cent. by volume of the atmosphere, being the constituent essential to the support of animal and vegetable life and combustion. In combining with substances in the process of combustion, it forms oxides and acids, from which latter circumstance it takes its name of *oxygen* or *acid generator* (*see* Acid). The act of combining with bodies is called *oxidisement* or *oxygenation*. Oxygen, when isolated, has all the mechanical properties of air; it is void of taste, colour, and smell. Sp. gr. 1·1026 compared to air, as 1. It is procured by the action of heat from chloride of potash, red oxide of mercury, and black oxide of manganese. Nitrate of potash and red oxide of lead also yield it. Bleachers give the name *oxygen* to thin aqueous solutions of chlorine; and bleaching by means of chlorine was long named *oxygen bleaching*; these absurd names originated in the same error which gave rise to the following chemical names.

Ox'ygenated-muriatic, Ox'ymuriatic. Names originally given by the French chemists to chlorine, from a theoretical error regarding that element, by them supposed to be muriatic acid united with an equivalent of oxygen. This mistake was rectified by Sir H. Davy.

Oxygena'tion. A term sometimes used synonymously with *oxidisation* and *oxidisement*; but, in its wider sense, it includes every case of union with oxygen, whatever the product may be; whereas the other terms are applied only when an oxide is formed.

Oxyhyd'rogen Blowpipe. A blowpipe in which one volume of oxygen with two of hydrogen are burned while issuing from a small aperture. They produce an intense heat.

Oxymo'ron. Οξυμωρον. A rhetorical figure, in which an epithet of a quite contrary signification is added to a word, as *cruel* kindness.

Oxymu'riates. An old name for those compounds now called *chlorides*.

Oxy'opy, from οξυς, acute, and ωψ, the eye. The faculty of seeing more acutely than is usual, from a preternatural sensibility of the retina.

Oxyprus'sic Acid. An old name for the chlorocyanic acid.

Oxysul'phuret. A sulphuret of a metallic oxide.

Oxytar'tarate. An old name for the acetate of potash.

O'yer and Terminer'. In *law*, a court

held by virtue of the Queen's commission, to hear and determine all treasons, felonies, and misdemeanors. Norm. *oyer*, to hear, and *terminer*, to determine.

O' YES, corrupted from the French *oyez*, hear ye. An expression used by the crier of a court, in order to enjoin silence when any proclamation is made.

OYS'TER. A name common to all the molluscs of the genus Ostrea, but especially applied to the *O. edulis*, which is nursed and fed on several parts of the British coasts, and is deemed nourishing and delicious food. There are about 200 vessels, with from 400 to 500 men and boys attached to them, employed in dredging for oysters. The English oysters are the best procurable in Europe, and were much sought after by the epicures of ancient Rome.

OYS'TER-BED. A bank where oysters are *planted*, nursed, and fed.

OYS'TER-CATCHER. A bird which is provided with a beak somewhat longer than the plovers or the lapwings; straight, pointed, compressed into a wedge, and sufficiently strong to enable it to force open the bivalve shells of oysters, &c., on which it feeds. *See* HÆMATOPUS.

OZÆ'NA, from ὀζη, a stench. An ulcer in the nose, discharging fetid purulent matter, and sometimes accompanied with caries of the bone.

P.

P, the sixteenth letter of the English alphabet, stands as an abbreviation—1. Among *astronomers*, for *post*, after.——2. Among *physicians*, for *pugil*, the eighth part of a handful; and sometimes for *part* or *parts*, as P. Æ. for *partes æquales*, equal parts; and also for *pulvis*, powder.——3. In *music*, for *piano*, softly; *pp.* for *più piano*, more softly; and *ppp.* for *pianissimo*, very softly.——4. In *numismatics*, &c. for *Publius*; Pat. Dig. for *Patricia dignitas*; P. C. for *Patres Conscripti*; P. M. for *Pontifex Maximus*; P. P. for *propositum publice*; P. R. for *Populus Romanus*; PR. S. for *Prætoris Sententia*; PRS. P. for *Præses Provinciæ*.

PA'CA. A small American animal, of a fawn colour, spotted with white; the *Cavia paca*, Lin., placed in a new genus, *Cœlogenys*, by Fred. Cuvier.

PACE, from *passus*, a step. 1. The space between the two feet in walking, usually estimated at two and a half feet. But the *geometrical pace* is five feet, or the whole space passed over by the same foot from one step to another. 60,000 such paces make one degree on the equator. ——2. In the *manége*, the pace is of three kinds,—the walk, the trot, and the gallop.

PA'CHA, } The military governor of a
PA'SHA. } Turkish province. Pasha is the proper spelling.

PACHYDER'MATA, from παχὺς, thick, and δέρμα, skin. Thick-skinned animals; the seventh order of the class *Mammalia*, in Cuvier's arrangement, divided into three families: *Proboscidea*, comprehending the elephant and mammoth; *Pachydermata Ordinaria*, of which the hippopotamus and rhinoceros are examples; and *Solidungula*, at the head of which is the horse. Several genera of pachydermatous animals are now extinct, and known only by their fossil remains; among these are the mastodon, the anoplotherium, and the lophiodon.

PACIF'IC OCEAN. The ocean which lies between America on the east, and Asia and Australia on the west.

PACK'AGE. 1. A bundle or bale of goods. ——2. Used sometimes synonymously with *baillage*, *scavage* and *portage*. *See* BAILLAGE.

PACK'FONG. The Chinese name of the alloy; now usually called white copper, or German silver. It is composed of copper, zinc, and nickel.

PA'CO, } A Peruvian word. 1. In *zoo-*
PA'COS. } *logy*, a species of lama, the *Camelus vicunna*, Lin., frequently named the Peruvian sheep, but resembles the camel in shape. It is smaller than the true lama, the *C. llama*, Lin., but is highly prized for its wool.——2. In *mineralogy*, an earthy-looking ore, which consists of brown oxide of iron, with imperceptible particles of native silver disseminated through it. This ore is found in Peru, and is named from its colour, which resembles the peculiar blackish-brown colour of the wool of the Paco.

PAD'DING. In *calico-printing*, the process of imbuing a piece of cloth thoroughly and uniformly with a mordant. This is usually effected by a machine called the *padding machine*.

PAD'DLE. 1. A short oar: *batillus* is a paddle: πατταλος a pole. The name is now applied to a sort of short oar, used in propelling canoes; and has been adopted in natural history, to designate the swimming apparatus of the chelonian reptiles and marine saurians.——2. In *engineering*, a *paddle* or *clough* is a panel, to fit the openings left in lock gates and sluices, for the purpose of letting the water in or out as may be desired. *Paddle-holes* or *clough-arches* are small culverts or drains, connected with canal work, as the small passages through which the water passes from the upper pond of a canal into the lock-chamber during the process of filling. *Paddle-wheels* are those wheels employed in the propulsion of steam-boats.

PAD'DOCK. 1. Sax. *pad* or *pada*, a frog. ——2. Sax. *parruc*, a small inclosure

under pasture, for turning in a sick horse &c.

Pad'dock-stool. A species of mushroom; vulg. *toadstool*.

Pad'dy. An East Indian name for rice in the husk.

Pad'dy Bird. A species of heron, the *Ardea torra*, which frequents the paddy or rice fields.

Padis'ha. A title of the Turkish sultan, and of the Persian shah.

Pad'uasoy. A peculiar kind of silk stuff, first manufactured at Padua in Italy.

Pæ'an, Pe'an. 1. Among the ancients, a song in honour of Apollo, chiefly used on occasions of triumph, and so named because the words *Io pæan!* frequently occurred in it, in allusion to Apollo's contest with the serpent.——2. Any song of triumph.——3. In *ancient poetry*, a foot of four syllables; written also *pæon*. Of this there are four sorts: the first consisting of a trochee and pyrrhic, as *tĕmpŏrĭbŭs*; the second of an iambus and pyrrhic, as *pŏtĕntĭă*; the third of a pyrrhic and trochee, as *ănĭmātŭs*; and the fourth of a pyrrhic and iambus, as *cĕlĕrĭtās*.

Pæcilop'oda, from ποικιλος, various, and πους, a foot. Various-footed animals. The second order of the class Crustacea in Cuvier's arrangement, comprising two families, *Xyphosura* and *Siphonostoma*. The Molucca crab is an example of the first, and the Fish-louse of the second.

Pædobap'tists, παις, child, and βαπτιζω, I baptize. Those who hold that infants should be baptised in infancy.

Pæo'nia. Pæony. An extensive genus of perennial plants. *Polyandria—Digynia*. Natural family *Ranunculaceæ*. Named from Pæon, who cured Pluto with it when wounded by Hercules. Temperate climates.

Pa'gan, Lat. *paganus*, a peasant, from *pagus*, a village. A word originally applied to the inhabitants of the country, who, on the first propagation of the Christian religion, adhered to the worship of their ancient gods, or refused to receive Christianity after it had been received by the inhabitants of cities. In like manner, *heathen* signifies an inhabitant of the *heath* or woods, and *caffer* (Arabic) is a dweller in a hut, and one who does not receive the religion of Mohammed. *Pagan* is now used to designate one who is neither a Christian nor Mohammedan, and the religion which Pagans profess is *paganism*.

Pagana'lia. Festivals held in Roman villages, in honour of the local tutelary divinities.

Pa'geant, from *pagma*. Something carried about in triumph, a pompous display without value. The Lord-Mayor's coach is a pageant.

Pa'getting, Par'getting. Rough plastering, especially that in the interior of chimney-flues.

Pago'da, Pers. *pout ghoda* or *boot khoda*, Hind. *boot khuda*, abode of God. 1. A temple in China and the East Indies. The most remarkable pagodas of India are those of Benares, Siam, Pegu, and particularly that of Juggernaut, in Orissa. The images in these temples are also called *pagodas*. These are usually made of baked earth, richly gilt, but without any particular expression.——2. A gold coin, formerly current in the south of India, value eight shillings. This name was given to it by the Europeans.

Pag'odite. The mineral of which the Chinese make their pagodas, called also lardite, koreite, and agalmatolite.

Pains and Penalties. In *law*, an act of Parliament to inflict pains and penalties beyond or contrary to the common law, in the particular cases of great public offenders.

Painter's Colic, Plumber's Colic. A species of colic, so named from its victims, painters and plumbers; and from its symptoms called the dry belly-ache. It has also been called, from the place where it is endemial, the Poitou, the Surinam, the Devonshire colic. It is generally attributed to the poison of lead, but early cider and new rum are found also to produce it.

Paint. A colouring substance, or substance used in painting, as green, red, blue, &c. paint.

Paint'er. 1. An artist who *paints* or represents objects by means of colours, or light and shade; as a portrait-painter.——2. An artisan who lays colours on wood, plaster, &c.; as a house-painter. The company of painters in London was incorporated by Queen Elizabeth, but existed long previous.——3. From Irish, *painter*, a snare; a rope used to fasten a boat to a ship, wharf, &c.

Painter-stainer. A painter of coats of arms. The painter-stainers were incorporated with the painters.

Paint'ing. An art coeval with civilisation, practised with success by the Etrurians, Greeks, and Romans, obscured for several centuries, but revived in Italy in the fifteenth century, whence sprung the Roman, Venetian, and Tuscan schools. Afterwards arose the German, Dutch, Flemish, French, and Spanish schools: and, latterly, the English school, founded by Sir Joshua Reynolds;—it is properly a compound of the Italian and Flemish schools. As regards the subjects, painting is distinguished into historical, landscape, portrait, &c. painting; as regards the form and materials, into painting in oil, water colours, fresco, miniature, distemper, mosaic, &c.——2. A picture.

PAIR'ING. In *parliament*, when two members of opposite opinions agree to absent themselves from divisions of the House during stated periods.

PAL'ACE-COURT. The court which administers justice among the domestic servants of the Crown. Its jurisdiction extends twelve miles in circuit from the royal palace.

PAL'ADIN. An errant knight, whose business was to praise his mistress, and to fight anybody who refused to acknowledge the truth of his panegyrics. The "brave Orlando" is a specimen.

PALÆOG'RAPHY, from παλαιὸς, ancient, and γράφω, to write. Description of ancient manuscripts, inscriptions, &c.

PALÆOL'OGY, } From παλαιὸς, ancient,
PALEOL'OGY. } and λογος, discourse. The study of ancient things.

PALÆONTOL'OGY, from παλαιὸς, ancient, οντα, beings, and λογος, discourse. The study of fossil remains of animal and vegetable life.

PALÆOSAU'RUS, from παλαιὸς, ancient, and σαῦρος, a lizard. A genus of saurians, found only fossil in the magnesian limestone.

PALÆOTHE'RIUM, from παλαιὸς, ancient, and θηριον, a wild beast. An extinct genus of quadrupeds, belonging to the order *Pachydermata*. The place of the Palæotherium is intermediate between the rhinoceros, the horse, and the tapir. Some of the species appear to have been as large as the rhinoceros; others were from the size of a horse to that of a hog.

PALÆ'STRA. A sort of educational establishment among the Greeks, consisting both of a college and academy; the one for exercises of the mind, and the other for those of the body.

PALANQUIN', } Hind. *palkee*, from San.
PALANKEE'N. } *paluc*, a couch. A sort of litter or covered carriage used in India, and borne on the shoulders of four porters, called *coolies;* eight of whom are always attached to one palanquin, and relieve each other.

PAL'ATE, Lat. *palatum*. 1. The roof or upper part of the mouth.——2. In *botany*, an eminence in the inner part of the mouth of gaping blossoms which closes them.

PAL'ATINE, } Appertaining to the palate.
PAL'ATAL. } The letters *d*, *g*, *j*, *k*, *l*, *n*, and *q*, are called palatals

PALAT'INATE. The name formerly given to two states of Germany.

PALE, Sax. *pal*, from Lat. *palus*. 1. A pointed stake used in fencing or inclosing. ——2. In *heraldry*, one of the greater ordinaries, being a broad perpendicular line, the representation of a pale or stake placed upright.

PALEA'CEOUS, Lat. *paleaceus*, chaffy (*palea*, chaff): applied to the receptacles of some plants.

PALIL'OGY, παλιν, again, and λεγω, I speak. In *rhetoric*, the repetition of a word or phrase for the sake of effect.

PALIN'DROME. Παλινδρομια, from παλιν, again, and δρεμω, to run. A word, verse, or sentence, as *madam*, and *Roma tibi subito motibus ibit amor*.

PALINGEN'ESY, from παλιν, again, and γενναω, to produce. Regeneration: a term used by entomologists to designate the transitions of insects from one state to another.

PAL'ISADE, Fr. *palissade*, from the root of *pale*. A fence or fortification, consisting of a row of pales or stakes (called also sometimes *palisades*), set firmly in the ground. In *fortifications*, the posts are placed closely together, parallel to the parapet in the covered way, to prevent surprise. Palisades serve also to fortify the avenues of open forts, gorges, half-moons, the bottom of ditches, &c.

PALIMPSEST', παλιν, again, and ψαω, I rub. A sort of parchment, from which writing might be erased, and which might be written upon anew.

PALISSE'. In *heraldry*, a bearing like a range of palisades before a fortification, represented on a fesse, rising up a considerable height and pointed on the top, with the field appearing between them.

PALL', Sax. *paelle*, Lat. *pallium*. 1. A mantle of state.——2. The mantle of an archbishop. Also a hood of white lamb's wool with four crosses upon it, forming the arms of the see of Canterbury: sometimes called the *episcopal pall*.——3. The covering thrown over a dead body at funerals.——4. In *heraldry*, a figure like Y, representing the pallium or ornament of an archbishop, sent from Rome to metropolitans.

PAL'LA. In *Latin*, the long outer garments suitable for Roman females of respectable rank.

PALLA'DIUM. 1. A rare metal discovered in 1803 by Dr. Wollaston, in crude platinum, and so named from the planet Pallas, discovered the year before. It is a white metal much resembling platinum, but has more of a silvery appearance, and like silver is liable to tarnish in the air. Sp. gr. 11·8 to 12·1. Melts from 150° to 160° Wedgewood, and does not oxidise at a white heat.——2. Primarily, a wooden statue of the goddess Pallas, which represented her as sitting with a pike in her right hand, and in her left a distaff and spindle. On the preservation of this statue depended the safety of Troy; hence the term has come to denote any effectual defence, protection, or safety. Thus we say the trial by jury is the *palladium* of our civil rights.

Pal'las. 1. In *mythology*, another name for Minerva.——2. One of the four small planets, situated between the orbits of Mars and Jupiter, discovered by Dr. Olbers of Bremen, in 1802. It appears like a star of the eighth magnitude; its mean distance from the sun is 266,000,000 miles, diameter uncertain, and its period of revolution 4 years, 7 months, and 11 days.

Pal'let, Fr. *palette*, from Lat. *pala*, a shovel. 1. A painter's colour-board, i.e. the little board on which the colours for immediate use are placed and mixed in working.——2. In *gilding*, an instrument made of a squirrel's tail, &c., to take up the gold-leaf from the pillow, and to apply and extend the same.——3. In *pottery*, &c., a small instrument, usually wood, for forming the articles from the plastic clay.——4. A partition in the hold of a ship.——5. In *heraldry*, a small pale, being one-half the breadth of that ordinary.——6. In a *watch* and *clock*, the pallets are those parts, two small levers, which give the beats, sometimes written *palettes* and *pallats*.

Pal'lium. The cloak worn by the Greeks as the *toga* was by the Romans. ——2. A pontifical ornament worn by popes, patriarchs, primates, and metropolitans of the Romish church.

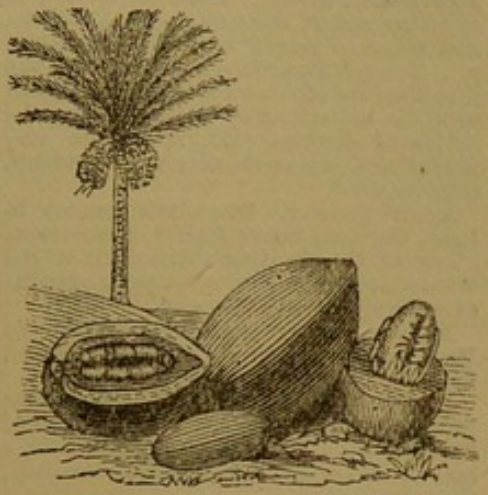
Pall'-Mall', *palle-maille*. An old game, in which a ball was driven through an iron ring or arch. It was formerly practised in St. James's Park, London, and gave its name to the street called Pall-Mall (pron. pell-mell).

Palls'. In *ships*, strong short pieces of iron or wood, placed near the capstan or windlass, so as to prevent its recoiling.

Palm'. 1. In *botany* (*see* Palma.)——2. The *palms of an anchor* are the broad parts at the ends of the arms or flukes.——3. A hand-breadth; a linear measure equal to 3 inches, considered as the average breadth of the *palm* or broad part of the hand. This, when distinguished, is termed the *little palm*; the *great palm* is equal to 8½ inches.——4. A little flat instrument, used instead of a thimble in sewing canvas.

Pal'ma Chris'ti. Christ's palm. The castor-oil plant. *Ricinus communis*.

Pal'mæ. The palm tribe of trees. A most important and natural family of plants. They have trunks similar to trees, but come under the name of *stipes*, the tops being frondescent, that is, sending off leaves instead of branches. They are, though commonly called trees, really perennial herbaceous plants, having nothing in common with the growth of trees in general. They take their name from *palma*, the hand, because the leaves are extended from the top like the fingers upon the hand when spread. The palm is characteristic of tropical scenery. It was adopted as an emblem of victory by the ancients, it is said, because the stem



is so highly elastic as when pressed down, to rise and recover its erect position. The figure represents the date-tree, a species of the palm.

Palm'er. A begging pilgrim returned from the Holy Land, bearing a branch of palm.

Pal'metto. The dwarf palm. A species of Chamærops or Fan-palm of America.

Palm', Fruitful. An order formed in 1617 in Germany, for the preservation and culture of the language.

Pal'mic Acid. An acid substance, obtained in silky acicular crystals, by saponifying palmine, and treating an aqueous solution of the soap with hydrochloric acid. It fuses at 122° Fah., and is soluble in all proportions in alcohol and ether.

Pal'mine. A white substance, about the consistence of wax when first obtained, but hardens with keeping, and assumes a resinous appearance. It dissolves in alcohol and ether, and saponifies with potash ley. It is readily obtained by treating castor oil (*oleum ricini*), with about one-twentieth of its weight of hyponitrous acid, diluted with thrice its weight of nitric acid.

Palmip'edes, plur. of *palmipes*, a web-footed animal. An order of birds having the toes connected by a web or membrane, and thus the feet fitted for swimming. Cuvier divides them into four families, *Brachypteræ*, *Longipennes*, *Totipalmatæ*, and *Lamellirostres*.

Palm'-oil. An unctuous substance, about the consistence of butter, of a yellowish colour, and no particular taste, obtained from the fruit of several species of palms, especially from that of the *Elais guineensis*, which grows abundantly on

the west coast of Africa and in Brazil. It is sometimes imitated with hog's lard coloured with turmeric, and scented with Florentine iris root. Palm-oil consists of 69 oleine and 31 stearine, melts at 84° F., and becomes rancid by exposure to the air. It has hitherto been employed in the manufacture of brown soap; but, as it can now be economically bleached by the action of chromic acid, it may be employed in the manufacture of white soap, candles, &c.

PALM' SUNDAY. The sixth Sunday in Lent, the next before Easter, commemorative of the Saviour's triumphant entrance into Jerusalem, when palm branches were strewed in the way.

PALM'-WINE. A juice obtained in the East Indies (where it is named *Toddy*), by the incision of a species of the palm.

PALM'-WORM. An American insect about 12 inches long, covered with hair, and extremely swift in its motions. It is a species of centipede, and wounds severely, but not fatally.

PALMY'RA. A genus of *Annulata*, established in the order *Dorsibranchiata*, by Savigny, to receive a beautiful animal of one to two inches in length, found in the Isle of France. It is recognised by its superior fasciculi, the setæ of which are large, flattened, flabelliform, and glistening like highly polished gold.

PAL'PI. *Feelers.* These are articulated appendages, attached to the jaws of insects: they are the auxiliary organs of a masticating mouth. Those upon the maxillæ are termed maxillary feelers (*palpi maxillares*); those placed laterally upon the labium are the labial feelers (*palpi labiales*).

PALPICOR'NES. *Palpi-horned insects.* The fifth family of pentamerous Coleoptera in Cuvier's arrangement. The antennæ terminate in a club, usually perfoliaceous, and consist of nine joints in all. They are much longer than the maxillary palpi.

PA'LY, PALE'WAYS. } A term in *heraldry*, when the shield is divided into four or more equal parts, by perpendicular lines from top to bottom.

PAM'PAS. A name for the vast plains of South America and Africa. *See* PRAIRIE.

PAM'PEROS. Violent winds which come from the west or southwest, and sweep over the pampas in the southern parts of Buenos Ayres.

PAM'PRE (Fr.). An ornament in sculpture, consisting of vine leaves and branches of grapes.

PA'NAX. A genus of plants. *Polygamia—Diœcia.* Name borrowed from the Greek botanists, whose παναξ or παναχης was so denominated, from παν, all, and ακος, medicine, because of its universal virtues. The name being unoccupied, Linné adopted it for the Chinese Ginseng (*P. quinquefolia*), equally celebrated with the ancient panax for its medicinal virtues. Besides the Ginseng plant, there are seven other species of panax, all natives of warm climates.

PANCAR'TES. In *diplomatics*, royal charters, in which the enjoyment of his possessions is confirmed to a subject.

PANCRA'TIUM. 1. An athletic exercise among the Greeks: from παν, all, and κρατεω, to conquer.——2. An extensive genus of perennial plants. *Hexandria—Monogynia.* Warm climates.

PAN'CREAS, from παν, all, and κρεας, flesh. A flat glandular viscus of the abdomen, compared to the form of a dog's tongue, and situated in the epigastric region under the stomach: named from its fleshy consistence. The use of the pancreas is to secrete the pancreatic juice, a fluid in its nature similar to saliva, to be mixed with the chyle in the duodenum.

PAN'DA. The *Ailurus refulgens*, Fred. Cuv. An animal about the size of a cat, having a fine close fur, above of the most brilliant cinnamon red, behind more fawn coloured, beneath of a deep black, found in the north of India.

PAN'DECTS. A digest of civil or Roman law, made by order of Justinian. The compilation consists of 50 books containing 534 decisions, to which the emperor gave the force and authority of law.

PAN'DIT, PUNDIT. } A learned Brahmin.

PANDO'RA. The first woman, according to the poets, made by Vulcan at the command of Jupiter, and named πάντων δωρά, because every god adorned her with some gift. She presented her husband, Epimetheus, with a box, the gift of Jupiter, and on his opening it, there flew out all sorts of evils over the earth, and filled it with diseases and all sorts of calamities.

PAN'DORE, PANDO'RON, } πανδουρα, *Pandura.* A musical instrument of the lute kind: a bandore.

PANDO'RUS. A light infantry raised from the Turkish frontiers, in the Austrian army.

PAN'EL. 1. A schedule or roll of such jurors as the sheriff returns to pass upon any trial. *Impanelling* a jury is returning their names in such schedule of parchment. In *Scottish law*, the prisoner at the bar is the *panel.*——2. In *joinery*, a thin board, having its edges inserted in the groove of a surrounding frame, as the *panels* of a door. Masons also give the name *panel* to a face of a hewn stone.

PAN'EMORE. In *mechanics*, a globular windmill, proposed to be erected in the middle of a ship, for turning wheels and paddles.

PAN'IC. 1. A sudden fright without real cause: from *Pan*, a captain, who with a few men routed a numerous army by the noise which his soldiers raised in a rocky valley, which reflected numerous echoes. ——2. A grain like millet: the seed of the *panic-grass*.

PAN'ICLE, Lat. *panicula*, a cluster. A species of compound inflorescence, in which the flowers are scattered on peduncles, without order, appearing like a branched spike. This species of inflorescence occurs most commonly in grasses.

PAN'ICUM. Panic-grass. A genus of grasses. *Triandria — Digynia*. Named *à paniculis*, the spike consisting of numerous thick seeds disposed in many panicles. Millet-seed is the produce of the *P. miliaceum*, a hardy annual, a native of India, but now cultivated pretty extensively in the South of Europe. The *P. Italicum*, or Italian millet, is believed to have been the *panicum* of the ancients.

PAN'NAGE. The feeding of swine upon mast in woods; also the money taken by agistors for the mast of the crown-forests.

PAN'NEL, Fr. *panneau*. In *architecture*, an area sunk from the general surface of the work.

PANOPHO'BIA, from παν, all, and φοβος, fear. That kind of melancholy which is chiefly characterised by groundless fears.

PANORA'MA, from παν, all, and ορᾶμα, view; entire view. A picture drawn upon the interior of a large cylinder, representing the objects which can be seen from one station, when the observer directs his eye successively to every part of the horizon. Invented by Mr. Robert Barker in 1787.

PANOR'PA. The *Scorpion-fly*: a genus of Neuropterous insects, family *Planipennes*. *See* PANORPATÆ.

PANOR'PATÆ. The name given by Latreille to that tribe of insects which compose the genus *Panorpa*, Lin. and Fab. They have five joints to all the tarsi, and the anterior of their head prolonged and narrowed in the form of a rostrum or proboscis. Palpi, four to six, and filiform.

PANSTER'EORA'MA, παν, στιρεος, solid, and ορᾶω, I see. A model of a town or country in cork, wood, or any other material.

PAN'TAGRAPH, from παν, every, and γραφω, I write. Improperly written pantograph, which see.

PANTECH'NICON, παν and τεχνη, art. A place where every kind of workmanship is exposed for sale.

PANTHE'A. In *antiquity*, single statues, composed of figures of several different divinities combined: παν, all, and θεος, god.

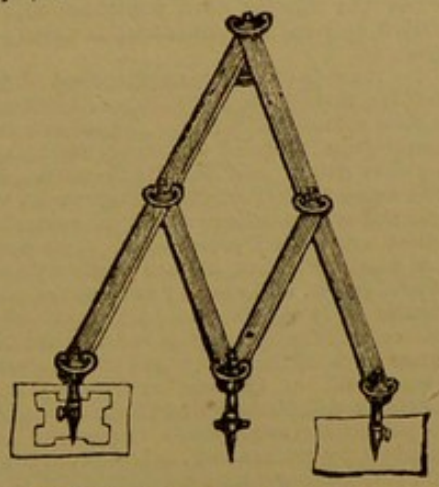
PAN'THEISM, from παν, all, and θεος, god. The system of theology in which the doctrine is maintained that the universe is God.

PANTHE'ON, πανθειον. A temple dedicated to all the gods (παν, all, and θεος, god). One of the most magnificent temples of ancient Rome, and the only one which has been preserved entire. It is now converted into a Christian church, and is dedicated to the Virgin Mary and all the martyrs. It is of the Corinthian order; is round; has a spherical dome, and its diameter within, and its height from the pavement to the grand aperture at the top, are each 144 feet. There was also a pantheon at Athens; first changed into a Christian church, and afterwards into a Turkish mosque.

PAN'THER. The *pardalis* of the ancients, and *Felis pardus*, Lin. A ferocious animal, found throughout Africa, Southern Asia, and the Indian Archipelago. It is the size of a large dog; is very similar to the leopard, but has only six or seven rows of black spots.

PANTO-CHRONOM'ETER, παν, χρονος, time, μετρον, measure. An instrument which combines the functions of compass, sundial, and universal time-dial.

PAN'TOGRAPH, from παντα, all, and γραφω, to describe. An instrument con-



trived for the purpose of copying drawings, either on a larger or smaller scale.

PANTOL'OGIA, παν and λογος. A work of universal information; a dictionary or encyclopædia.

PANTOM'ETER, from παντα, all, and μετρον, a measure. An instrument for measuring all sorts of elevations, angles, and distances.

PAN'TOMIME, παντομιμος. A general mimic; from παν, all, and μιμος, a mimic. The ancient pantomimes were persons who could imitate all sorts of actions and characters, and were first introduced upon

the stage to express by gesture and expression of countenance whatever the chorus sung. They were subsequently employed to divert the audience, after the chorus and comedies, and finally, their interludes became distinct entertainments, and were separately exhibited, and by metonymy, took the name of *pantomimes*.

PA'PAL CROWN. The Pope's tiara or crown, called also the triple crown, because it is a cap of silk environed with three crowns of gold.

PAPA'VER. The *Poppy:* a genus of plants. *Polyandria—Monogynia.* Name from *pappa*, pap, because nurses used to mix this plant in children's food to make them sleep, relieve colic, &c. The heads of most of the species afford a sort of narcotic juice, but that cultivated for its opium is the *P. somniferum*, which is grown extensively in India, Turkey, and Egypt, in fields, as corn is with us. It has also been grown in England, but the climate is too changeable to render it a safe crop. *See* OPIUM.

PAPAW' TREE. A name common to all the species of the genus *Carica*, but especially applied to that (*C. papaya*) which grows in both Indies and the Guinea Coast. It is a roundish fruit, has somewhat the flavour of a pompion, and is boiled and eaten with meat as turnip is with us.

PA'PER—is chiefly manufactured of vegetable matter, as fragments of linen and cotton reduced to a pulp. There is a sort made from rice for drawing upon, and another from silk for bank-notes, &c. The name is derived from *papyrus* (q. v.), and the works where paper is manufactured are called *paper-mills*. The sorts are numerous, but all are made up into *sheets*, *quires*, and *reams;* each quire consisting of 24 sheets, and each ream of 20 quires. Chinese paper is made from the inner bark of the paper-tree (*Broussonetia papyrifera*), or Chinese mulberry, now acclimated in France, and the India paper, employed for engravings, is made of the bamboo, by triturating, grinding, boiling, and fermenting: it is much thinner than the myrtle-tree paper.

PA'PER COAL. A variety of bituminous shale: so called from its divisibility into extremely thin leaves.

PA'PER-CUR'RENCY, } Notes or bills is-
PA'PER-MO'NEY. } sued by authority, and promising the payment of money, and circulated as the representative of coin. The name is commonly applied to notes or bills issued by a state, or by a banking corporation; but some suppose that the terms should be extended to all promissory notes and bills of exchange.

PA'PER-HANG'INGS. A general name for all stained, painted, or stencilled papers, used as hangings for covering the walls of apartments, &c. The art of making paper-hangings has been copied from the Chinese, and till lately was almost monopolised by the French, who were allowed to exercise their genius in perfecting the art, unchecked by taxation.

PA'PER-MUL'BERRY, } The Chinese mul-
PA'PER-TREE. } berry, *Broussonetia papyrifera*, from the inner bark of which the Chinese make their paper. *See* PAPER.

PA'PIER LI'NGE. A sort of paper manufactured in France. It resembles damask and other linen so completely, as to require narrow inspection to discover the difference.

PA'PIER-MÂCHE'. The French name of a composition now much employed in the manufacture of tea-trays, snuff-boxes, and numerous other light and elegant articles. It consists of cuttings and other waste of paper, boiled in water, and beaten in a mortar to a sort of paste. It is then boiled in a solution of size, when it is ready to be fashioned in oiled moulds. When the moulded articles are dry, they are covered with a coating of size and lamp-black, and afterwards varnished. When an article is to be ornamented with figures, these are painted before varnishing.

PAPI'LIO. The Butterfly. A genus of diurnal Lepidoptera, of which there are numerous species. The larvæ have always sixteen feet; the chrysalides are always naked, the perfect insect is always provided with a proboscis or trunk, flies only during the day, and has the most splendidly decorated wings of all the insect tribes. The genus *Papilio*, Lin., is now divided into 28 sub-genera.

PAPILIONA'CEÆ. A natural order of plants, the 32nd of Lin., comprehending such as have flowers resembling the wings of a butterfly (*papilio*), as the vetch, pea, &c. *See* LEGUMINOSÆ,

PAPILIONA'CEOUS, Lat. *papilionaceus*. Butterfly-like. Applied to the corolla of plants when they are irregular and spreading, and thus have some resemblance to a butterfly. Such a flower usually consists of five petals; *vexillum*, the banner, the large one at the back; *alæ*, the two side petals or wings; and the *carina* or keel, consisting of two petals, generally united by their lower edges, and embracing and protecting the internal organs.

PAPIL'LA, Lat. from *pappus*, down. 1. The nipple of the breast.——2. The termination of a nerve, &c., generally used in the plural, *papillæ;* as the nervous papillæ of the tongue, skin, &c. These are minute projecting filaments, each containing, perhaps, a separate branch of the nerves of touch.

PAP'ILLOSE. Lat. *papillosus*, pimpled. Applied to stems of plants with soft tu-

bercles; also to leaves covered with fleshy dots or points.

Pap'pus. Down, from παππος. 1. In *anatomy*, the hair on the middle of the chin. —— 2. In *botany*, the seed-down; the feathery appendage which crowns many seeds that have no pericarp, and which originates in a partial calyx, which crowns the summits of the seeds, as of the dandelion, goat's-beard, &c. By some botanists the term is generally used for the feathery crown of seeds furnished with a capsule, and also for a similar appendage to the base of some seeds and the sides of others.

Pap'ulose, Lat. *papulosus*. Pimpled. Applied to leaves, &c., which are covered with vesicular dots, or minute blisters.

Papyrog'raphy, from παπῦρος, paper, and γραφω, to write. A method of taking impressions from a sort of pasteboard, covered with a calcareous substance, exactly as from the stone in lithographic printing. The prepared pasteboard is also called lithographic paper.

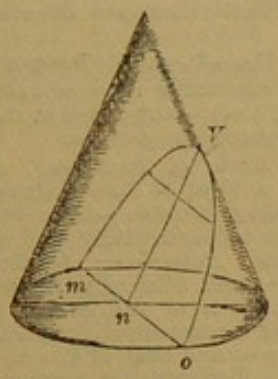
Papy'rus, παπῦρος. The paper-plant. A genus. *Triandria—Monogynia*. There are two species: the *P. odoratus*, of the West Indies; and the renowned *P. antiquorum* of Egypt, a stately reed or rush,

the inner bark of which was used by the ancients for writing upon; or rather for making paper to write upon; and latterly, indeed, for all the common purposes to which paper is at present applied. Pliny, in his Hist. Nat. lib. xiii., c. 11, 12, 13, describes the process of making paper from the papyrus, and enumerates the various kinds that were composed, from the coarsest, which was used like our brown paper for packing, to the finest and most expensive. The chief seat of the manufacture was at Alexandria.

Par. A Latin word for *equal*. Used in *commerce*, to denote that two things are of equal value; and in *money-affairs*, the equality of one kind of money or property with another.

Pa'ra. A Turkish coin of copper and silver, very small and thin, and worth the fortieth part of a piastre.

Parab'ola. Παραβολη, from παρα, against, and βαλλω, to throw. A conic section, formed by a cone being cut by a plane, which is parallel to a tangent plane, to the curved surface of the cone. Thus *V* is the *vertex* of the parabola *mVo*; the right line *Vn* is the *axis*, and any line parallel to it is called a *diameter*: any line parallel to the base *mno* is called a *double ordinate*.



Parab'olic. In *geometry*, having the form of a parabola. A *parabolic asymptote* is a parabolic line continually approaching to a curve, but never meeting it. A *parabolic pyramidoid* is a solid figure which was thus named by Dr. Wallis. *Parabolic space*, the area contained between the curve of the parabola and a whole ordinate. *Parabolic spindle*, a solid generated by the rotation of a semi-parabola about one of its ordinates. *Parabolic spiral*, or *helicoid*, a curve arising from the supposition of the axis of the common parabola bent into the periphery of a circle, the ordinates being portions of the radii next the circumference.

Parab'olism, from *parabola*. In *algebra*, the division of the terms of an equation by any known quantity that is involved or multiplied in the first term.

Parab'oloid, from *parabola*, and εἰδος, like. A paraboliform figure: a solid formed by the revolution of a parabola about its axis.

Paracen'tric, from παρα, beyond, and κεντρον, the centre. Deviating from circularity. By the *paracentric motion* of a planet is meant the quantity which it approaches nearer to, or recedes further from, the sun or centre of attraction, in its orbit: the difference by which the real orbit of the planet differs from a circular orbit of equal area.

Parachron'ism, from παρα, beyond and χρονος, time. An error in chronology, by which an event is related as having happened later than its true date.

Parachu'te, Fr. from παρα, against, and *chute*, a fall. An instrument some-

what resembling an umbrella, annexed to a balloon, or used separately, to prevent, by its expansion and buoyant properties, the too rapid descent of a heavy body. Aeronauts have descended from great heights, without injury, by means of parachutes.

Paracros'tic. A poetical composition in which the first verse contains in order all the letters which commence the succeeding verses.

Par'adigm. Παραδειγμα. Example or instance of something done or said, as an example of a verb conjugated in the several moods, tenses, and persons.

Paradise'a. Birds of Paradise. A genus of birds, natives of New Guinea, and of the adjoining islands; said to live on fruits, and to be particularly fond of aromatics: order, *Passerinæ*: family, *Conirostres*. The great bird of paradise, the *P. apoda*, Lin., is of the size of a thrush; head and neck yellow, circumference of the throat and beak of an emerald green; male distinguished by those elegant long bundles of yellowish feathers employed by the ladies as plumes.

Paradoxu'rus. A genus established in the order Carnaria and family Carnivora by Fred. Cuvier, to receive the pougouné, a semi-digitigrade and semi-palmate animal of India, agreeing in most of its characters with the genets; but particularly distinguished by the spiral inclination of the tail, which is not prehensile: whence the name from παραδοξια, a paradox, and ουρα, a tail.

Paraf'fine. A substance discovered by M. Reichenbach of Blansko, in the tar obtained by the distillation of various substances, both animal and vegetable, but especially in the tar of the beech-tree. If beech tar be distilled to dryness, the receiver will be found to contain three liquids, a light oil swimming upon the top; below it an aqueous liquid having an acid taste; and a heavy oil at the bottom. This last being distilled a second time, pyrélaine passes over, in which will be observed numerous scales of paraffine. These scales are separated and purified by a laborious process, to obtain the paraffine in a state of purity, which is then a colourless crystalline mass, transparent like glass, scarcely flexible, and destitute of taste and smell, and with nearly the feel of cetine. Melting point 110 F. Sp. gr. 0·87. It is a bicarburet of hydrogen; and if any process shall be invented for procuring it in a sufficient quantity, and sufficiently cheap, it will supersede all other substances for candles. It takes its name from its little tendency to combine with other bodies—*parum affinis*. It is the same substance which Dr Christison called *petroline*, having obtained it from the petroleum of Rangoon without any knowledge of M. Reichenbach's discovery. Both discoveries were made about the same time.

Para'gium, Lat. *par*, equal. In *feudal jurisprudence*, the body of nobles was so termed.

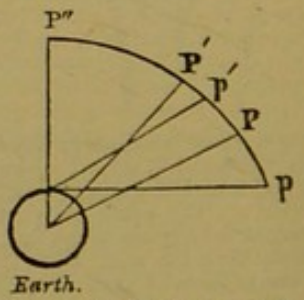
Paragran'dine. An invention to avert hail-stones, which, on some parts of the continent, are reckoned the most severe scourge of the husbandman. The whole machinery consists of numerous metallic points and straw ropes, bound together by hempen threads, and erected over the fields to be protected.

Par'aguay Tea. The leaves of a species of holly, the *Ilex paraguaiensis*, a tree which grows in different parts of South America, especially in Paraguay and the interior of Brazil, where it is called *yerva maté*. (It was named *maté* by the Aborigines, and *yerva* or *yerba* by the Spaniards.) It rises to the height of an orange-tree; the leaves are opposite, shining, oblong, and serrated, and are used almost universally in South America as tea is with us. When the infusion of Paraguay tea is taken in moderation, it acts as a stimulant; but when taken in excess, it occasions intoxication, and a kind of delirium tremens.

Paralipom'ena (Gr.) Things left out; a term applied to works of a supplementary character.

Parallac'tic. Pertaining to the parallax of a heavenly body.

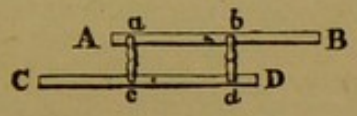
Par'allax. Παραλλαξις. Variation; an astronomical term for the arc of the heavens intercepted between the true and apparent place of any heavenly body as viewed from the earth, i.e. between its place as viewed from the centre of the earth, and from some point on its surface. Thus the true place of a star being P or P′, if viewed from the surface of the



earth will appear at *p* or *p*′, and the arc P*p* or P′*p*′ is the parallax of such star. When the star is on the horizon as at *p*, the parallax is greatest, and continually diminishes till it reaches the zenith P″, when it is nothing, as appears from the figure. The parallaxes receive different denominations according to the circles

upon which they are computed, and it is by means of the parallactic angles that the astronomer calculates the distances of the heavenly bodies.

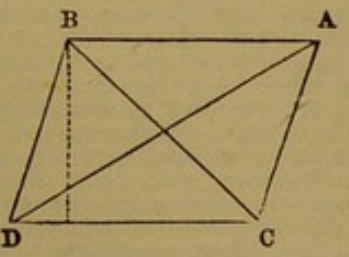
PAR'ALLEL. Παραλληλος. Similarly continued: from παρα, opposite, and αλληλων, one another. 1. The term is applied, in *geometry*, to lines which are everywhere equidistant from each other, and which though ever so far produced would never meet; and to such planes as have all the perpendiculars drawn betwixt them equal to each other. *Parallel rulers* have been contrived for the purpose of drawing parallel lines. These are



of wood, brass, &c. A B and C D jointed together by cross blades, *ac* and *bd*, so adjusted as to allow the rulers to accede and recede, and yet retain their parallelism. *Parallel coping* is a name among masons for such copings as have the upper surface parallel to the bed of the stone, as those upon gables. *Parallel motion* is a term used by practical mechanics to denote the rectilinear motion of a piston rod, &c., in the direction of its length, and contrivances by which such alternate rectilinear motions are converted into rotatory ones, and *vice versâ* in pumps, saw mills, and especially in double-acting steam-engines, when the arrangement of parallel rods connected with the piston-rod and the working beam, to transfer the motion of the former to the latter, is now by way of eminence termed *the* parallel motion.——2. In *astronomy* and *geography*, the *parallels of latitude* are the circles of latitude (*see* LATITUDE). The *parallels of altitude* are circles parallel to the horizon (*see* ALMUCANTERS). The *parallels of declination* in astronomy are the same as the parallels of latitude in geography. A *parallel sphere* is that situation of the sphere wherein the equator coincides with the horizon, and the poles with the zenith and nadir. *Parallel sailing* is a name for the sailing on a parallel latitude (*see* SAILING).——3. We also speak of *parallel rays* in *optics*; of *parallel lines* or *trenches* in *fortification*; of *historical parallels* and *parallel passages* of scripture, &c. *Parallel cut* is a name sometimes used for a counter drain.

PAR'ALLELISM. The state of being parallel. The *parallelism of the earth's axis* denotes the invariable position of the earth's axis, by which it always points to the same point in the heavens, abstracting from it the slight effect of mutation, &c. To this parallelism we owe the vicissitudes of seasons, and the inequality of day and night.

PARALLEL'OGRAM, from *parallel* and γραμμα. A right-lined quadrilateral figure, whose opposite sides are parallel and equal. It receives particular denominations, according to the equality or inequality of its sides and angles, as *rectangle*, *rhombus*, *rhomboid*, and *square* (q. v.); but in common usage the term is applied to quadrilateral figures of more length than breadth, as A B C D, of which



A D is a diagonal. *Parallelogram of forces* is a term used to denote the composition of forces, or the finding of a single force that will be equivalent to two or more given forces when acting in given directions. Thus if a body at A be at the same instant acted upon by two forces represented by A B and A C, the compound force will be represented by the diagonal line A D.

PAR'ALLELOPIP'ED, PAR'ALLELOPIP'EDON, } from *parallel* and επι, on, and πιδον, a plane. In *geometry*, a regular solid comprehended under six parallelograms (or faces), the opposite ones of which are similar, parallel, and equal to each other; or it is a prism whose base is a parallelogram.

PARAL'YSIS. Παραλυσις. Palsy: from παραλυω, to loosen. A disease known by loss or diminution of the power of voluntary motion, affecting any part of the body. Called also *Catalysis*.

PARAMA'LEIC ACID, called also *fularic* and *lichenic acid*. An acid obtained by keeping malic acid at a temperature of 302°, when a decomposition ensues, and water and paramaleic acid are the result. The paramaleic acid forms large striated prisms, sometimes rhomboidal, and sometimes six-sided. It requires 200 water for its solution, whereas the malic acid dissolves in 100 water. Name παρα, beyond, and *malic acid* (q. v.)

PARAM'ETER, from παρα, through, and μετρεω, to measure. A constant right line in each of the three conic sections, called also *Latus rectum*.

PARA'MO. A mountainous exposed district, covered with stunted trees, so termed in South America. In the torrid

zone, these are commonly from 10,000 to 12,000 feet in height, where snow frequently falls, but lies only a very short time.

Par'amount, from *per* and *mount*, to ascend. Superior: possessing a highest jurisdiction or title. Thus the *lord-paramount* is the chief lord of the fee. In England, the sovereign is the lord-paramount, of whom all land in the kingdom is supposed to be held; but sometimes the lord of several manors is called the lord-paramount.

Paramu'cic Acid. An acid isomeric with mucic acid, and corresponding with it in most of its actions with other bodies, but soluble in alcohol, and also much more freely in water than the mucic acid. It is obtained by saturating water with mucic acid, evaporating to dryness, digesting the residual matter in alcohol, and allowing this alcoholic solution to evaporate spontaneously, when a crystalline mass of paramucic acid is obtained. Παρα, beyond, and *mucic acid* (q. v.)

Paranaph'thaline. A substance obtained by M. Dumas from coal-tar, and thus named by him because it appears in its composition to be identical with naphthaline: παρα, beyond, and *napthaline*. It crystallises in hard grains; and melts at 356° (while naphthaline melts at 174°), is insoluble in water, and hardly soluble in alcohol even when boiling.

Paran'gon. A variety of black marble, which the ancients procured from Egypt and Greece, and which they called also *basaltes*.

Par'apegm, παραπηγμα. A brazen table on a pillar, on which laws and proclamations were anciently engraved. Also a table, affixed in a public place, containing an account of the rising and setting of the stars, eclipses, seasons, &c.

Par'aph, παρα and απτω, I touch. In *diplomatics*, the figure formed by the flourish of a pen at the end of a signature.

Paraphernа'lia, παραφερνα. Something in addition to a dower: παρα, beyond, and φερνη, dower. The goods which a woman brings with her at her marriage, or which she possesses beyond her dower, and which remain at her disposal after her husband's death. Such are her wearing apparel, and personal ornaments, over which the executors have no control unless the husband has died insolvent.

Par'aplegy, Lat. *paraplegia*, palsy of the upper or lower half of the body: from παρα, beyond, and πληγη, a stroke.

Par'asang. An ancient Persian measure, different at different times, and in different places; being sometimes 30, sometimes 40, and at other times 50 stadia or furlongs.

Parasce'nium, from παρα, beyond, and scenium, a scene. A place beyond or behind the scenes, in the ancient theatres, where the actors withdrew to dress and undress themselves. The Romans called it more commonly *postscenium*.

Paraselе'ne, from παρα, near, and σηληνη, the moon; a mock moon. A luminous ring encompassing the moon, in which are sometimes bright spots, bearing some resemblance to the moon.

Parasi'ta. An order of insects, so called from their parasitical habits. They have only six legs, and are all apterous. According to Linné, they form but one genus, (*Pediculus*, Lin.), but the species are exceedingly numerous, being found on man, beasts, and birds, of which almost every species has a peculiar species of parasite to support and nourish.

Parasi'tæ. The name of a natural order of plants, comprehending such as are parasitical, or are produced on the branches, trunk, &c., of other plants The misletoe is an example.

Par'asite. Among the *Greeks*, ministers of the gods, whose business was to collect the corn allotted for the public sacrifices: hence the name παρα, by, and σιτος, corn, and παρασιτος, corn-keeper. The parasites also superintended the sacrifices, and infested the tables of the wealthy.

Parasit'ic. Having the habits of a parasite. *Parasitic animals* attach themselves to draw their nourishment from the bodies of others. *Parasitic plants* do not take root in the earth, but send their roots into other plants, and draw their nourishment from them.

Paratartar'ic Acid. When tartaric acid is exposed to a moderate temperature it loses water, and is converted into a liquid which concretes on cooling. This constitutes a new acid, composed of three atoms tartaric acid and two atoms water, and was called paratartaric acid by Prof. Erdmann, who regarded it as isomeric with tartaric acid: παρα and *tartaric acid* (q. v.).

Paratonner're. A name given by the French to a conductor of lightning: *para*, against, and *tonnerre*, thunder.

Par'avail, Nor. *par*, by, and *availle*, profit. In *feudal law*, the tenant paravail is the lowest tenant, holding under a mediate lord, as distinguished from a tenant *in capite*, who holds immediately of the crown.

Par'buckle, for *pair-buckle*. A contrivance to haul up or lower a cask, &c., where there is no crane or other tackle. It is formed by passing the middle of a rope round a post or ring, the two parts of the rope being then passed under the two quarters of the cask, bringing the two ends back again over it, so that these, being hauled or slackened together, either

raise or lower the barrel as may be required.

PAR'CELLING. Among *seamen*, long narrow slips of canvas, daubed with tar, and bound about a rope, like a bandage, before it is sewed. Parcelling is also used to raise a mouse on the stays, &c., and is firmly fastened by marline from one end to the other. *Parcelling a seam* is laying a slip of canvas upon it, and daubing it over with melted pitch.

PAR'CEL MAKERS. Two officers of the exchequer, who make parcels of the escheator's accounts, and deliver the same to the auditors of the court.

PAR'CENER. Co-parcener. A co-heir: one who holds lands by descent from an ancestor in common with another, or with others. Norm. *parcenier*, from *parçonnier*, a participator.

PARCH'MENT. The skin of sheep or goats, prepared in such a manner as to render it proper for writing upon, covering books, &c.: different from *vellum*. The name is said to derive, through the medium of the continental languages, from Pergamus, the city where it is said to have been first manufactured. The etymology is, however, very doubtful.

PAREGOR'IC, from παραγορεω, to mitigate. Anodyne: *P. elixir*, is a name given in England to the *Tinctura Camphoræ Composita:* and in Scotland to the *Tinctura opii ammoniata.*

PAREIR'A BRAV'A. The root of the *Cissampelos Pareira.*

PAREM'BOLE'. Παρεμβολη. Insertion: a rhetorical figure, in which something relating to the subject is inserted in the middle of a period: it thus differs from a *parenthesis*, which is foreign to the subject. The parembole and parenthesis are, however, often confounded..

PARENCHY'MA. Παρεγχυμα. Suffusion: from παρεγχυω, to strain through. 1. The spongy and cellular substance, or tissue, which connects parts together: applied to the connecting medium of the substance of the viscera. It takes its name from the ancient notion, that the blood was strained through it.——2. In *botany*, the green juicy layer of the bark, which lies immediately under the epidermis of trees.

PARENCHYM'ATA. An order of Entozoa, comprising those species in which the body is filled with a cellular substance, or even with a continuous parenchyma, the only alimentary organ it contains being ramified canals which distribute nourishment to its different points, and which, in most of them, originate from suckers visible externally. Cuvier divides the order into four families: Acanthocephala, Tremadotea, Tænioidea, and Cestoidea.

PARENCHYM'ATOUS. Consisting of parenchyma: spongy: porous.

PA'RESE, } A large shield, used in the
PAR'RIS. } warfare of the middle ages, to cover assailants advancing to the walls of a fortress.

PAR'GASITE. A variety of actinolite, so named from its being found in the Isle of Pargas, in Finland.

PAR'GET. 1. Plaster-stone, or gypsum. ——2. To *parget*, is to plaster roughly. *See* PAGETTING.

PARHE'LION, from παρα, near, and ἡλιος, the sun. A mock sun, or meteor of a bright colour, appearing on one side of the sun, having somewhat the appearance of the great luminary himself. Parhelia are not, however, always round; some are tinged externally with colours like the rainbow, and many of them have a long fiery tail opposite the sun, becoming paler towards the extremity. Their cause is not well ascertained, though it is generally believed that they are caused by the reflection of the sun's beams on a very thin cloud, composed of minute cylinders of ice: spherical particles produce halos.

PA'RIAN. Pertaining to Paros, an island of the Egean Sea, as the *Parian marble*, which was found there. The *Parian Chronicle* was a chronicle of the city of Athens, engraven on marble, in capital letters, in the isle of Paros. It contained a chronological account of events from Cecrops, B.C., 1582 years, to the archonship of Diognetus, B.C., 264 years; but the chronicle of the last 90 years is lost. This marble was procured from Asia Minor, in 1627, by the Earl of Arundel; and, being broken, the fragments are now denominated the *Arundelian Marbles.*

PA'RIAS. A degraded tribe of Hindûs, who live by themselves in the outskirts of the towns, and in the country build their houses apart from the villages, or rather have villages of their own. They are precluded from all possibility of advancement, and are doomed to perform all sorts of menial work.

PARIE'TAL, Lat. *parietalis.* Appertaining to a wall: applied in *anatomy* to two arched and somewhat quadrangular bones, situated one on each side of the superior part of the cranium. In *botany*, &c., any organ growing from the side of another.

PARIETA'RIA. Pellitory. A genus of plants. *Polygamia — Monœcia.* Name from *paries*, a wall, because it grows chiefly on old walls: this applies principally to the *P. officinalis*, or wall-pellitory, formerly in high estimation among physicians.

PAR-IMPAR. Among the Romans, the game of *even or odd.*

PARI PASSU. With equal step.

Paris. Herb-paris, called also True love and One-berry. A genus of perennial plants. *Octandria — Tetragynia.* Named after *Paris*, the youth who adjudged the golden apple to Venus.

Paris Basin. In *geology*, a large area, about 180 miles in length, from north-east to south-west, and about 90 miles wide, from east to west, in which Paris, the capital of France, is situated. It is remarkable from the succession of different soils of which it is formed, and from the vast quantity and variety of organic remains which it contains. The whole lies in a vast depression of the chalk.

Par'ish, Low Lat. *parochia*, from παροικια, a dwelling. The territorial jurisdiction of a secular priest, of which there are 9913 in England.

Park, Sax. *parruc.* A large piece of ground, inclosed by licence under the broad seal, for beasts of the chase. There are also parks *in reputation*, though not erected with lawful warrant. An *artillery park* is a place, in the rear of both lines of an army, for encamping the artillery. A *park of artillery* implies the whole train of artillery belonging to a division of troops. *Provision-park*, the place where the sutlers pitch their tents and sell provisions, and that where the bread waggons are stationed. *Park* is also the name of a sort of large net, used by fishermen: it is fixed at the brink of the sea, and is left dry by the ebb of the tide.

Par'liament, French *parlement*, from *parler*, to speak. A word which was introduced into England under the Norman kings, to designate the supreme council of the nation, called under the Saxon kings *wittenagemote*, the meeting of sages or wise men. Parliament consists of the three estates—the lords spiritual, lords temporal, and the commons. Perhaps the sovereign ought to be considered a constitutional branch of parliament, though in common language that functionary is kept apart.

Par'liament Heel. In *nautical language*, the causing a ship to incline so to one side as to allow the upper part of the bottom on the other side to be cleaned.

Par'lour, Fr. *parloir*, from *parler*, to speak. Primarily an apartment in monasteries for conversation: hence a room in a house which the family usually occupy, when they have no company, as distinguished from a *drawing-room*, intended for the reception of company.

Parme'nianists. In *ecclesiastical history*, the sect of the Donatists, named after their leader Parmenianus.

Parnas'sus. In *mythology*, a celebrated mountain in ancient Greece.

Par'ody, παρωδια. A kind of writing, in which the words of an author are, by some slight alterations, adapted to a different purpose, by way of burlesque.

Pa'role, Fr. from *parler*, to speak. A term signifying anything done verbally, or by "word of mouth," in contradistinction to what is written; as *parole* evidence, *parole* pleadings, &c.——2. In *military affairs*, a promise given by a prisoner of war, when suffered to be at large, that he will not attempt to escape, that he will return at a certain time, &c. Also the watch-word given out every day in orders by a commanding-officer in camp or garrison, that sentinels may be able thereby to distinguish friends from enemies.

Paron'ymous, ονομα, name. In *grammar*, words of similar derivation.

Par'otid. Appertaining to the parotis; as the *parotid gland*, which is a large conglomerate and salival gland, situated under the ear, between the mammillary process of the temple-bone, and the angle of the lower jaw.

Paro'tis. The parotid gland. From παρα, near, and ους, the ear.

Par'quetry. *See* Marquetry.

Parr. The young of the salmon.

Par'rel. An apparatus contrived to fasten the sail-yards of a ship to the mast, in such a manner that they may be easily hoisted and lowered thereon. Some parrels are made simply of ropes; some others have ribs and trucks.

Parro'quet. The French name for a parrot, but now applied with us as a general name for the smaller species of parrots. *See* Psittacus.

Par'see, Pers. *Parsi.* The Persian refugees (fireworshippers) who now inhabit various parts of India.

Pars'ing. In *grammar*, the resolving of a sentence into its elements, by showing the several parts (*pars*) of speech of which it is composed, and their relation to each other, according to the grammatical rules of government and agreement.

Pars'ley. A well-known garden herb, the *Apium petroselinum*, a native of Sardinia. The *black mountain parsley* is a species of the genus Athamanta; the *Macedonian parsley*, of the genus Bubon. *Stone parsley* is a popular name for the *Amomum verum.*

Pars'nip, } A name common to all the
Pars'nep. } plants of the genus Pastinaca, but especially applied to the *P. sativa*, an indigenous biennial, cultivated for the sake of its esculent root.

Part. In *music*, a name of each of the melodies of any harmonic composition, and which, when performed in union, form its harmony. There must be at least four *parts* in every such composition.

Parter're. A French term, employed in *gardening* to denote a level division of ground furnished with evergreens and

flowers, and sometimes cut into shell and scroll work, with alleys, walks, &c.

Par'thenon. A famous temple to Minerva, at Athens. It was of the Doric order, built of marble, and the roof was also covered with marble, sculptured so as to represent large tiles. It had resisted all the ravages of time, and had been alternately a Christian church and a Turkish mosque, down to 1687, when the Venetians besieging the citadel of Athens, a bomb fell upon the Parthenon, and set fire to a quantity of powder which was then kept in it by the Turks: the explosion reduced this splendid building almost to ruins.

Partic'ipants. An order of knighthood, founded, 1586, in honour of Our Lady of Loretto.

Par'ticiple, Lat. *participium*, from *pars*, part, and *capio*, to take. In *grammar*, a word partaking of the properties of a noun and of a verb, as *having*, which becomes a noun by prefixing *the*. Participles sometimes lose the properties of a verb and become adjectives, as a *willing* heart.

Par'ticle, Lat. *particula*, from *pars*, part. 1. In *grammar*, a word not varied by inflexion, as a preposition. 2. In *physics*, a minute part of a body. The word is sometimes used in the same sense as atom, and in this sense *particles* are the elements or constituents of bodies.

Partic'ularists. In *theology*, those who held the doctrine of partial election.

Parti'das, Las Siete (Span.). An ancient Spanish code of laws.

Part'ing. In *metallurgy*, any process by which gold and silver are separated in refining or assaying.

Part'ite, Lat. *partitus*. Cut or divided. A *partite* leaf is one separated almost to the base. When a leaf has two such incisions, it is said to be *bipartite*, when three *tripartite*, &c.

Parti'tion. In *architecture*, the vertical assemblage of materials which divides one apartment from another. In *music*, the arrangement of the parts of a composition under one another, commonly called a *score*.

Part'ners. In *naval affairs*, pieces of planks nailed round the several scuttles or holes in a ship's deck, wherein are contained the masts and capstan.——2. A name sometimes given to the scuttles themselves.

Part'nership. An association of two, three, or more individuals, to carry on some branch of business in common. The term is usually applied to those smaller associations in which the partners personally conduct their joint affairs: the term *company* being applied to those greater associations, conducted by directors and servants, appointed by the body of the partners to act for them.

Part'ridge. A well known bird, the *Tetrao perdix*, Lin., esteemed a great delicacy at the table. In America the name partridge is applied to various species of the genus Tetrao, and in different parts to different birds. *See* Perdix.

Par'tridge Wood. A fancy wood from Martinique.

Party. In *politics*, a body of men united under a leader, for carrying out some common principle. In *heraldry*, used to signify the division of a shield by lines.

Party Walls. Partitions of brick between buildings, in several occupations.

Pa'rus. The *Titmouse:* a genus of very active little passerine birds, placed in the family *Conirostres* by Cuvier The titmouse seems to be omnivorous: it builds in the holes of old trees, and lays more eggs than any of the passerinæ. It takes its name both English and Latin (*à parva mus*), from its continually flitting and climbing from branch to branch, suspending itself in all sorts of positions, and indeed from its appearance and general habits. Fourteen species are enumerated.

Pash'a. A viceroy or military governor of a Turkish province: written also *pacha* and *bashaw*. The Persian and correct word is *pasha*.

Pasig'raphy, from πας, all, and γραφη, writing. A system of universal writing, which may be understood by all nations: a thing still to be discovered.

Pas'quin. A mutilated statue at Rome, in a corner of the palace of Ursini; so called after a cobbler of that city, famous for his sneers and gibes, and who diverted himself with passing jokes on all the people who went through the street in which he lived. After the death of this man, some workmen, who were digging up the pavement before his shop, found a statue of an ancient gladiator, well executed, but maimed: this they set up in the place where it was found, and by common consent named it Pasquin. Since that time all satirical papers in that city are attributed to this figure, and either put into its mouth or are pasted on its body. Hence *pasquinade*, something in the style of Pasquin: a lampoon.

Pass, Wel. *pâs*. 1. A narrow passage into an open tract of country, or into a country. —— 2. In *mining*, a frame of boards, set sloping for the ore to slide down.——3. In *fencing* (*see* Passade).

Passa'de, } 1. A push or thrust in fen-
Passa'do. } cing. Of these there are several sorts, as passades within, above, beneath, to the right, left, &c.——2. In the *manége*, a turn or course of a horse backwards or forwards on the same ground.

Pas'sage. 1. In *music*, every member of a strain or movement is a passage: Ital. *passo*. 2. In *navigation*, the course pursued

at sea in passing from one country to another; also the time occupied on such passage. A *north-east passage* to India has been sought by coasting along the northern parts of Europe and Asia; and a *north-west passage* has been found to the same place, by sailing round the northern part of the American Continent. *Birds of passage* are such as migrate, at certain seasons, from one climate to another. The swallow is an example.

Pas'sant. In *heraldry*, walking: Fr. *passant*, a passenger.

Passar'ee. In a *ship*, a rope to confine the tacks, when going at large in a light breeze.

Pas'seres. The sixth order of birds, according to the arrangement of Linné. *See* Passerinæ.

Passeri'næ. An order of birds formed by Cuvier, on the basis of Linnæus's order *passeres*, of which the sparrow (*passer*) is the type. This order is the most numerous of the whole class. The birds which compose it have neither the violence of the birds of prey, nor the fixed regimen of the Gallinaceæ, nor of the water-birds. Insects, fruits, and grain, constitute their food, which consists the more exclusively of grain in proportion to the largeness of their beak, and of insects, as the beak is the more slender. All the singing birds are found among them. They are divided into families according to the form of the beak: these are Dentirostres, Fissirostres, Conirostres, and Tenuirostres. Epithet *Passerine*.

Passiflo'ra. Passion-flower. A very extensive genus of plants. *Monadelphia—Pentandria*, and N. order *Cucurbitaceæ*. Name altered by Linné from *flos passionis*, the name given to this beautiful genus by preceding botanists, because the instruments of Christ's passion were thought to be represented in the parts of the fructification. The species are all natives of warm climates.

Pas'sim. A word of reference in books, signifying everywhere, in many different places, here and there.

Pas'sing Bell. The bell that rings at the hour of death, to obtain prayers for the *passing* soul, called vulgarly the *soul-bell*, it being originally intended to drive away any demon that might seek to take possession of the soul.

Passing Notes. In *music*, graces wherein two notes are connected by smaller intervening notes.

Pas'sion, from *patior*, to suffer. 1. The impression or effect of an external agent upon a body: that which is suffered or received.——2. Strong feeling or emotion of the mind, impelling the individual to act according to the general tenor of the feeling which excites him. Man has passions in common with the inferior animals: these are *animal passions*, and consist of animal wants become excessive; but he has likewise others which are displayed only in the social state, and which are really *social* wants grown to excess. The animal passions are essential to the preservation of the individual and of the species: to this class belong fear, anger, desire, jealousy, love, hatred, &c. The passions which belong to the social state owe their development in part to the circumstance of our civilisation, and to the universal bent of mind to increase the feeling of existence, as ambition, envy, avarice, gaming, and indeed all active virtues and vices. Some passions are allayed by gratification, others are irritated by it: the first sort are therefore sources of happiness, the latter often causes of misery. Philanthropy and love are examples of the one class; avarice and ambition of the other. If our necessities develope the intellect, the passions are the principle or cause of everything *great* which man performs, whether good or bad. Great poets and heroes, great criminals and conquerors, are men of strong passions.

Pas'sion-week. The week immediately preceding Easter, named in commemoration of the Saviour's crucifixion.

Pas'sive, Lat. *passivus*, suffering. A *passive verb* is one which expresses the effect of an action of some agent, as, "she *is loved* by her friends." *Passive obedience*, as used by political writers, means not only quiet, unresisting, submission to power, but implies the denial of the right of resistance; or the recognition of the duty to submit, in all cases, to the existing government. *Passive commerce* is that species of trade in which the productions of a country are carried in foreign bottoms.

Pass'over. The solemn festival of the Jews, celebrated on the 14th day of the month following the vernal equinox, and instituted in commemoration of their providential deliverance on the night before their departure from Egypt, when God, smiting the first-born of the Egyptians, *passed over* the houses of the Israelites, which were marked with the blood of the paschal lamb.

Paste. 1. Any cement, as that which holds together the fragments composing conglomerate rock.——2. A factitious gem. The base of the pastes is a vitreous body, called *Strass* (from the name of its inventor, a German) composed of rock-crystal (8), salt of tartar (24), white lead (12), and borax (12) fused together. To this glass some metallic oxide or salt is added, according to the gem to be imitated, as oxide of antimony for oriental topaz; chloride of silver or glass of antimony for yellow diamond; oxide of cobalt for sapphire; manganese, or precipitate of cassius and peroxide of iron for

oriental ruby; glass of antimony and oxide of cobalt for emerald; horn silver and black oxide of iron, with some earthy substance for common opal; oxides of manganese and cobalt for amethyst; oxides of antimony, gold and manganese for ancient carbuncle, &c.

Paste'board. A sort of thick paper, formed of several sheets of paper pasted together, much used in binding books, making pill-boxes, &c.

Pas'tel. A colouring matter obtained from the leaves of the *Isatis tinctoria* It has a yellow or greenish-yellow colour, and gives a green stain to paper, which improves by keeping. In dye-works the *pastel vat* is prepared with 4 of indigo, 50 of pastel, 2 of madder, and 2 of potash, to which 1½ of lime is gradually added to retain the brown matter of the indigo. The name is Spanish.

Pas'tern. In *farriery*, the distance between the fetlock, or joint next the foot, and the coronet of the hoof of a horse. The *pastern-joint* is that immediately above the pastern.

Pastic'cio. An Italian word meaning a *pie*, used in music to denote an opera composed of detached airs, by different composers, occasionally introduced.

Pas'til, Fr. *pastille*. 1. A roll of paste or sort of paste, made by grinding together different colours with gum-water, in order to make crayons.——2. A small cone made of gum benzoin, with powder of cinnamon and other aromatics, to diffuse a grateful odour when burned in an apartment.——3. Aromatic sugared confection, called *tablette*.

Pastina'ca. The parsnip. A genus of plants. *Pentandria—Digynia*. So named because the root resembles the *pastinum*, a forked instrument used by the Romans for planting seeds. The *P. sativa*, or garden parsnip, is the British type of the genus.

Pastoph'ori. Priests of an inferior order among the Egyptians, who carried the statues of the gods in solemn processions: whence the name παστος, a couch, and φερω, to bear. They are often found sculptured or painted on Egyptian monuments.

Pasto Resin. A resinous substance employed by the Indians at Pasto, in the northernmost parts of Peru, for covering wood, to render it impermeable to water. Its solvent is potash, which forms with it a kind of soap, soluble in water, and from which it is precipitated by acetic acid in a state fit to be applied to the wood. The plant which yields it is not known.

Pat'aca, } A Spanish coin worth 4*s*.8*d*.
Pataco'on. } sterling.

Patache (French). A tender or small vessel employed in conveying men, provisions, and orders from one ship to another.

Pat'ans A name in the East Indies, applied to all the Affghan tribes.

Patavin'ity. A term among classical scholars to denote the peculiar style or diction of Livy, the Roman historian, from Patavium or Padua, the place of his nativity. Authors are not, however, agreed as to what this *patavinity* consists in.

Pate'. In *fortification*, a sort of platform resembling what is styled a horse-shoe, and usually erected in marshy grounds to cover a gate of a town.

Pa't e', } In *heraldry*, a cross, small in
Pa'tte'e. } the centre, and widening to the extremities, which are broad.

Patel'la, Lat. *patella*, a little deep dish: dim. of *patina*, a dish. 1. In *anatomy*, a small flat bone of the leg, commonly known as the knee-pan.——2. In *conchology*, the limpet-shell: a subconic univalve shell, shaped like a basin, without a spire, and inhabited by a limax. Order *Cyclobranchiata*, Cuv.

Patellim'ani. A tribe of pentamerous coleoptera, comprehending the genera *Dolichus*, *Agonum*, *Chlænius*, *Dicælus*, &c. &c. They frequent the shores of rivers and other aquatic localities. The patellimani are thus named from the form of the two anterior tarsi: *patella*, a little dish, and *manus*, a hand.

Pa'ten, Lat. *patina*. In *ecclesiastic usage*, the saucer on which the chalice rests.

Pa'tent, } Lat. *patens*, opening: ex-
Pat'ent. } panding. 1. Applied to leaves which form a moderately acute angle with the stem or branch on which they grow.——2. A privilege from the crown, granted by *letters-patent* (q. v.), conveying to the individual or individuals, therein specified, the sole right to make, use, or dispose of, some new invention or discovery, for a certain specified time. One to whom such privilege is conveyed by patent is called a *patentee*. A patent costs for the three kingdoms about 400*l*., for stamps, fees, &c.

Pa'tent-yellow. A pigment obtained by fusing a mixture of oxide and chloride of lead.

Pat'era. A vessel used in the Roman sacrifices, sometimes introduced as an ornament in the Doric frieze.

Pa'ternos'ter, Lat. *pater noster*, our father. 1. The Lord's Prayer, thus named from the two first words of it in Latin. The term is now often used for a rosary or string of beads used by Roman Catholics in their devotions, and also for every tenth bead of the same, which is large and requires the repetition of the prayer, whereas the other beads only require *Ave Marias*.——2. In *architecture*, rows of beads carved on mouldings.——3. In

Heraldry, a paternoster cross is one represented on the escutcheon as if formed of beads.

Pathet'ic. Relating to the passions. The *pathetic muscle* is the superior oblique muscle of the eye, which is instrumental in expressing certain passions. The fourth pair of nerves are distributed to it, and are hence termed *pathetic nerves*.

Pathognomon'ic, from παθος, disease, and γινωσκω, to know. An epithet for such symptoms as are peculiar to a disease, or for such as are properly characteristic.

Pathog'nomy, from παθος, passion, and γνωμη, signification. Expression of the human passions by proper signs; the modes of action indicative of passion.

Pathol'ogy, from παθος, disease, and λογος, discourse. The doctrine of diseases; that branch of medicine which treats of the nature of diseases.

Pa'tina. 1. A name common to various sorts of ancient Roman domestic vessels. ——2. In *numismatics*, the genuine rust of antique medals.

Pa'tois, Lat. *pater*, father. The dialect peculiar to lower classes.

Pa'tres Conscri'pti. Conscript Fathers. A name for the Roman senators in general, but originally applied only to the 200 created subsequent to the appointment of the 100 *patres* by Romulus, because they were written down or put upon the list along with these.

Pa'triarch, from πατηρ, a father, and αρχος, chief. 1. The father and ruler of a family. The title is usually applied to the progenitors of the Israelites, Abraham, Isaac and Jacob, and to the heads of families before the flood.——2. In the *Christian church*, a dignitary superior to the order of archbishops, as the patriarch of Constantinople, Alexandria, &c., which are styled *patriarchates*.

Patriarch'al Cross. In *heraldry*, a cross which has its shaft crossed twice.

Patri'cians. 1. The descendants of the Roman senators (*patres*), created by Romulus, in contradistinction to the *plebeians* or people. The dignity was subsequently enjoyed by all who became senators by other means than hereditary claims.—— 2. In *church history*, the followers of Patricius, who maintained that the substance of the flesh was the work of the devil, and that it was therefore a virtue to abuse or even destroy it!

Pat'rick, St., Order of. An Irish order of knighthood, instituted by George III. in 1783.

Pa'triot. In the *Latin of the middle ages*, *patriota* signified a native, in contradistinction to *peregrinus*, a foreigner; and as the native or citizen was considered to be attached by his interests to the Commonwealth, the word *patriot* gradually acquired the meaning of a citizen who loves his country (*patria*).

Patripas'sians, from *pater*, father, and *passio*, passion. A religious sect who held that God the Father suffered with Christ.

Patris'tic, Lat. *pater*. In *theology*, related to the fathers of the church, as patristic theology.

Patrol', Fr. *patrouille*, from *patrouiller*, to paddle about. A guard of observation, who *patrol* or march during the night, to observe what passes, and secure the safety of a certain station.

Pa'tron. 1. A *patron* among the Romans was a person who had freed his slave, but retained some power over him after his emancipation; also a person in power, under whose protection a few inferiors (*clients*) put themselves, under certain conditions of personal service.——2. In the *canon* and *common law*, a person who, having the advowson of a parsonage, vicarage, or like spiritual promotion, belonging to his manor, has the gift and disposition of the same, and may present to it whenever it shall become vacant. ——3. In the *Romish church*, a guardian saint, whose name is borne by the object protected.

Paul. A short bar of wood or iron, fixed close to the capstan or windlass of a ship, to prevent those engines from rolling back when they are charged with any great effort.

Paul Bits. Pieces of timber placed perpendicularly before the windlass of a ship, and serving as supports to the pauls which are pinned to them

Pauli'anists. A heretical sect, founded by Paulus of Samosata, in the third century.

Pauli'cians. Christians of the seventh century; a branch of the ancient Manichees, so called from their leader, one Paulus, an Armenian. They endured great persecution, but were at length exterminated.

Pause, Lat. *pausa*, a stop. 1. A temporary cessation in reading. The use of punctuation is to mark the pauses in writing. Besides the ordinary pauses, which mark the sense, and which are the same in prose and verse, there is in verse a *cæsural pause*, which divides the verse, and a *final pause*, which closes it.——2. In *music*, a mark consisting of a curve drawn over a dot 𝄐, and signifying that the note or rest over which it is placed is to be continued beyond the regular time.

Pa'van. Peacock-dance. A grave Spanish dance, in which the gentlemen dance with cap and sword, princes in their robes, and ladies with their long trains. The name is from Lat. *pavo*, a peacock.

PAVED-WAY. A certain description of tramway, but formed of stone instead of iron, and which may be described as a medium between a road and a railway.

PAV'ING, PAVE'MENT. *Paving* is applied to the covering of stones laid over roads. The flat paving laid down on footpaths is termed *pavement* or *flagging*, and the line of stone set on edge, and which separates the road from the footpath, is called the *curb*, as keeping each sort of paving in its place. When the paving-stones of a street are not dressed, they form a *rubble causeway:* when they are properly dressed and pointed, they form an *aisler causeway.* Brick has been used, and is still used in Amsterdam, Venice, &c., as a paving material, and wood is at present under experiment for that purpose; but the common materials are granite and Purbeck-stone, though basalt (*whinstone*) is very much used in Scotland, and other localities where it is plentiful. In France, gritstone (*grès*) is used. In the interior of some edifices, the pavement is formed of marble, often variegated and inlaid with mosaic work. For flagging, the Arbroath and Newcastle flags are perhaps the best; but flagging is now beginning to be superseded, in some of the large towns, by various bituminous preparations, as Robinson's Parisian bitumen, Bastenne Ganjac bitumen, Scottish asphaltum, &c., which are employed to form the surface, the foundation being any coarse material. *Diamond pavements* have the stones laid diagonally. *Tessellated pavement* is composed of mosaic work, made of square pieces of stone, &c., called *tesseræ*, imbedded in cement. This was the favourite pavement of the Romans, and it was certainly an improvement on the painted pavements of Greece.

PAVIL'ION (Fr.), from Lat. *papilio*, a butterfly. 1. A tent, or covering in the form of a tent.——2. In *architecture*, a kind of turret or building, usually insulated, and comprised beneath a single roof. The name is also given to the projecting part in front of a building, and which sometimes flanks a corner, when it is termed an *angular pavilion.*——3. Among *jewellers*, the under side and corner of brilliants, lying between the girdle and collet.

PA'VO. The Peacock. A genus of gallinaceous fowls, characterised by a crest on the head, and by the coverts of the tail of the male being larger than its quills, and capable of being erected, so as to form a circle. The shining, lax, and silky barbs of these feathers, and the ocellated spots that decorate their extremities, are well known in the common peacock, *P. cristatus*. Lin., originally from the north of India, and introduced into Europe by Alexander. The magnificent plumage of this superb bird is surpassed by that of the wild ones.

PA'VO ET INDUS. The Peacock and India. A constellation situated in the Antarctic circle. It contains 26 stars, of which one is of the second magnitude.

PAVO'NIA, from *pavo*, a peacock. 1. A coral with a deep and isolated cell, containing a large depressed polypus, very similar to the actinia, both as regards its structure and appearance.——2. A genus of plants. *Monadelphia—Polyandria.* Most of the species are shrubs, and all inhabit hot climates.

PAWN. A pledge lodged for the security of the payment of a sum of money borrowed. The term is applied to goods, and not to real estate. Those individuals who lend money on pledges are termed *pawnbrokers*, and the business they carry on in this way is *pawnbroking.* Pawnbrokers are required to take out a license, and are allowed to charge interest at from 15 to 25 per cent., with other fees for duplicates.

PAY. Among *seamen*, to *pay* is to daub the surface of any body with some substance, as tar, to protect it from injury by water, weather, &c. *Paying-off* is the movement by which a ship's head falls to leeward. The same term is also used for the discharge of the ship from actual service. *Paying-out* or *paying-away* is the act of slacking a cable or other rope, so as to let it run out of the vessel.

PAYE'E. The person named in a bill or note, as he to whom the amount is promised or directed to be paid.

PEA. One of the most esteemed of the pulse plants, introduced into Britain by the Romans. There are several varieties, but the common garden-pea (*Pisum sativum*), and the common grey or field-pea (*Pisum arvense*), are the most generally cultivated.

PEACH, Fr. *pêche.* The fruit of the peach-tree, the *Amygdalus persica*, a native of Persia, hence called by the ancients *Malus Persica*, or Persian apple: also the tree itself.

PEA'COCK, PEA'-FOWL. *See* PAVO. The name *peacock* properly belongs to the male, but it is popularly applied to the species in general, though the female is, for distinction, called a *peahen.* The prefix *pea* is from the French *paon*, contracted from Lat. *pavonis*, from *pavo*, the peacock.

PEAK. In *naval language*, the name given to the upper corner of those sails which are extended by a gaff, or by a yard crossing the mast obliquely.

PEARL, Sax. *pearl*, Ir. *pearla*, Welch *verlyn*, Ger. and Fr. *perle*, It. and Sp. *perla.* Pearls are well-known globular concretions, found in several species of

shell-fish, but particularly the mother-of-pearl oyster (*Concha margaritifera*, Lin.), found in various parts of the world, particularly on the west coast of Ceylon, on the coast of Coromandel, in the Gulf of Persia, at the Sooloo Islands, off the coast of Algiers, the St. Margarita or Pearl Islands, in the West Indies, &c. Much difference of opinion has existed with respect to the production of pearls in the oyster, but it seems now to be generally believed they are the result of disease, whereby the pearly secretion, instead of being spread over the shell, is accumulated round foreign bodies accidentally introduced into the shell.

Pearl' Shells. Mother-of-pearl shells. *See* Mother-of-pearl.

Pearl'stone. A variety of obsidian, which has a pearly lustre, occurring in globular and concentric lamellar concretions. Sp. gr. from 2·2 to 2·55.

Pearl'White. Subnitrate of bismuth, obtained by pouring the nitrate of that metal into a dilute solution of sea-salt, whereby a beautiful light white powder is obtained.

Peat. An intermediate substance between simple vegetable matter and lignite; the conversion of peat into lignite being gradual, and brought about by the action of water. It is composed of the remains of many different plants, but probably a great portion is derived from the *Sphagnum palustre*. The process of its formation is owing to the perpetual destruction of the lower roots of the plants, while the upper parts continually send off new roots, thus furnishing a perpetual supply of decomposing matter. *Peats* are the peat-bog cut out into small rectangular pieces, and dried for fuel. *Peat-soil* is peat in a state of decomposition, on which agricultural produce may be grown.

Peb'bles. Siliceous stones larger than gravel, the round form of which is owing to their mutual attrition caused by the action of water.

Pec'ary, Pec'cary. The *Tajouca* of South America, a quadruped placed among the hogs by Linné. It has shorter legs than the hog, the bristles are stronger, resembling the quills of the porcupine, and the body is less bulky.

Pech'blend. The German name for *Pitchblend* (q. v.).

Peck. A dry measure for grain, pulse, &c., equal to 2 imperial gallons, or 554½ cubic inches.

Pe'cora. A name which has been used to designate all mammiferous animals which have no front teeth in the upper jaw, as the ox, sheep, goat, camel, &c.

Pec'ten, Lat. *pecten*, a comb. 1. In *conchology*, the *scallop* or *comb shell*. A genus separated from the oysters by Bruguières. The pectens are all marine bivalves belonging to the *Ostracea*, Cuv., and forming the type of the family *Pectenides*, Lam.——2. In *anatomy*, the pubes.

Pec'tic Acid. The name given by Braconnot to an acid which he conceives to be universally diffused through vegetables, and analogous to if not identical with jelly: hence the name, from πηκτις, coagulum. It is most easily obtained from the roots of carrots.

Pec'tine. A vegetable jelly, obtained by mixing alcohol with the juice of ripe currants (or any similar fruit), till a gelatinous precipitate falls, which is pectine: πηκτις, jelly.

Pec'tinate, Lat. *pectinatus*, comb-like. Applied to leaves, &c., when the segments are extremely narrow and straight, like the teeth of a comb.

Pectinibran'chiata. An order of Mollusca, comprising, beyond all comparison, the most numerous division, inasmuch as it includes all the spiral univalves, and several that are simply conical. The *branchiæ*, composed of numerous lamellæ or stripes, laid parallel with each other like the teeth of a comb (*pecten*), are attached on one, two, or three lines, according to the genus, to the ceiling of the pulmonary cavity, which occupies the last whorl of the shell, and which has a large opening between the edge of the mantle and the body. They are divided into families, according to the form of the shell, viz. *Trochoida*, *Capuloida*, and *Buccinoida*.

Pec'toral. Appertaining to the breast: *pectus*, the breast. *Pectoral medicines* are those intended to relieve diseases of the chest. The *pectoral fins*, or *pectorals* of a fish, are those fins situated on the sides immediately behind the gills.

Pectora'les Pedicula'ti. A family of fishes, consisting of certain Acanthopterygii, whose carpal bones are elongated, so as to form a sort of arm which supports their pectorals.

Pectoril'oquy, from *pectus*, the breast, and *loquor*, to speak. The peculiar sound obtained in a stethoscopic exploration of the chest, when the instrument is placed over an excavation of the lungs. Under these circumstances, the voice appears to come direct through the tube of the instrument, from the chest of the patient to the ear of the ausculator.

Pecu'liar. In *canon law*, a parish or church which has jurisdiction within itself, and is competent to grant probates of wills and letters of administration, exempt from the bishops' courts. The *Court of Peculiars* is a branch of the Court of Arches. It has jurisdiction over all the parishes dispersed through the province of Canterbury, in the midst of other dioceses, which are exempt from the ordinary jurisdiction, and subject to the metropolitan only.

Pecu'lium (Lat.). In *Roman law*, the property which a slave might acquire, independent of the control of his master.

Ped'agogue, παις, boy, and αγωγος, leader. Among the ancient Greeks, a slave charged with the personal care of a boy, from the earliest age after infancy, until the 17th or 20th year.

Ped'al, Lat. *pedalis*. 1. Belonging to the foot (*pes, pedis*).——2. A large pipe of an organ, because played and stopped by the foot.

Pedalma'schi. A Turkish officer, who looks after the interest of the Sultan in cases of legacies.

Ped'ate, Lat. *pedatus*, bird-foot-like. Applied to ternate leaves, which have their lateral leaflets compounded in their forepart.

Pedat'ifid, Lat. *pedatifidus*, divided like the toes of a waterfowl. Applied to leaves when their segments are not entirely separated.

Ped'icel, Lat. *pedicellus*. A partial flower-stalk, or subdivision of the general peduncle.

Pedicel'late, Lat. *pedicellatus*, having a pedicel or partial flower-stalk: *pedicellus*, a partial flower-stalk. Applied to flowers, glands, nectaries, &c. when placed at the top of a stalk.

Pedicella'ta. An order of radiated animals or zoophytes, of the class *Echinodermata*, of which the star-fish (*asterius*) may be taken as the type.

Pedicle, Lat. *pediculus*, a little foot. 1. Applied to the support of some species of Lepas, by which they attach themselves to wood, &c.——2. In *botany*, the term is used in the same sense as *pedicel* (q. v.)

Pediculation. *Morbis pedicularis*. A disease of the body in which lice are continually bred in the skin: *pediculus*, a louse.

Ped'iculus, a louse: from *pes*, a foot, so named from its many feet. A genus of parasitical insects, including the various species of lice found on man, beasts, and birds.

Pedig'erous. Having legs: *pes*, a foot, and *gero*, to bear. The body of the myriapod is divided into numerous *pedigerous* segments.

Pedima'ni, Lat. *pes*, and *manus*, a hand. A family of marsupial animals.

Ped'iment, from *pes*, a foot. An ornament, generally of a low triangular form, which crowns the ordonnances, finishes the fronts of buildings, and is used as a decoration of windows, doors, &c.; or more properly the angular end of a building which surmounts a portico.

Pedipal'pi. A family of Arachnides, the second of the Pulmonariæ, in which are observed very large *palpi*, resembling projecting arms terminated by a forceps or a claw (*pes*). The scorpions belong to the family.

Pedom'eter, from *pes*, a foot, and μετρον, measure. 1. A mechanical instrument in the form of a watch, and carried in the pocket, to register the number of steps or paces which the bearer makes in travelling between one place and another. The old pedometer has a string or chain attached to the foot, but the improved instrument now in use consists of a lever or pendulum, one end of which is weighted or inlaid, and the other supported by a delicate spring, and so nicely adjusted that each step of the wearer produces a vibration, and moves a ratchet wheel one tooth, and the latter being geared into a train of wheels, moves indexes or hands over the face of a dial-plate, on which the number of vibrations, and consequently of steps, is indicated.——2. The name *pedometer* has also been used to designate an instrument similar to a perameter, attached to carriage-wheels, to register the number of revolutions which they make; and the perambulator is sometimes also so called.

Pedun'culate, Lat. *pedunculatus*, having a peduncle. Growing on a fruit-stalk.

Pedun'cle, Lat. *pedunculus*. 1. A flower-stalk, or that which springs from the stem, and bears the flowers and fruit and not the leaves.——2. In *conchology*. *See* Pedicle.

Peek. In *nautical language*, a general name for the upper corners of sails, extended by a gaff, or by a yard crossing the mast obliquely, as the mizen-yard of a ship. To *peek the mizen* is to put the mizen-yard perpendicular to the mast. The *peek-haliards* are the ropes or tackles by which the outer end of the gaff is hoisted.

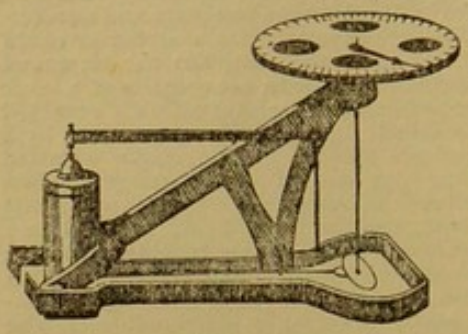
Pee'pul-tree. The *Ficus religiosa* or sacred fig of the East Indies.

Peer. 1. An equal.——2. A nobleman, as a *peer of the realm*. In England persons belonging to the five degrees of nobility are all peers, for whatever formality of precedence may attach to the title of duke, earl, marquis, viscount or baron. it is a barony which conveys the right to a seat in the *house of peers*, and confers every privilege annexed. It is as barons, not as dukes, bishops, &c. that peers take their seats in parliament, and they take their general name of *peers* from being formerly regarded as the companions of the sovereign.

Peg'asus. 1. The winged horse of the poets, which according to the Greeks sprung from the blood of the gorgon Medusa, after Perseus had cut off her head. ——2. A constellation of the northern hemisphere; it contains 89 stars, of which 4 are of the second magnitude.——3. In *zoology*, a genus of Lophobranchiate fishes.

Peg'matite. A name given by the French mineralogists to a variety of granite composed of granular quartz and felspar, called from its appearance graphic stone.

Peiram'eter, from $\pi\epsilon\iota\rho\alpha\omega$, to strain.



An instrument invented by John Macneill, to indicate the amount of resistance offered to the passing of wheeled carriages, &c., by the surfaces of roads of different constructions.

Pela'gian. Belonging to the sea: *pelagus*, the sea.

Pela'gians. A Christian sect, followers of the doctrines of Pelagius, a monk of Bangor, who denied original sin, asserted the doctrine of free will, the merit of good works, &c.

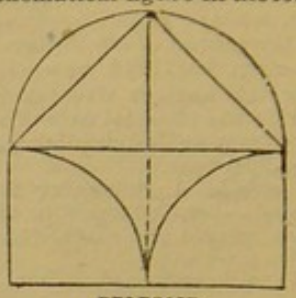
Pel'agus. A sub-genus of seal (*Phoca*, Lin.). The monk (*Phoca monachus*, Gm.) found among the Grecian and Adriatic islands, is from 10 to 12 feet in length, and is that best known to the ancients. Name *pelagus*, the sea; it being found only in Pelagian situations.

Pelecan'idæ. *Pelicanus*, the type. A family of swimming birds.

Peleca'noides. The name given by Lacepede to certain birds of the antarctic seas, which have the bill and figure of the petrel and the dilatable throat of the cormorant. Sailors call them petrels.

Peleca'nus. The pelican: a genus of aquatic birds. Order *Palmipedes*; family *Totipalmatæ*. There is only one species, the Ponocrotalus, Lin., as large as a swan, entirely white, bill of extreme length, very broad, the lower mandible sustaining a naked membrane attached to its flexible branches, susceptible of being dilated into a large sac, in which it is said to transport both food and water. It is found more or less disseminated throughout the eastern continent, breeds in marshes, and lives entirely on live fish. Linné included in the genus the cormorants, frigate bird, and boobies. Name *pelicanus*, from $\pi\epsilon\lambda\epsilon\kappa\alpha\omega$, to perforate.

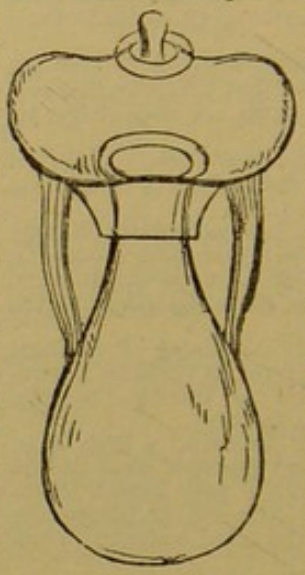
Pel'ecoid, Pelecoi'des, from $\pi\epsilon\lambda\epsilon\kappa\upsilon\varsigma$, a hatchet, and $\epsilon\iota\delta\circ\varsigma$, like. A mathematical figure in the form of a hatchet,



PELECOID.

contained under two quadrantal arcs and a semicircle.

Pel'ican. 1. In *ornithology*. See Pelecanus. —2. A description of alembic formerly much used in cases of long digestions on a sand-bath, with a contrivance for constantly returning on the materials at the bottom all the liquid of the menstruum, which would otherwise evaporate. It is not now used. —3. An instrument for extracting teeth. —4. A piece of ordnance equal to a quarter culverin, and carrying a six-pound ball.



PELICAN.

Pella'gra, Pela'gra, from $\pi\epsilon\lambda\iota\varsigma$, black, & $\alpha\gamma\rho\alpha$, seizure. The name of a peculiar disease, very common to the inhabitants of the Lombardo-Venetian plains. It commences with a red shining spot, on the back of the hands, or some other part of the body; this increases in size, produces numerous small tubercles of different colours, and assumes a very malignant appearance; but usually disappears during the winter, and the part again becomes well. During this first attack the health does not seem to suffer, but next season the affection returns with increased vigour, the patient becomes emaciated, enfeebled, and melancholy; and as the disease advances, it assumes various forms, the patient becomes truly wretched, and suffers every extreme of torture which is known to attack the human being, before death puts an end to his misery. Before the disease breaks up the constitution, the local affection sometimes appears successively for several summers, but often proves fatal after the second or third. The disease is confined to the agricultural population, and the poorest classes, but the cause of it is not known.

PEL'LICLE, Lat. *pellicula*, dim. of *pellis*, a skin. 1. A film or thin skin, as that which lines the shell of an egg, or which covers the seeds and some other parts of plants.——2. In *chemistry*, a thin crust appearing on the surface of a solution of salt evaporated to a certain degree, and which consists of saline particles crystallised.

PEL'LITORY. 1. In *pharmacy*, the root of the Spanish chamomile (*Anthemis pyrethrum*), a native of the Levant, Barbary, and the south of Europe. It is used in medicine as a stimulant.——2. In *botany*, *see* PARIETARIA. The *Bastard Pellitory* is a species of Achillea; *Pellitory of Spain* is another name for the Anthemis pyrethrum, which affords the pellitory of the shops.

PELLS. In *England*, the *clerk of the pells* is an officer of the exchequer, who enters every teller's bill on the parchment rolls, the roll of receipts, and the roll of disbursements; Lat. *pellis*, a skin.

PELT, PEL'TRY. *Pelt* is properly the raw skin of an animal, with the hair on it; and *peltry* is the collective term by which such skins are denominated in commerce. The terms are, however, now restricted to the skins of those animals found in high latitudes, as the beaver, bear, moosedeer, marten, minx, sable, woolverin, &c. When the insides of the skins are dressed, they are then denominated *furs;* but in their raw state they are *peltry*.

PEL'TA. 1. A small shield or buckler, used by the ancients.——2. A fruit of an oblong, flat, and obtuse form, observed in the lichen tribe.

PELTAS'TÆ. Light-armed infantry among the Greeks were so called, as they carried the target.

PEL'TATE, Lat. *peltatus*, target-shaped: *pelta*, a target. Applied to leaves when they have the stalk inserted into their middle, like the arm of a man holding a shield.

PEL'VIS, from πέλυς, a basin. The cavity of the body below the belly, which is shaped like the basin used in ancient times.

PEM'PHIGUS, from πέμφιξ, a vesicle. An eruption, consisting of vesicles of various sizes, and mostly attended by fever.

PEN. A well-known instrument for writing, of which there are numerous varieties. The first sort of pens used appear to have been metallic *styles*, the next reeds, the third quill-pens, and now we have in some measure returned to the use of metallic pens. Numerous forms have been given to metallic pens, but those which suit best are those which approach the nearest to the common quill pen. *Drawing-pens* consist of delicately formed steel blades, drawn together and adjusted according to the breadth of the line wanted, by means of a fine set-screw. *Music pens* are made for ruling the five staves of music at once, having as many points.

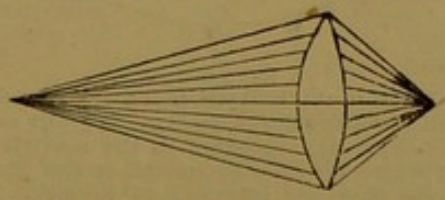
PEN'ALTY. Fine or forfeiture by way of punishment: *pœna*, punishment. The law inflicts *penalties*, sometimes pecuniary and sometimes personal, and the non-fulfilment of a bond or other agreement subjects the party to the *penalties* therein expressed.

PEN'ANCE. In the *Romish church*, one of the seven sacraments, consisting in the infliction of bodily suffering, as fasting, flagellation, &c

PENA'TES. The domestic gods of the Romans. They were properly the tutelar deities of the Trojans, adapted by the Romans, and thus named from *penitus*, because they were kept within the house.

PEN'CILS; are of two kinds: small hair brushes employed by painters in oil and water colours; and slender cylinders of black lead, either naked or inclosed in wood, for drawing black lines upon paper. The first sort are called for distinction *hair pencils*, and are made of various materials, as the bristles of the boar, camel's hair, swan-down, &c.; the second, styled *black lead* or *lead pencils*, are usually composed of slender parallelopipeds of plumbago, inclosed in cases of cedar wood, but of late years the plumbago has been formed into little cylinders, and fitted to a peculiar sort of *pencil-case*, provided with an iron wire and screw, to protrude a minute portion of the plumbago beyond the tubular metallic case: these are denominated *ever-pointed pencils*.

PENCIL OF RAYS. In *optics*, a double cone or pyramid of rays, diverging from



some luminous point, and which, after falling upon and passing through a lens, converges again on entering the eye.

PENDANT, from *pendeo*, to hang. 1. A hanging ornament.——2. In *nautical language*, a short piece of rope, fixed on each side under the shrouds, on the heads of the main and foremast, from which it depends, as low as the cat-harpings, having an iron thimble to receive the hooks of the tackle. There are also many other pendants of this sort, generally consisting of single or double ropes, to whose lower extremity is attached a block or tackle. *Pendant* is also the name of the long nar-

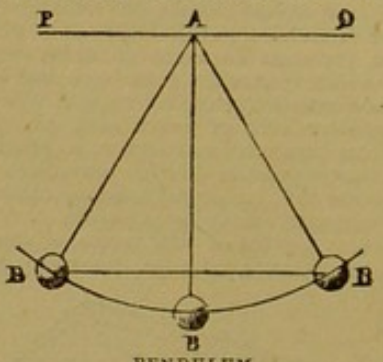
row banner displayed from the mast-head of a ship of war, and usually terminated in two points, called the swallow's tail: written also *pennant*, and Fr. *pennon*.

Pen'dent Bridge. A wooden bridge with abutments only at the ends, and supported by posts and pillars.

Penden'te Li'te. During the dispute: while the suit is undetermined.

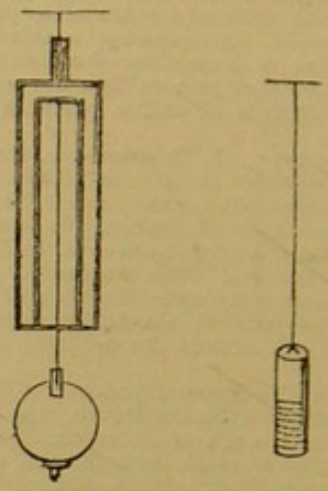
Penden'tive. In *architecture*, the whole body of a vault suspended out of the perpendicular of the walls. *Pendentive bracketing*, or cove bracketing, springing from the rectangular walls of an apartment upwards to the ceiling, and forming the horizontal part of the ceiling into a circle or ellipse. Pendentive cradling is the timber-work for sustaining the lath and plaster in vaulted ceilings.

Pen'dulum. In *mechanics*, any heavy body so suspended that it may vibrate about some fixed point by the action of gravity. The vibrations of a pendulum are called its *oscillations;* the time of each being counted from the time of its descent from the highest point on one side till it attains the highest point on the opposite side. The point A, about which the pendulum moves, is called the *point of suspension* or *centre of motion*, and the line P Q,



PENDULUM.

parallel to the horizon, is the *axis of oscillation*. Pendulums receive different denominations, according to the materials of which they are composed, or the purposes they are intended to answer. A single weight attached by a string, &c., is called a *simple* pendulum; but, in order to counteract the effects of variations of temperature upon the suspending medium, several contrivances have been adopted, under the name of *compensation pendulums;* these again take particular names, according to their form and materials, as the *gridiron pendulum*, the *mercurial pendulum*, the *lever pendulum*, &c. The gridiron pendulum is composed of any odd number of rods, so connected that the expansion or contraction of the one set of them is counteracted by that of the other. The mercurial pendulum consists of one rod with a vessel containing mercury at the lower end, so adjusted in quantity that whatever alterations take



GRIDIRON PENDULUM. MERCURIAL PENDULUM.

place in the length of the pendulum, the centre of oscillation remains the same, the mercury ascending when the rod descends, and *vice versâ*. Our clocks are nothing more than pendulums, with wheel work attached, to register the number of vibrations, and with a weight or spring having force enough to counteract the retarding effects of friction and the resistance of the air; and when the pendulum is so adjusted as to beat or vibrate $60 \times 60 = 3600$ in an hour, it is called a *seconds pendulum*, and its length at London is thirty-nine and one-eighth inches. This length varies with the latitude, in consequence of the variation of the force of gravity.

Pen'etrale. The most sacred part of an ancient temple, which usually contained an altar, dedicated to Jupiter Hercæus, the supposed protector of its sanctity.

Pen'etralia. Small chapels in the innermost part of Roman houses, dedicated to the *Penates*, &c., in which was deposited whatever was deemed most valuable.

Pen'guin. In *ornithology*, a name first given by the Dutch to the Aptenodytes of the south, to indicate the oily nature of their fat. *See* Aptenodytes.

Penicil'late, Lat. *pencillium*, a pencil. In *zoology*, when a part supports bundles of diverging hair.

Penitentiary. 1. A presbyter in the ancient Christian church, whose business was to hear confessions, and award private penance, in cases where it was unadvisable to censure publicly.——2. An office at the Court of Rome, in which are examined and delivered out the secret bulls, graces, and dispensations, relating to cases of conscience.——3. An officer in

some cathedrals, vested with power from the bishop to absolve, in cases reserved to him.——4. A house of correction, where offenders are confined for punishment and reformation, and compelled to labour.

PEN'ITENTS. In *Roman Catholic* countries, certain religious fraternities, distinguished by their particoloured garments.

PENNAT'ULA. The *sea-pen* or *feather:* a genus of zoophytes, distinguished by a double set of branches, extending from a calcareous axis, like the vanes of a quill. They float about in the waters of the ocean, just as the wind and current may direct them.

PEN'NIFORM, from *penna*, a feather, and *form;* having the form of a feather. Applied to muscles when the fibres pass obliquely outwards on either side from a tendinous axis.

PEN'NON. In *heraldry*, a small pointed flag, borne by a gentleman. When knighthood was conferred upon him, the point was cut off, and the square flag that remained was a *banner*.

PEN'NY, plu. *pence*. An ancient English silver coin, but now a copper coin: the twelfth part of a shilling. The penny was the first silver coin struck by our Saxon ancestors: it weighed 22½ grains troy, being the 240th part of their pound.

PEN'NYWEIGHT. A troy weight, the 20th part of an ounce, and equal to 24 grains.

PEN'SIONER. Literally, one who receives an allowance. At Cambridge and Dublin Universities, however, it is applied to students who live at their own expense.

PEN'STOCK. A sluice or floodgate, serving to retain or let go at pleasure the water of a mill-pond, &c.

PENTACAP'SULAR, from πέντε, five, and *capsula*, a capsule. Having five capsules or cells.

PEN'TACHORD, from πέντε, five, and χορδή, chord. A musical instrument having five strings.

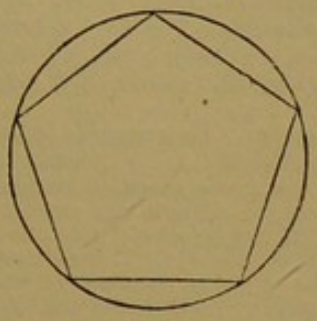
PENTACOC'COUS, from πέντε, five, and *coccus*, a berry. Having five united cells, with one seed in each: five-seeded.

PENTACRE'NUS, from πέντε, five, and *encrinus*. A genus of acephalous zoophytes, of which there are few known living species, but vast quantities are found fossil in the lower oolite formation, and especially in the lias. The animal is so named from the pentagonal formation of its vertebral column.

PENTACROS'TIC, from πέντε, five, and *acrostic*. A set of verses so disposed as to have five acrostics of the same name in five divisions of each verse.

PENTADAC'TYL, from πέντε, five, and δάκτυλος, a finger; having five fingers. 1. Applied to leaves.——2. The five-fingered fish, common in the East Indian seas, and marked with five black streaks on each side, resembling the prints of five fingers.

PEN'TAGON, from πέντε, five, and γωνία,



an angle. A geometrical figure having five sides and as many angles.

PEN'TAGRAPH. An absurd orthography of *Pantograph* (q. v.).

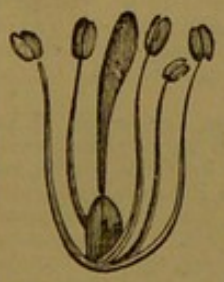
PENTAGYN'IA, from πέντε, five, and γυνή, a female. An order of plants having five pistils in a hermaphrodite flower.

PENTAHE'DRON, } from πέντε, five, and
PENTAH'DRON. } ἕδρα, a base. A figure of five equal sides. *Pentahedral*, having five equal sides.

PEN'TAHEXAHE'DRAL. Having five (πέντε) ranges of faces, one above another, each range consisting of six faces, that is, *hexahedral*.

PENTAM'ETER, from πέντε, five, and μέτρον, measure. A sort of verse in ancient poetry, consisting of five feet. The first two feet may be either dactyls or spondees, the third always a spondee, and the two last always anapests. A pentameter verse subjoined to a hexameter constitutes what is called elegiac.

PENTAN'DRIA, from πέντε, five, and



ἀνήρ, a male. The name of a class of plants in the sexual system of Linnæus, embracing those which have hermaphrodite flowers and five stamens.

PENTAN'GULAR, from πέντε, five, and *angular*. Five-angled.

PENTAPET'ALOUS, from πέντε, five, and πέταλον, a petal: five-petalled.

PENTAPHYL'LOUS, from πέντε, five, and φύλλον, a leaf: five-leafed.

PENTASPER'MOUS, from πέντε, five, and σπέρμα, seed: five-seeded. Applied to capsules.

PEN'TASTILE, from πέντε, five and

στυλος, a column. A building having five columns in front.

PEN'TATEUCH, from πεντε, five, and τευχος, a book. A name for the five books of Moses.

PEN'TATHLON, from πεντε, five, and ἆθλος, exercise. The five exercises performed at the Grecian games; wrestling, boxing, leaping, running, and playing at discus.

PEN'TECOST. Πεντεκοστη, from πεντεκοστος, fiftieth. 1. A solemn festival among the Jews, so called because celebrated on the fiftieth day after the sixteenth of Nisan, which was the second day of the passover. It was also called the *feast of weeks*, because it was celebrated seven weeks after the passover. ——2. Whitsuntide.

PEN'TELIC MARBLE. A beautiful variety of Parian and Carrara marble, named from Mount Pentelicus, near Athens, where it was quarried.

PENT'-ROOF, Fr. *pente*, a slope. A roof formed like an inclined plane, the slope being all on one side. called also a shed-roof.

PENULT', } Lat. *pene ultima*, almost
PENUL'TIMA. } last. In *grammar* and *prosody*, the last syllable but one.

PENUM'BRA, *pene umbra*, almost a shadow. A partial shade observed on the margin of the perfect shadow in an eclipse. It arises from the great rotative magnitude of the sun.

PEON. In the *East Indies*, a footman or foot-soldier; hence *pawns* at chess.

PEPERI'NO MARBLE. A calcareous stone found in the environs of Rome, something of the nature of *Travertino*. It is supposed to be the ancient *Saxum Albanum*.

PEP'LUM. An upper garment worn by the females of Ancient Greece.

PE'PO, from πεπτω, to ripen. In *botany* (1.) the Gourd (*Cucurbita pepo*); (2.) a fleshy succulent seed-vessel, the seeds of which are inserted into the sides of the fruit.

PEP'PER, Sax. *peppor*, Lat. *piper*. 1. In *botany*, *see* PIPER and POLYGONUM.——2. The berry or fruit of different plants, especially of the genera *Piper* and *Capsicum*, having an aromatic, hot, pungent taste. Used for seasoning, &c. The common sorts are (1.) *black pepper*, the fruit of the *Piper nigrum*, a creeping plant, cultivated in India, Siam, and the Eastern Islands. (2.) *White pepper*, made by blanching the finest grains of the black pepper. (3.) *Cayenne pepper* is produced by several species of *Capsicum*, common to both Indies: the best is the *bird pepper*, imported from the West Indies. It is the produce of the *C. baccatum*, an annual plant. The *Guinea pepper*, the produce of the *Capsicum annuum*, is also highly valued. What is called *Cayenne pepper*, in commerce, is, however, an indiscriminate mixture of the powder of the dried pods of seven or eight species of capsicum. (4.) *Long pepper* is the produce of the *Piper longum*, a perennial of Malabar and Bengal. (5.) *Jamaica pepper* is the produce of the *Myrtus pimenta*. *See* PIMENTO.

PEP'PER DULCE. The *Fucus pinnatifidus*, often eaten as a salad. It tastes like cresses.

PEP'PERMINT. The *Mentha piperita*, an indigenous plant. It has a more penetrating smell than the other mints, and a strong pungent taste, glowing like pepper; hence its name.

PEP'PERWATER. A liquor prepared from powdered black pepper.

PER. A Latin preposition, signifying *by*. 1. Used in many phrases, as *per annum*, *per cent.*, &c.——2. In *chemistry*, it is used as a prefix to *oxide*, to denote the furthest degree of oxidation which does not confer the property of acidity, as *per-oxide* of mercury; and to the names of acids, where acids have been discovered containing still more oxygen than those whose names end in ic, *perchloric acid*. A salt formed by the union of an acid with a peroxide, is termed a *per* salt, as the *per*-nitrate of mercury. We have also *per*-iodides, *per*-chlorides, &c., on the same principle.

PERACU'TE, Lat. *peracutus*. Very acute. Applied to diseases when very severe.

PERAMBULA'TOR. Surveying wheel. An instrument for measuring roads, &c., where only moderate accuracy is required. As the great wheel turns round it communicates motion to a set of toothed wheels, which again move indexes or hands upon a dial-plate, and thus register the number of revolutions made by the wheel of the instrument; and knowing the circumference of this, the distance passed over is consequently known. The registering part of the machinery is sometimes attached to the wheels of carriages let on hire, to show the distance driven.

PER'BEND, or THOROUGH. The term applied to the heading-stones of a wall when they are carried through the whole thickness: if the stones only reach a part of the way through, they are termed *binders*.

PER'CA. The Perch. A genus of acanthopterygious fishes, and the type of the family *Percoides*, CUV. The species are numerous. Name, πέρκη ἢ περκίς ἀπὸ περκνὸς, black; *quia nigris maculis est varius*.

PERCEP'TION. In *logic*, the first act of the mind, which consists in the reception of ideas through the medium or instrumentality of the senses.

PERCH. 1. In *ichthyology*, *see* PERCA. —2. A measure of length equal to 5½ yards: a rod or pole.

PERCHLOR'ATE. A salt formed by the union of the perchloric acid with a base.

PERCHLOR'IC ACID. Oxychloric Acid. An acid consisting of 1 equivalent of chlorine and 7 equivalents of oxygen, condensed into a colourless liquid of sp. gr. 1·6. It is obtained by distilling perchlorate of potash with an equal weight of sulphuric acid, diluted with a fourth of water. By redistillation with concentrated sulphuric acid, the perchloric acid may be obtained in a solid form, and crystallised. The discovery of this acid is due to Count Stadion.

PERCUS'SION, from *percutio*, to strike. The striking of one body against another. The *centre of percussion*, in any body, or system of bodies revolving about a point or axis, is that point which, striking an immoveable object, the whole mass is brought to rest in equilibrio, without acting upon the centre of suspension. In a straight stick, of uniform thickness, the centre of percussion is two-thirds of the length of the stick from the axis of motion. *Percussion caps* are little caps containing minute portions of fulminating powder, to be fixed on the nipple of a *percussion lock*, to ignite the powder in the barrel of the musket, when exploded by the stroke of the hammer or *dog-head*. Locks adapted to explode fire arms, &c. by these caps are called *percussion locks*.

PERE LA CHAISE. The name of a celebrated cemetery, in Paris, laid out in 1804. It was formerly the chief seat of the Jesuits' establishment in France, and was presided over by Pere La Chaise, Confessor of Louis XIV.

PEREN'NIAL, Lat. *perennis*, from *per*, and *annus*, a year. Lasting naturally *more than two years*. Applied to plants, the stems of which perish annually; but the roots last more than two years. The term is sometimes used in the sense of *perpetual*, or never ceasing, as a perennial stream, spring, &c.

PER'FECT NUMBER, is a number equal to the sum of all its divisors.

PERFO'LIATE, Lat. *perfoliatus*, from *per*, and *folium*, a leaf. Applied to plants, the leaves of which surround the stem at their base.

PER'FORATEÆ. One of Linnæus' natural orders of plants, comprehending such as have their leaves perforated with small holes.

PER'FORATE, Lat. *perforatus*, penetrated. Applied to leaves through which the stems pass, and also to those penetrated with small holes.

PERGAME'NEOUS, Lat. *pergamena*, parchment. In *entomology*, when a part resembles parchment.

PERGUN'NAH. In the *East Indies*, a subdivision of a district answering to the English hundred.

PE'RI. In *Persian mythology*, the peris are the descendants of fallen spirits, excluded from Paradise until their penance is completed.

PER'IANTH, Lat. *perianthium*. The calyx properly and commonly so called when it is contiguous to, and makes part of, a flower, from περι, about, and ανθος, a flower. It has many forms.

PERI'BOLOS, περι, and βαλλω, I cast. In *architecture*, an inclosure entirely round a temple, surrounded by a wall.

PERICAR'DIUM, from περι, around, and καρδια, the heart. The membranous bag which surrounds the heart, and the arterial and venous trunks connected with it. It contains a liquid which lubricates the heart.

PER'ICARP, Lat. *pericarpium*. The seed-vessel of a plant. From περι, about, and καρπος, seed.

PERICHÆ'TIUM, from περι, about, and χαιτη, a hair. A scaly sheath investing the fertile flower, and consequently the base of the fruit-stalk, of some mosses.

PERICHON'DRIUM, from περι, about, and χονδρος, a cartilage. The membrane that covers a cartilage.

PERICRA'NIUM, from περι, about, and κρανιον, the cranium. A membrane covering the outside of the cranium, and corresponding to the periosteum of other bones.

PER'IDROME, from περι, around, and δρομος, a course. That part of a temple, or other like edifice, between the peripteræ and the wall, and which served among the Greeks as a promenade.

PER'IGEE, from περι, near, and γη, the earth. A term in the *ancient astronomy*, opposed to *apogee*, and signifying the nearest approach of the sun, or any of the planets, to the earth. In *modern astronomy*, the term *perihelion* is used, because it is not the sun but the earth which is in motion.

PERIGY'NIUM, περι, and γυνη, female. The arceolate body formed in the genus *carex* by two bracteæ.

PERIG'YNOUS, from περι, around, and γυνη, a female. Applied to the stamens of flowers, when they grow out of the corolla, calyx, or perianth, or are not in any way joined to the seed-vessel.

PERIHE'LION, } from περι, near, and
PERIHE'LIUM, } ηλιος, the sun. That point of the orbit of a planet or comet wherein it is nearest to the sun, being the extreme of the transverse axis nearest

the focus in which the sun is placed: opposed to *aphelion*.

PERIM'ETER, from περι, around, and μετρεω, to measure. The sum of the boundary lines of any figure. In *circular figures*, the terms *circumference* and *periphery* are commonly used.

PER'IOD. Περιοδος, from περι, about, and οδος, a way. A circuit: hence—1. In *astronomy*, the time in which a planet or satellite makes one revolution in its orbit.——2. In *chronology*, a series of years by which time is reckoned; a revolution of time, at the end of which things comprised within the calculation shall return to the state in which they were at the beginning; as the Calippic *period*, the Dionysian *period*, the Julian *period*.——3. In *grammar*, a complete sentence; also the point which marks the termination of a period, thus (.).——4. Figures are sometimes marked off into periods of three places for convenience of reading large numbers, as £800,000,000 of national debt.

PERIOD'ICALS. In *literature*, a general name for all those publications which appear at regular intervals, whether devoted to general information or to some particular department of science. Newspapers, magazines, journals, and reviews, are all periodicals.

PERIODIC'ITY. The disposition of certain phenomena to recur at stated times or periods.

PERIŒ'CI, PERIŒ'CIANS. } Περιοικοι, from περι, about, and οικος, a house.

Neighbours: inhabitants of the earth who live in the same latitude, but in opposite longitudes. The term has been extended to all who live in the same latitude.

PERIOPHTHAL'MUM, from περι, about, and οφθαλμος, the eye. A name for the nictitating membrane of the eyes of birds and fishes.

PERIOS'TEUM, from περι, about, and οστεον, a bone. The membrane which invests the external surfaces of all the bones, except the crowns of the teeth. It is called *pericranium* on the cranium; *periorbita* on the orbits; *perichondrium* when it covers cartilage; and *peridesmium* when it covers ligament.

PERIPATET'ICS, from περιπατεω, to walk. An ancient sect of philosophers, followers of Aristotle, so named because they disputed while walking up and down the Lyceum at Athens.

PERIPH'ERY, from περι, about, and φερω, to bear. The circumference or bounding line of any curvilinear figure.

PERIPHORAN'THIUM, from περιφερω, to encircle, and ανθος, a flower. A kind of involucre, in which the bracts are numerous, closely packed, and parallel to one another.

PERIPNEU'MONY, Lat. *peripneumonia*, from περι, and πνευμων, the lungs. Inflammation of the lungs.

PER'IPTERE, from περι, about, and πτερον, a wing. A range of columns surrounding a temple, and distant from the wall an intercolumniation. The vacant space is termed a *peridrome*, and the temple having such periptere is denominated a *peripteral*.

PERIRHANTER'ION (Gr.), from περιῥαινω, to sprinkle. Lustral vases placed at the entrance of the ancient temples.

PERIS'CII. Περισκιοι. Periscians: inhabitants of either frigid zone, where the sun, when in the summer signs, moves round about the horizon without setting, and consequently their shadows in the course of their day turn to every point of the compass: περι, around, and σκια, a shadow.

PE'RISPERM, from περι, around, and σπερμα, seed. A thick, farinaceous, fleshy, or horny part of the seeds of plants, either entirely or only partially surrounding the embryo, and inclosed within the investing membrane. It corresponds to the *albumen* of Gærtner.

PERISTAL'TIC. Περισταλτικος. Spiral: vermicular or worm-like, from περιστελλω, to contract. Applied to the vermicular motion of the intestines, by which they propel forward their contents.

PER'ISTOME, from περι, around, and στομα, a mouth. The fringe-like membraneous margin which in many mosses borders the orifice of the capsule or theca.

PER'ISTYLE, from περι, about, and στυλος, a column. A range of columns within a court or building, as the internal colonnade of an hypæthral temple.

PERISYS'TOLE, from περι, about, and συστολη, contraction. The time between the *systole* or contraction of the heart, and its *diastole* or dilatation.

PERITO'NEUM, PERITONÆ'UM. } Περιτονιον, from περι, about, and τονοω, to extend.

A strong simple membrane, by which all the viscera of the abdomen are surrounded, to prevent friction and retain them in their proper position.

PERITRO'CHIUM, from περι, around, and τροχος, a wheel. A wheel or circle concentric with the base of a cylinder, and moveable together with it about an axis. The axis, with the wheel and levers fixed in it to move it, constitute that mechanical power called *axis in peritrochio*. *See* WHEEL AND AXLE.

PER'IWINKLE. 1. In *conchology*, the sea-

snail, or *Turbo littoreus*, Lin.——2. In *botany*, a species of Vinca.

Per'mit, from *permetto*. A license or instrument granted by the officers of excise, authorising the removal of goods subject to excise duties. Permits are one of the useless nuisances of our excise laws.

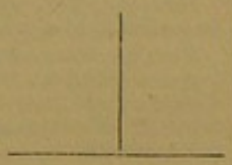
Permuta'tion. In *algebra*, the arrangement of any determined number of objects in all possible orders, after each other.

Per'nis. A genus of birds of prey: the *honey-buzzards*, separated by Cuvier from the kites. Order *Accipitres*, Lin., family *Diurnæ*, Cuv.

Perora'tion, from *per* and *oro*, to pray. The concluding part of an oration, where the speaker recapitulates the principal points of his argument, and urges them with greater earnestness.

Perox'ide. *See* Per.

Perpendic'ular, Lat. *perpendicularis*, relating to a plumb-line (*perpendiculum*), from *per* and *pendeo*, to hang. A *perpendicular line*, or a *perpendicular*, means in common language any line falling at right angles to the plane of the horizon, that is, extending from some point in a right line towards the centre of the earth or centre of gravity.



In *geometry*, a perpendicular is any line falling at right angles on another line, or making equal angles with it on either side. In *gunnery*, the name is given to a small instrument for finding the centre line of a piece of ordnance, in the operation of pointing it at an object.

Perpendic'ular Lift (on canals). A contrivance for passing boats from one level to another.

Per'petual Mo'tion. Motion that generates a power of continuing itself indefinitely. Every body in nature, when in motion, would continue in that state, and every motion once begun would be perpetual, but for the operation of some external causes, as friction, gravity, &c.; but since no absolute power can be gained by any combination of machinery, to counteract these causes, it follows that a perpetual motion can never take place by any purely mechanical contrivance; yet this is a problem which has engaged the attention of many ingenious, though ill-educated men.

Perpet'ual Screw. A screw which acts against the teeth of a wheel, and continues its action without end.

Perpetu'ity. 1. In *law*, is where, if all that have an interest join in the conveyance, yet they cannot bar the estates. ——2. In *annuities*, the number of years in which the simple interest of any principal sum will amount to the same as the principal itself.

Per'pyen-walls. The name given to two walls in Fotheringhay church, which divide the body of the church from the aisles. The origin of the name does not appear to be known.

Per'ron (French). A staircase lying open or withoutside the building; more properly the steps in front of a building, which lead into the first story, when this is raised above the level of the ground.

Per Saltum. By a leap, at once.

Per Se. 1. Of its own nature; i. e. in virtue of its own entity, as the sun gives light *per se*.——2. By itself; as when a body is distilled without the addition of any other matter, it is said to be distilled *per se*.

Per'seus. 1. In *mythology*, a hero, the son of Jupiter. —— 2. In *astronomy*, a northern constellation.

Per'sian Berries. A yellow dye drug, the fruit of a Persian variety of the *Rhamnus infectorius*, which grows in Persia. *See* Berries of Avignon.

Per'sian Wheel. A wheel used for the purposes of irrigation, and usually equipped with floats on its circumference, and turned by the stream in which it is placed, but turned by animal power when the water in which it is worked is stagnant. Upon its rim are buckets suspended, which are filled with water at the lowest point, and empty themselves into a receiver at the highest point, from which it is conveyed away in canals. This is one of the cheapest and most efficient modes of raising water to small elevations, and requires neither nicety in construction, nor attention in working, especially where a running stream is obtained. It is much used in the East.

Per'sians. In *architecture*, the same as *Caryatides* (q. v.). According to some, the male figures only are called *Persians*, and the female figures *Caryatides*

Persis'tent, Lat. *persistens*. Permanent. Applied to flower-cups which remain long after the flower. Also, in *optics*, to the duration of the impression of light upon the retina of the eye, after the removal of the source of the light.

Per'son, Lat. *persona*. 1. A mask used by actors on the stage, from *per* and *sonus*, sound. The term is now used to denote a human being.——2. In *grammar*, the agent which performs, or the patient which suffers, the action expressed by the verb, and hence, also, we apply the word *person* to the termination or modified form of the verb used in connection with the persons, as the verb is in the first, second, or third *person*. Such verbs are usually denominated *personal verbs*.

Persona'tæ. A natural order of plants

in Linnæus's natural method, characterised by being fetid, poisonous, and aromatic, with personate corollæ.

PER'SONATE, Lat. *personatus*, from *persona*, a mask. A term applied to monopetalous flowers of an irregular form, the corolla having an oval appearance, with the labia closed.

PERSPEC'TIVE, from *perspicio*, to see through. 1. A term, in *drawing* and *painting*, for the science by which objects are ranged upon a plane surface, as in a picture, according to their appearance in their real situation. This embraces three subjects: *lines*, which determine the outline; the *chiaro-'scuro*, which shows the relief; and the *color*, which gives the true appearance. The *lines* form what we call the design, and the *colouring*, in conjunction with the design, constitutes the art of painting; consequently we may divide perspective into *linear* and *aërial*. The first is a branch of mathematics, and, as such, is subject to principles which are rigorously demonstrated: it shows how lines which define figures appear to the eye of the spectator, according to the point on which the eye is fixed, and the distance of the objects. *Aërial perspective* is so named because it is the effect of the vaporous air which is interposed between the different objects, diminishing by its colour the tones in proportion to its greater or less quantity, and the distance of the planes of the picture in relation to the eye. Perspective, generally, divides itself into *projection*, *ichnography*, *orthography*, *scenography*, and *stereography* (q. v.).——2. A terrestrial telescope.

PERSPIRA'TION, from *perspiro*, to breathe through. The vapour secreted by the extremities of the cutaneous arteries from the external surface of the body. It is called *sensible* when it becomes visible in the form of very small drops (*sweat*) adhering to the skin; and *insensible*, when it passes off in the form of invisible vapour.

PERTURBA'TION. In *astronomy*, the deviation of a celestial body from its theoretical elliptical orbit, caused by the attraction of other bodies.

PERU'VIAN BALSAM is the produce of the *Myroxylon Peruiferum*, a tree of Peru, &c. *See* BALSAM.

PERU'VIAN BARK. *Cortex Peruvianus*. *See* BARK and CINCHONA.

PE'SADE. Fr. *pessade*. The motion of a horse when he raises his fore quarters, and keeps his hind feet on the ground, without advancing.

PES'SARY, from πισσω, to soften. A surgical instrument or application of many forms, for introducing into the vagina, to support the uterus.

PET'AL, Lat. *petalum*, and Gr. πεταλον, from πιτανω, to expand. The name of each of the coloured leaflets of the corolla of a flower. In monopetalous flowers the *corolla* and *petal* are the same.

PETALOI'DEUS, πεταλον and ειδος. Any organ like a petal in texture or colour

PET'ARD (French). A warlike engine, made of metal, and shaped like a sugar-loaf. It is loaded with powder, and fixed on a madrier or plank, and exploded against gates, barricades, &c., to break them open.

PETAU'RUS. A genus of Marsupialia, established by Shaw, to receive the *flying phalangers* of New Holland. Name from πεταλον, a leaf, and ουρα, a tail; the skin of the flanks being more or less extended, which enables them to sustain themselves momentarily in the air, and make great leaps, like the flying squirrels among the Rodentia.

PETE'CHIA. An Italian word, commonly used in the Latin plural from *petechiæ*, to denote the purple spots which appear on the skin in some malignant fevers.

PET'IOLAR, Lat. *petiolaris*. Fixed to the petiole or leaf-stalk.

PETI'OLATE, Lat. *petiolatus*. Having petioles or leaf-stalks.

PE'TIOLE, Lat. *petiolus*. The footstalk or leafstalk of a plant.

PETI'TIO PRINCIPII. In *logic*, the taking of a thing for true, and drawing conclusions from it as such. This is what is termed, in common parlance, "begging the question."

PET'REL. A name for all those storm birds forming the extensive genus *Procellaria*, Lin. *See* PROCELLARIA and PELECANOIDES.

PETRIFAC'TIONS, Lat. *petra*, stone, and *facio*, I make. Otherwise called organised fossils, organic remains. The conversion of vegetable and animal matter into a stony substance.

PETROBRU'SIANS. The followers of Peter de Bruys, a heretic of the 12th century.

PETROLE'NE, from *petra*, stone, and *oleum*, oil. An oily liquid, of a pale-yellow colour, and Sp. gr. 0·891, obtained by distilling about 15lbs. of the bitumen of Bechebroun, in the department of Bas-Rhin, with about 22 imperial gallons of water. The bitumen itself is viscid, has a deep brown colour, and is employed, around the locality where it is found, as grease for machinery, under the name of *stone oil*.

PETRO'LEUM, from *petra*, rock, and *oleum*, oil. A mineral oily substance, which flows from the clefts of rocks, and in different places at the surface of the earth. It is usually, at the temperature of this country, about the consistency of tar, has a reddish brown colour, but be-

comes black by exposure to the air, and is then called *mineral tar*. In places where it occurs plentifully, it is used as oil for lamps, as in the Burman empire, where, in one locality, there are said to be between 500 and 600 wells, yielding annually 400,000 hogsheads of petroleum. It is composed of several oils, a little oleine and stearine, resin, with a brown indifferent substance in solution. By distillation it yields naphtha, Sp. gr. ·087. Smell bituminous.

Pet'roline. A substance obtained from the petroleum of Rangoon, by Professor Christison. It is the same substance as that previously discovered by M. Reichenbach, and named *Paraffine* (q. v.).

Petrom'yzon. The lamprey, a genus of fishes. Order *Chondropterygii branchiis fixis*, Cuv. Family *Cyclostomi*, Dumeril. Name from πετρος, a stone, and μυζαω, to suck, as these fishes habitually fix themselves by suction to stones and other solid bodies; they attack the largest fishes in the same way, and are finally enabled to pierce and devour them.

Petrosi'lex, chert or rock-flint: *petra*, rock, and *silex*, flint. A fusible variety of hornstone; according to some authors, the same as clinkstone; others again make it compact felspar.

Pet'ty. In *law*, formerly written *petit*, French for small. A *petty constable* is one subordinate to the high constable. A *petty jury*, in distinction to *grand jury*, consists of 12 freemen empannelled to try causes at the bar of a court. *Petty serjeanty* is a tenure of lands of the crown, by rendering annual service of some implement of war, as a bow, arrow, sword, &c. *Petty treason* is the crime of killing a person to whom the offender owes duty or subjection.

Petuntze', } The Chinese name (*pe-*
Petuntse'. } *tunt-ze*) of the fusible earthy matter of their porcelain, analogous to our Cornish stone. It is a variety of felspar.

Pet'worth Marble. Sussex marble. A limestone of various shades of colour occurring in the weald clay, and composed of the remains of fresh-water univalves, shells of the paludina, and crusts of the Cypris faba, united into a compact marble by a gangue of calcareous matter.

Peuce'danum. Sulphur-wort or hog's fennel. A genus of perennial plants. *Pentandria—Digynia*. Name from πιτυη, the pine-tree, on account of the shape of its leaves. The officinal hog's fennel (*P. officinale*) and the meadow saxifrage (*P. silaus*) are indigenous species; the others belong to the continent and the other European isles.

Peutinge'rian Map (Germ.) A map of the roads of the ancient Roman world, written on parchment, and supposed to have been constructed about the year 236.

Pew'ter. A factitious metal, used in making plates, dishes, spoons, and several other domestic utensils. The alloy, generally speaking, consists of tin and lead, with sometimes a little zinc, copper, or antimony, according to the purposes for which the metal is designed. The sorts known in commerce are plate, triple, and ley-pewter; the first is the hardest, and is used for plates and dishes; the second is used for beer-pots; and the third for the larger wine measures. The name is obtained from Norman, *peautre*.

Pezi'za, a genus of fungi. The name was used among the Greeks to denote such fungi as grow without any stalk or apparent root.

Phænog'amous, from φαινω, to show, and γαμος, marriage. An epithet for such plants as have the stamens and ovarium distinctly visible.

Pha'eton. 1. In *mythology*, the son of Phœbus and Clymene, who, having rashly undertaken to drive the chariot of his father for a day, set fire to the world, for which Jupiter precipitated him into the Po by a thunderbolt.——2. A light open carriage on four wheels, and drawn by two horses.——3. The *tropical bird:* a genus known by two long and narrow feathers which flow from their tail, and which at a distance resemble so many straws.

Phageden'ic, from φαγω, to eat. An epithet for any ulceration which spreads rapidly; also for escharotics.

Phalæ'na. The Moths: a genus of nocturnal Lepidoptera. Name, φαλαινα, "quæ noctu lucernis advolat."

Phalan'gers. In *zoology* (*see* Phalangista).

Phalan'ges, pl. of *phalanx*. The small bones of the fingers, and the toes of animals and birds are called *phalanges*.

Phalangis'ta. The Phalangers: a genus of Marsupialia of many species, natives chiefly of the Moluccas and New Holland. The genus is now subdivided into *Phalangista*, Cuv., or *Balantia*, Illiger, or the true *Phalangers* and *Petaurus*, Shaw, or *Phalangista*, Illiger, or the *Flying Phalangers*.

Pha'lanx, φαλαγξ, a battalion. 1. In the ancient warfare, a huge square compact mass of troops, of 8000, drawn up in close order, with their shields joined and pikes ranged across. The term is now more loosely applied.——2. The plural of the term, *phalanges*, is used to denote the small bones of the fingers and toes.

Phal'aris. Canary-grass: a genus. *Triandria—Digynia*. The *P. canariensis*, the seed of which is the food of canary birds, is the British type. Named from the φαλαρος of Dioscorides.

PHALAR'OPE. The name of several species of aquatic fowls, inhabiting the northern latitudes of Europe and America. Their flesh is oily and unpalatable.

PHAL'LUS. A genus of fungi, named after the φαλλος of the Greeks, which it closely resembles. The Morel fungus and stinkhorns are species.

PHANEROGAM'IC, from φανερὸς, manifest, and γάμος, marriage. An epithet for plants in which the stamens and ovarium are distinctly visible: opposed to *cryptogamic*.

PHAN'TASM, φαντασμα, from φανταζω, to appear. The imaginary perception of some object which is not really present: the result of disease of the eye or sensorium.

PHANTASMAGO'RIA. In *optics*, denotes remarkable illusions or combinations of *phantasma*, arising from the application of the magic-lantern, exhibited sometimes on a grand scale in the public halls of this country and France.

PHA'RISEES, Heb. *pharas*, separated. A sect among the Jews, who pretended to peculiar holiness.

PHARMACOPŒ'IA, from φαρμακον, a medicine, and ποιεω, to make. The art of preparing medicines; also a book of directions for the composition of medicines, approved of by medical practitioners, and published by authority.

PHA'ROS. A lighthouse, thus named from a celebrated one on a small island near the port of Alexandria in Egypt, reckoned one of the seven wonders of the world.

PHARYNGE'AL. Belonging to or affecting the pharynx.

PHARYNG'ITES. Inflammation of the membrane which forms the pharynx.

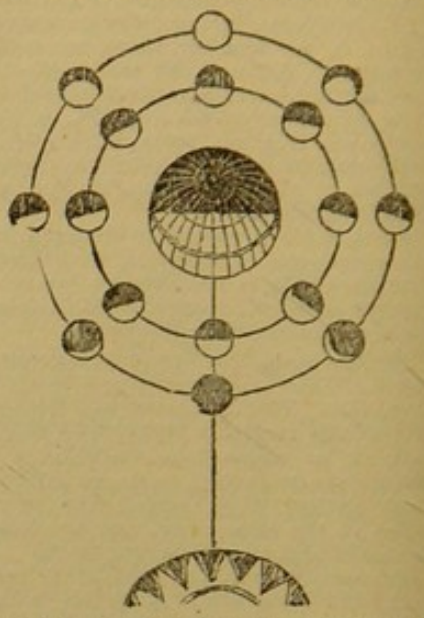
PHARYNGOT'OMY, from φαρυγξ and τεμνω, to cut. The operation of cutting into the pharynx.

PHA'RYNX, φαρυγξ. The muscular bag at the back part of the mouth, the use of which is to receive the masticated food, and convey it into the œsophagus, where it terminates.

PHASCOL'OMYS. A genus of Marsupialia established by Geoffroy to receive the Wombat found in King's Island, on the South of New Holland. It is as large as a badger, feeds on grass, lives in burrows, and is much esteemed for its flesh. Name from φασκωλον, a pouch, and μυς, a rat.

PHASE'OLUS. The Kidney-bean: a genus of papilionaceous plants. *Diadelphia—Decandria*. Name from φασηλος, a little ship, or galliot, which its pods somewhat resemble.

PHA'SES (plural of *phasis*), φασις, from φαινω, to shine; appearances. Applied, in *astronomy*, to the various appearances of the moon, Venus, Mercury, &c., at different times. The diagram exhibits the phases of the moon.



PHASIANEL'LA. A genus of Mollusca established by Lamarck in the order *Pectinibranchiata*, family *Trochoida*, Cuvier. The species inhabit the Indian ocean, and are much sought after by collectors, on account of the beauty of their colours. Name dim. of *phasianus*, a pheasant.

PHASIAN'IDÆ, φασιανος, pheasant. A family of Gallinaceous birds.

PHASIA'NUS. A genus of Gallinaceous birds, the *pheasants*, now divided into various subgenera, such as *Gallus* (our common cock and hen), of which several wild species are known; pheasants, properly so called, as the common pheasant of Europe, gold and silver pheasants of China, &c.; *Tragopon*, &c., Cuvier. The name φασιανος, supposed to be from the river Phasis, in Asia.

PHELLAN'DRIUM. A genus of herbaceous plants. *Pentandria—Digynia*. Name from φελλος, the cork-tree, and ανδρειος, male; because it floats upon water like cork. The water-fennel (*P. aquaticum*), a narcotic and poisonous plant, is the British type.

PHELLOPLAS'TICS, from φελλος, cork-wood, and πλασσω, to mould. The art of modelling in cork.

PHEN'ICINE. A brownish-black substance (when dry) obtained from indigo by the action of sulphuric acid, and thus named by Mr. W. Crum, but called by Berzelius *purple of indigo*. It dissolves readily in water and alcohol, and both

solutions are blue; but from these solutions it is precipitated by any saline substance.

PHENOM'ENON. Φαινομενον, appearance; φαινομαι, to appear. Something observed; something discovered to exist: used most commonly in the plural, as the *phenomena* of the heavenly bodies. The term often denotes an unusual appearance.

PHE'ON. In *heraldry*, the barbed iron head of a dart.

PHILADEL'PHES: φιλεω, I love; αδελφος, brother. A secret society said to have existed in France during the government of Napoleon.

PHILADEL'PHUS. The Syringa, or Mock Orange. A genus of permanent plants. *Icosandria—Monogynia*. Name from φιλεω, to love, and αδελφος, a brother. Temperate climates.

PHILAN'THROPINISM. A system of education on natural principles, mainly founded on the notions of Locke and Rousseau.

PHILIP'PIC. A discourse, or declamation, full of acrimony. The name was originally given to an oration of Demosthenes against Philip, king of Macedon, and subsequently came to denote any such orations, such as those of Cicero against Mark Antony.

PHIL'MOT, from Fr. *feuille morte*, a dead leaf. Coloured like a dead leaf.

PHILOL'OGY. Φιλολογια; φιλεω, to love, and λογος, a word. Primarily, a love of words: a desire to understand the origin and construction of language. It is now used, in a more general sense, to denote what the French call *Belles Lettres*, and includes grammar, rhetoric, poetry, history, and criticism.

PHILOS'OPHER'S STONE. A wonderful substance, the discovery of which was the principal object of alchemy. It was supposed to have the power of transforming all the baser metals into gold, and of curing all diseases. The appellation of *stone* is of modern date: no mention is made by any alchemist that the substance sought was of a lapideous nature.

PHILOS'OPHY. Φιλοσοφια, from φιλεω, to love, and σοφια, wisdom. The love of wisdom. The term is now used, generally, to denote an explanation of the reason, or an investigation of the causes, of all phenomena both of mind and of matter. When applied to any particular department of knowledge, it denotes the collection of the general laws or principles under which all the subordinate phenomena or facts relating to that subject are ranged. Thus, that branch which treats of nature is called *natural philosophy*, or *physics*; that which treats of man, as a moral creature, is called *moral philosophy*, or *ethics*; that which treats of him as an intellectual being is termed *intellectual philosophy*, or *metaphysics*.

PHLEBI'TIS, from φλεψ, a vein. Inflammation of a vein.

PHLEB'ORRAGY, from φλεψ, a vein, and ρηγνυμι, to break out. A rupture of a vein.

PHLEGMA'SIA, inflammation: from φλεγω, to burn. The disease popularly called *puerperal tumid leg* has been named by Dr. Hull *Phlegmasia Dolens*. The term *Phlegmasiæ* is also used by Dr. Cullen to designate an order of diseases in the class Pyrexiæ, characterised by pyrexia, topical pain, and inflammation; the blood, after venesection, exhibiting a buffy coat.

PHLEG'MON, from φλεγω, to burn. An inflammation of the sort called *healthy inflammation*.

PHLE'UM. Cat's-tail. A genus of gramineous plants. *Triandria—Digynia*. Most of the species are British, among which are the Timothy-grasses, varieties of the meadow-grass.

PHLOGIS'TIC. 1. Pertaining to phlogiston.——2. Inflammatory.

PHLOGIS'TICATED AIR. Nitrogen was so called by the old chemists, because it was found neither to be inflammable nor a supporter of combustion.

PHLORID'ZINE, from φλοιος, bark, and ριζα, root. A bitter-tasted principle, which exists in the bark of the trunk and roots of the apple, pear, cherry, and plum trees. Composition C14 H9 O9. It is the *Phloridzite* of Dr. Koninck.

PHO'CÆ. The Seals. A genus of Mammalia; order *Carnaria*; family *Carnivora*; division *Amphibia*. The Phocæ live on fish, always eat in the water, and, when they dive, close their nostrils by a sort of valve. The Common Seal (*P. vitulina*, Lin.) is from three to five feet in length, of a yellowish gray, spotted with brown. Common on the coasts of Europe.

PHOCEN'IC. Appertaining to the dolphin. *Phocenic acid* is obtained from phocenine by saponification. Composition C20 H15 O6.

PHO'CENINE. A peculiar fatty matter, obtained from the oil of the porpoise (*Delphinum phocæna*, Lin.). It yields phocenic acid by saponification.

PHŒNICOP'TERUS. The Flamingo. A genus of birds. Order *Grallatoriæ*; family *Macrodactyli*. Name φοινικοπτερος, red-winged, φοινικος, red, and πτερον, a wing, the bird being well characterised by its general red plumage. The species of the eastern continent and that of America seem to be different, although both are named *P. ruber* by naturalists.

PHŒ'NIX, φοινιξ. 1. A fabulous bird, of which wonderful stories are told. It was of the size of an eagle; its head was finely crested; the feathers of the neck

were brilliant like gold, and those of the tail were purple and carnation down. There could only be one such bird in the world at a time. It lived 1000 years according to some, and 500 according to others; after which it died, but sprung to life again from its own ashes.——2. The Date Palm-tree, a genus of nine species. *Diœcia—Triandria.* All the species are natives of warm climates; that which affords the *dates* of commerce is the *P. dactyifera.*——3. In *astronomy*, one of the southern constellations, so called after the example of the Arabians, who were acquainted with it, under the appellation of the *Griffin* or *Eagle*, from the most remote antiquity.

Pholada'ria. A family of marine bivalve shells, in the arrangement of Lamarck, of which the genus *Pholas* is the type.

Pho'las. A genus of molluscs. Order *Acephala testacea;* family *Inclusa.* The shell is bivalvular, and convex towards the mouth. Name φωλας, from φωλιος, a burrow, the pholades inhabiting canals which they excavate, some in ooze and others in stone, like the Lithodomi, Petricolæ, &c., and hence popularly called *stone-borers.* They have a peculiarly agreeable flavour.

Phonet'ic Writing, φωνη, sound. That writing in which the signs represent sounds.

Phon'ics, from φονος, sound. The doctrine of sound; otherwise called *acoustics.*

Phon'olite, from φονος, sound, and λιθος, stone. Another name for clinkstone.

Phonol'ogy, from φονος, sound, and λογος, discourse. The doctrine of the sounds and tones of the human voice.

Phor'mium. Flax-lily, or New Zealand Flax. A genus. *Hexandria—Monogynia.* One species a perennial. New Zealand.

Phorono'mia, } Gr. φερω, to carry, and
Phorono'my. } νομη, a law. A term used to denote the science of motion, by some of the older mathematicians; e.g. Hermann's work entitled *Phoronomia, seu de Viribus et Motibus Corporum Solidorum et Liquidorum* (Amster. 1716).

Phorono'mics. The English word for *Phoronomia* (q. v.). The term being less expressive than the word *mechanics*, now in general use to denote the science of moving bodies, has been laid aside by modern writers.

Phos'gene, from φως, light, and γενναω, to produce. *See* Chloro-carbonic Acid.

Phos'phates. Salts formed by the union of the phosphoric acid with the salifiable bases.

Phos'phite. A salt formed by the combination of the phosphorous acid with a base.

Phosphores'cence. The luminous appearance presented by phosphorescent bodies. The phosphorescence of sea-water, occasionally observed, arises from the presence of vast numbers of microscopic medusæ which float on its surface.

Phosphor'ic Acid. An acid formed by the oxygenation of phosphorus. It exists abundantly in the mineral, vegetable, and animal kingdoms. In the mineral kingdom we meet with phosphates of lead, iron, copper, manganese, &c. In the animal kingdom the basis of all bone is phosphate of lime, and this substance forms a large portion of testaceous coverings. Phosphoric acid is always formed when phosphorus is burned in atmospheric air or in oxygen.

Phos'phorous Acid. When phosphorus and corrosive sublimate act on each other, at an elevated temperature, a liquid called *protochloride of phosphorus* is formed. Water added to this resolves it into muriatic and phosphorous acids: a moderate heat expels the former, and the latter remains associated with water.

Phos'phorus, from φως, light, and φερω, to bear. A substance regarded as elementary, having never yet been decomposed. It is yellow and translucent; melts at 90° F., and boils at 550°. In the atmosphere, at common temperatures, it emits white fumes, which in the dark appear luminous: it is acidulous, and results from the slow oxygenation of the phosphorus. When heated in the air to about 148°, phosphorus inflames, and continues to burn, with much dense white smoke, which is phosphoric acid. It is obtained from bones by a chemical process.

Phosphovin'ic Acid. A crystallisable acid, formed by the re-action of phosphoric acid and alcohol. Composition $Ph_2 O_5 + C_4 H_5 O$.

Phos'phuret. A compound formed by phosphorus with a combustible or metallic oxide.

Phos'phuretted Hydrogen. Hydroguret of phosphorus. A gas procured by presenting phosphorus to nascent hydrogen, as by heating phosphorus in a solution of caustic potassa. It inflames spontaneously in atmospheric air, chlorine, and nitrous oxide.

Photogen'ic Drawing. The name given by the discoverer, Mr. H. F. Talbot, to a process of making pictures by the action of the light of the sun: whence the name, from φως, light, and γενναω, to produce. The process is this: a slip of paper is brushed over with a solution of nitrate of silver, and dried in the dark; it is then placed in a camera-obscura, properly adjusted before the object (as a building) whose image is to be taken. In a few minutes, more or less (according to

the strength of the light), the picture is made, and to fix it, it is only necessary to immerse the paper in a solution of sulphate of potash. A simpler picture may be made (as of a leaf, feather, or the like), by simply placing the object between the prepared paper and the pane of a window exposed to the sun. Chromate of potash, also, may be used in the preparation of the paper, instead of nitrate of silver, and for botanical drawings it is preferable.

PHOTOM'ETER, from φως, light, and μετρεω, to measure. An instrument or apparatus for measuring the intensity of light. Instruments for this purpose have been invented by Count Rumford, M. de Saussure, Mr. Leslie, and others, but they are all very defective. A very convenient photometer, for solar light, may be made by means of paper prepared as for photogenic drawings, as by exposure to the light for given times, slips of this paper will readily afford a comparative measure of the photic intensity of the rays which fall upon it; and as mechanism may be easily adapted to the constant shifting of the paper, so that only a very small but definite portion of it shall be exposed for a known length of time, the shades upon it may be reduced to a scale, and numerically estimated. The instrument will thus be rendered self-registering, and attended with few sources of error.

PHOTOM'ETRY, φως, and μετρον, measure. The science which treats of the measurement of light.

PHOTOPH'OBY, } from φως, light, and
PHOTOPHOB'IA, } φοβεω, to dread. Intolerance of light, arising from too great sensibility of the retina of the eye.

PHO'TOPSY, } from φως, light, and οψις,
PHOTOP'SEA, } vision; lucid vision. An affection of the eye in which the patient perceives luminous rays, ignited lines, coruscations, &c.

PHRASE, φρασις, expression. In *music*, a short melody, in which a complete musical idea is not expressed.

PHRA'TRY. A subdivision of Athenian citizens.

PHREN'IC. Φρενικος. Belonging to the mind, or to the diaphragm. The term is now only used in the latter sense.

PHRENI'TIS. Φρενιτις. Phrensy. Inflammation of the brain (regarded as the seat of the mind, φρην, the mind).

PHRENOL'OGY, from φρην, mind, and λογος, discourse; the doctrine of the mind. The term is now restricted to that particular view of the constitution first promulgated by Drs. Gall and Spurzheim; in which it is believed certain portions of the brain called *organs* minister to different faculties, propensities, and sentiments of the individual. The intellectual powers are assumed to reside in the anterior parts of the brain, the sentiments in the middle, and the animal propensities in the posterior parts. That the general principles and scope of phrenology are true, seems to be generally admitted; but much doubt still exists with regard to the details.

PHRYGA'NEA. A genus of neuropterous insects belonging to the family *Plicipennes*, and called papilionaceous flies by Reaumur. They frequent ponds, and their nymphs are aquatic.

PHRY'GIANS. An early sect of heretics, who abounded in Phrygia.

PHTHIS'IS. Φθισις, from φθιω, to consume. Pulmonary consumption.

PHYLAC'TERY. Φυλακτηριον, from φυλασσω, to preserve. An amulet worn about the person, to prevent disease.

PHY'LÆ, φυλη, tribe. The tribes into which Attica was anciently divided. A superintending officer, named a *phylarch*, was appointed to each tribe.

PHYL'LADE. The name given by the French geologists to clay-slate, from φυλλος, leafy.

PHYL'LITE, from φυλλον, a leaf, and λιθος, stone, a petrified leaf.

PHY'MA, from φυω, to produce. 1. A tubercle.——2. A genus of cuticular diseases, of which anthrax is a species.

PHYLLO'DIA, φυλλον, leaf. The petioles of certain leafless plants, which perform all the functions of leaves.

PHYLLO'DOCE. A sub-genus of Nereides, distinguished by their broad leaf-like branchiæ, from which they are named φυλλον, a leaf, and δοχις, trabicula.

PHYLLOSO'MA. A genus of Crustacea belonging to the family *Bipeltata* (q. v.). The species inhabit the Atlantic Ocean and Oriental Seas.

PHYSA'LIA. A genus of hydrostatic Acalepha resembling an extremely large oblong bladder, whence the name from φυσαω, to inflate. The animal swims on the surface of the sea in calm weather; and its touch is said to sting and burn like the sea-nettle.

PHYS'ALITE. Pyrophysalite. A subspecies of prismatic topaz, so named from φυσαω, to inflate, because it intumesces with heat.

PHYS'CONY, from φυσκων, a big-bellied fellow. Enlargement of the abdomen, of which there are several species, denominated from the viscus in which the enlargement takes place.

PHYSE'TER. A genus of whale-fish, the *Cachalots*, known by a very voluminous head, the superior portion of which consists almost entirely of large cavities,

filled with an oil, which becomes fixed as it cools, and which is known in commerce by the name of *spermaceti*. The substance called *ambergris* is a concretion formed in the intestines, during certain states of disease. The names *physeter* and *physalus* signify blown, from φυσαω, to blow. *See* CACHALOT.

PHYS'ICAL. Pertaining to nature, or natural productions. 1. Opposed to *mental* and *moral*, as *physical* force, education, &c.——2. Opposed to *mathematical*, as a *physical* lever, that is, an actual and real lever, having thickness and weight, which a mathematical lever is supposed to want.——3. Opposed to *chemical*, as the *physical* properties of a mineral.——4. Opposed to *metaphysical*.

PHYS'ICO-THEOL'OGY. Theology illustrated and enforced by physical science.

PHYS'ICS. The doctrine of natural bodies, their phenomena, causes, and effects, with their various operations, affections, &c., otherwise called *Natural Philosophy*. *See* PHILOSOPHY.

PHYSIOG'NOMIES. Indications in the countenance which serve to indicate the state and disposition of the mind and body, and which being described and treated in their causes and effects, give rise to *physiognomy* (q. v.).

PHYSIOG'NOMY, from φυσις, nature, and γνωμη, opinion. The art (called a science by some) of discerning the character of individuals by their countenances, gestures, and other external peculiarities. It consists in the study of what is generally termed *expression*. The spurious physiognomy of Lavater, however, consists in attempting to establish, with mathematical exactness, a correspondence between the disposition of the individual and the size and contour of particular parts of the face and body, as the nose, lips, &c. It is a mass of nonsense, with a particle of truth.

PHYSIOG'NOTYPE. An apparatus for taking an exact imprint of the face or other part, lately invented at Paris. It consists of a plate pierced with numerous minute holes, through each of which a wire passes freely, so that the whole has much the appearance of a brush. When a figure is applied against the ends of the wires, they yield, and their ends remain imprinted on a very exact mould, which, however, is not of much value.

PHYSIOL'OGY, from φυσις, nature, and λογος, discourse. That branch of natural knowledge which relates to the laws of life and the functions of living beings, whether animal or vegetable. Φυσιολογια in its original meaning is synonymous with natural philosophy, and in this sense it was used by the Greeks.

PHYTU'MA. Rampion. A genus of perennial plants. *Pentandria—Monogynia*. Name from φυτευω, to sow, because of its rapid increase. The horned rampion is the British type.

PHYTEL'EPHAS. The Tagua plant: a genus inhabiting America. Name from φυτον, a plant, and ελεφας, an elephant, in allusion to the great size of its fruit, the milk of which hardens into a substance like ivory.

PHYTOG'RAPHY, from φυτον, a plant, and γραφη, description. Description of plants.

PHYTOLA'CEÆ. A genus of plants. *Decandria—Decagynia*. Name from φυτον, a plant, and λακκα, gum-lac, of which it is the colour. There are seven species, but the Virginian poke, Pork-physic, red-weed, or American nightshade, is the best known.

PHYTOL'ITE, from φυτον, a plant, and λιθος, stone. A fossilised plant.

PHYTOL'OGY, from φυτον, a plant, and λογος, discourse. Another term for Botany.

PHYTO'PHAGA, φυτον, a plant, and φαγω, I eat. A tribe of cetaceous animals, synonymous with Herbivora.

PHYTOPHA'GOUS, φυτον, and φαγω, I eat. Plant-eating.

PI'A MA'TER. A thin vascular membrane which lies under the dura mater, embraces the brain, and adheres to its surface.

PIA'NO. In *Italian music*, signifies soft, as contrasted with *forte*, loud: hence

PIA'NO-FOR'TE. A musical instrument, resembling the harpsichord (of which it is an improvement), in which the tone is produced by hammers, instead of quills, upon the strings. Of all the keyed instruments, the piano-forte seems to merit the preference, on account of its superior tone, sweetness, and variety, as all shades of *piano* and *forte* may be produced upon it, without the harsh scratching of the quills, so disagreeable in the harpsichord.

PI'ARISTS. A religious order, founded at Rome in the 17th century, devoted to the purpose of education.

PIAS'TRE. A Spanish silver coin, equal to the American dollar, and worth 4*s*. 3½*d*. nearly.

PIAZ'ZA (Ital.). A portico, or continued archway, supported by pillars.

PIB'ROCH, Gael. *piobaireachd*, pipe-music. A wild irregular species of music, peculiar to the Highlands of Scotland. It is performed on the bagpipe, and is adapted to excite or assuage passion, and particularly to rouse the martial spirit of the clans.

PICA. 1. The *magpie*, a small species of corvus, prized for its beautiful plumage, the greater part of which is black and silky, reflecting purple, blue, and gold

the belly is white, and there is a large spot of the same on the wing. Its eternal chattering has rendered it notorious. In Scotland it is named the *pyet*.——2. In *printing*, a large species of type, probably named from *litera picata*, a great black letter at the beginning of some new order in the Liturgy. The name *pica*, or *pye*, was also formerly given to an ordinary, table, or directory, for devotional purposes, but for what reason does not appear.——3. Depraved appetite, with strong desire for unnatural food, so named, because the magpie was thought to be subject to this disease!——4. *Picæ* formed the second order of birds in the system of Linnæus.

Pic'amare. A thick oil, one of the six new principles discovered by M. Reichenbach in wood-tar. It has an insupportably bitter taste, from which it is named: *piceam amaram*, the bitter principle of pitch.

Picar'ds. A fanatic and immoral sect, who sprung up in Bohemia, in the 15th century.

Pice. Small copper coins in the East Indies.

Pick'et, Fr. *picquet*. 1. In *military affairs*, a guard, consisting of a small number of men, who do duty at an outpost to prevent surprises.——2. In *fortification*, pickets are sharp stakes sometimes shod with iron, used in laying out ground, or for pinning the fascines of a battery.

Picrid'ium. A genus of herbaceous plants. *Syngenesia; Poly. æqualis.* France and Barbary.

Pic'rolite, from πικρος, bitter, and λιθος, stone. A green-coloured mineral, chiefly composed of carbonate of magnesia, and so named from its taste.

Picrolich'enite. The bitter principle of the *Variolaria amara*, a lichen which grows in great abundance on the bark of the beech: πικρος, bitter, and lichen. It is a neutral substance, insoluble in water, but very soluble in alcohol: crystallises in octahedrons with a rhomboidal base. Sp. gr. 1·176.

Pic'romel, from πικρος, bitter, and μελ, honey. The black bitter principle of bile is so named by M. Thenard.

Picrotox'ine, } The substance to
Picrotox'ic Acid. } which the *Cocculus indicus*, the fruit of the *Menispermum cocculus* owes its deleterious qualities: from πικρος, bitter, and τοξικον, poison. It forms acicular crystals, dissolves in water and alcohol, and does *not* combine with acids, and hence is *not* an alkali, as was supposed when it was named *pirotoxic*. From the experiments of MM. Pelletier and Couerbe, on the other hand, it appears that picrotoxine is capable of combining with alkalies, and therefore approaches nearer the character of an acid than a base: it is sometimes in consequence named *picrotoxic acid*, and the compounds which it forms are accordingly *picrotoxates*.

Picts' Wall. Adrian's Wall. An ancient wall, begun by the emperor Adrian, A.D. 123, on the northern boundary of England, from Carlisle to Newcastle, to prevent the incursions of the Picts and Scots.

Pictures'que. All objects which afford fit matter for the imitation of the painter.

Pie, } 1. Among *printers*, types mixed
Pye. } or unsorted.——2. *See* Pica.

Piece. In *commerce*, a definite quantity of cloth, according to its kind. The *pieces* of some *piece-goods* are much longer than others.

Pied'mont Truf'fle. In *botany*, the *Lycoperdon tuber* or *Tribs*, a solid fungus of a globular form, which grows under the surface of the ground.

Piedroit (Fr.). In *architecture*, a pile or square pillar partly inserted in a wall.

Pieno (It.). In *music*, signifies that *all* the instruments are at that place performing.

Pie'pow'der (corrupted from Fr. *pie-poudre*, from *pied*, foot, and *poudre*, dust, or *pied puldreaux*, a pedlar). An ancient court of record in England, incident to every fair and market, of which the steward of him who had the toll was the judge. It had jurisdiction of all causes arising in the fair or market.

Pier, Fr. *pierre*. A strong erection, jutting into the sea, extending either in a curved or straight line, constituting a harbour for protecting shipping and other craft. Piers are generally constructed of strong masonry, supported on the outside by large fender piles driven into the ground, and strongly framed together by several rows of cross pieces. The *piers of a bridge* are the wall or masses from which the arches spring. In *buildings*, generally a pier is a strong flat buttress, projecting from the face of a wall; the term is also applied to any wall interposed between two windows or other openings.

Pierced. In *heraldry*, when a charge is represented as perforated.

Pi'etists. A sect of Protestants who sprung up in Germany, in the latter part of the 17th century, professing great piety and strictness of life. They despised learning and cultivated mysticism.

Piezom'eter, from πιεζω, to press, and μετρον, measure. An apparatus for ascertaining the compressibility of water. The best piezometer is that of Œrsted, described in Mosley's Illustrations of Mechanics.

Pig (of lead). About 150 lbs.

Pig-iron. Crude Iron. The melted iron from the smelting furnace is conducted into moulds or furrows, made in sand; the large mass which sets in the main one is called by the workmen a *sow*, and the lesser *one* are *pigs*, and these are known in commerce as *pig* or *crude iron*.

Pig'ment, Lat. *pigmentum*. 1. A paint or colour, usually of a solid form.——2. In *anatomy*, a mucous substance found in the eye, as the *pigment of the iris*, which covers the posterior surface of the iris, and takes the name of *uvea*, from its resemblance in colour to the grape; and the *pigment of the choroid membrane*, which covers the anterior surface of that membrane, and is generally named the *pigmentum nigrum*, or the black pigment.

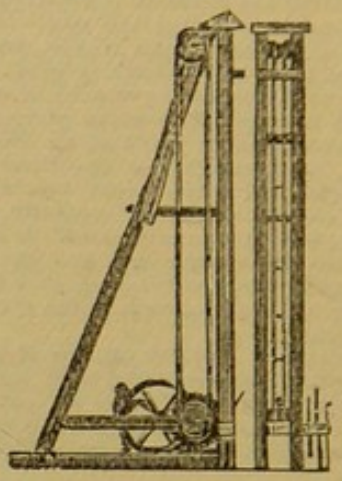
Pig'nut. Earth-nut. The bulbous root of the *Bunium bulbocastanum*, Lin., so called because pigs are fond of it.

Pike. 1. A military weapon consisting of a long wooden shaft, with a flat steel head pointed. Its use among soldiers is now superseded by the bayonet. ——2. A fish, the *Esox lucius*, Cuv., Yarr., &c., found in almost all the fresh waters of Europe. Its usual length is about two feet, but they are frequently found weighing 30 lbs. in the lakes of the north of England. It is one of the most voracious and destructive fishes in existence, but very palatable food. It takes its name from its long snout.

Pilas'ter, Fr. *pilastre*. A square column, sometimes insulated, but oftener set in a wall, and showing only the fourth or fifth part of its thickness.

Pil'chard. Gipsy herring. A fish, the *Clupea pilchardus*, Cuv., Yarr., &c., which closely resembles the herring, but is shorter and thicker. It is rarely found on the British shores, except on the coasts of Cornwall and Devon, where are the principal pilchard fisheries.

Pile. 1. Lat. *pila*, a heap, as a *pile* of balls. The ancient architects gave the name *pilæ* to those square blocks placed upon the epistylia, for supporting the timbers of the roof, and likewise to buttresses built against the walls of a mole. ——2. Lat. *palus*, a stake or beam of timber driven into the ground to form the foundation of buildings, piers of bridges, &c., when the ground is soft or loose. Amsterdam and some other cities are wholly built on piles. Piles, or, as they are sometimes called, *pile-timbers*, are driven by a machine called the *pile-driving machine* or *pile-engine*. It consists of a frame of timber, 30 or 35 feet long, placed in an upright position, and having a slide between the timbers of the frame, for the *ram* (a heavy iron weight) to be drawn up and run down. The ram is raised by a rope or chain passing over a pulley, fixed to the top of the framing, by means of the mechanism of a common



crane, called a *crab*, and when it has arrived at the highest point, it is disengaged from the hook from which it is suspended, by a contrivance called the *monkey*, and descends with great force upon the head of the pile.——3. *Pile* is also a name given to the arms-side of a coin; the head-side being called the *cross*. Hence the phrase *cross and pile*. This application is derived, by metonymy, from the *pile* or puncheon used in stamping figures on coins.——4. In *heraldry*, an ordinary represented wedge-shaped.

Pile'wort. A plant: the *Ranunculus ficaria*, the root of which is reckoned a specific for the piles.

Pil'lar. 1. An irregular and rude column. The supporters in Saxon, Norman, and Gothic architecture are pillars, not columns; but in common language the terms *column* and *pillar* are often used synonymously.——2. In *conchology*, the columella, or perpendicular centre, which extends from the base to the apex in most spiral shells.

Pil'lory. An instrument of punishment, consisting of a frame of wood erected on posts, made to confine the head and hands of a criminal, in order to expose him to public view, and render him publicly infamous. This mode of punishment was abolished in 1816, in all cases except perjury, and it has now fallen altogether into desuetude.

Pi'lose, Lat. *pilosus*, hairy. Applied very generally in natural history.

Pi'lot. A name applied either to a particular officer serving on board a ship during the course of a voyage, and having the charge of the helm and the ship's route; or to a person taken on board at any particular place, for the purpose of conducting a ship through a river, road,

or channel, or from and into a port. It is in the latter sense that the term *pilot* is now usually applied.

Pi'lot-Fish. Pilot mackerel. A species of the genus *Centronotus*, Lacep. The name owes its origin to the fact that this fish follows vessels to seize upon what may fall from them, and, as a similar habit is observed in the shark, it has been said that the former acts as a guide or pilot to the latter. The fish is not above a foot long.

Pi'lum. A missile weapon used by the Roman soldiers. It was a sort of dart thrown by the hand.

Pime'lia. A genus (or rather tribe of numerous genera) of coleopterous insects belonging to the family *Melasoma*. The species inhabit the countries situated around the basin of the Mediterranean, to western and southern Asia and Africa.

Pim'elite, from πιμελη, fat. A variety of steatite coloured by chrome, and so named from its greasy feel.

Pimen'ta, from *pimienta*, the Spanish for pepper. The generic name of the Allspice or Pimento tree. Class *Icosandria*; order *Monogynia*. This beautiful tree is a native of Jamaica. It is the *Myrtus pimenta*, Lin., and the *Eugenia pimenta*, De Cand.

Pimen'to. Allspice or Jamaica Pepper. The fruit of the *Pimenta officinalis*. *See* Pimenta. The berries are plucked when green, dried in the sun, and sent to Europe in bags and hogsheads, where they are sold at about fourpence to fivepence per lb., exclusive of threepence duty. A single tree will sometimes produce 100 lbs. of the dried berries.

Pim'pernel. In *botany*, the *Anagallis arvensis*. The Water Pimpernel is a species of *Veronica pimpinella*, Burnet Saxifrage. A genus of herbaceous plants. *Pentandria—Digynia*. Name, *quasi bipinella*, from the double pinnate order of its leaves. Four species are indigenous: the roots of the *P. saxifraga* are used in medicine. The Anise plant (*P. anisum*,) is a native of Egypt.

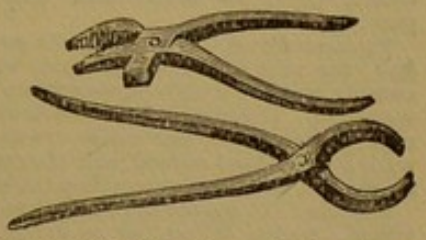
Pin. This is a small bit of wire, commonly brass, with a point at one end and a spherical head at the other, requiring for its completion no less than fourteen distinct operations. (1.) straightening the wire; (2.) pointing; (3.) cutting the wire into pin-lengths; (4.) twisting the wire for the pin heads; (5.) cutting the heads; (6.) annealing the heads; (7.) stamping or shaping the heads; (8.) yellowing or cleaning the pins; (9.) whitening or tinning; (10.) washing; (11.) polishing; (12.) winnowing; (13.) pricking the paper to receive the pins; (14.) fixing the pins in the papers.——2. In *Chinese diplomacy*, a petition from foreigners to the emperor of China or any of his deputies.

Pinacothe'ca, πιναξ, a picture, and τιθημι, I place. In *ancient architecture*, an apartment for the reception of pictures.

Pin and Web. An old vernacular name for an opacity of the cornea of the eye.

Pinan'g, } The Malay name for the
Penan'g. } betel-nut (*Areca catechu*).

Pin'cers. A sort of tool used by artificers for drawing nails, &c. The upper



cut represents the shoemaker's pincers; the under, the joiner's.

Pinch'beck. A species of brass, intended as an imitation of gold, and used in the formation of watch-cases, and articles of a like description. It is also named *tombac* (Spanish), and sometimes *similor* and *petit-or* (French).

Pine. 1. In *botany*, *see* Pinus.——2. The wood of the pine or fir-tree, of which several kinds are known in commerce. (1.) *Scotch pine*, the wood of the *Pinus sylvestris*, a native of most of the northern parts of Europe. It is the most durable of all the pine woods, and is exported from Norway and Sweden under the name of *redwood*. Riga exports a considerable quantity, under the name of *masts* and *spars*; the first sort being eighteen inches and upwards in diameter, and seventy or eighty feet in length; and the latter less than eighteen inches in diameter. (2.) *Spruce pine*, of which there are three species—the Norway spruce (*Pinus abies*); white spruce (*Pinus alba*); and black spruce (*Pinus nigra*). These trees rise in straight stems from 150 to 200 feet, and yield the timber known as *white fir* or *deal*. The white and black spruce grow in America. (3.) *White* or *Weymouth pine*, the wood of the *Pinus strobus*, a tree of North America, imported in large logs. (4.) *Yellow pine* is the wood of the *Pinus picea*, or silver fir-tree, a native of Europe. (5.) *Larch* belongs to the same family.

Pin'eal. Resembling the fruit of the pine; as the *pineal gland*, a small projection at the base of the brain, about the size of a pea. It was whimsically imagined by Descartes to be the seat of the soul.

Pine-apple. *Ananas*. A tropical fruit, now extensively cultivated in the hothouses of this country. It is the fruit of the *Bromelia ananas*, and sometimes

grows to several pounds weight. *Pine-apple-yarn* is manufactured from the leaves of the tree: it is simply the fibrous part, and bids fair to rival flax. It has been manufactured into very fine cambric.

Pineas'ter. A variety of the pine, a considerably sized timber tree, which throws out large spreading arms, but is naked in winter. It is also named the cluster pine, the morentum, and wild pine, &c.

Pine-this'tle. The *Atractylis gummifera*, the root of which abounds with a gummy matter, which exudes when it is wounded. It grows in the south of Europe, where the flower-stalks are dressed with oil and used as food, and the gummy matter is chewed to strengthen the gums.

Pin'ion. In *mechanics*, a small toothed wheel, which drives, or is driven by, a larger one. The term primarily signifies the top of a feather, and subsequently the tooth of a wheel working into another wheel; latterly a toothed spindle or arbor, into which the teeth of a wheel work.

Pink, Wel. *pinc*. Sprightly, gay. 1. In *botany*, *see* Dianthus. The Indian-pink, or Peruvian worm-grass, is a species of Spigelia, used by the Indians of North America as an anthelmintic.——2. For Fr. *pinque*, picked. A ship with a long narrow stern. Hence also *pink-sterned*.——3. *Dutch-pink* is a colour of a reddish hue.

Pin'na. A genus of marine bivalvular shells, belonging to the family Mytalacea. Named from *pinna*, a plume, in allusion to the long silky byssus by which they are moored, and which has been woven into stockings, gloves, &c. The animal is a limax.

Pin'nace. 1. A small vessel, navigated with oars and sails, having generally two masts, rigged like those of a schooner.——2. One of the boats of a man-of-war, for carrying the officers to and from the shore.

Pin'nacle, Lat. *pinna*. In *architecture*, a polygonal pillar, generally applied at the angles of a building, terminating pyramidally, and embellished with foliage.

Pin'nate, Lat. *pinnatus*. Having *pinnæ* or leaflets: winged. Applied to a leaf which has several leaflets proceeding laterally from one stalk.

Pinnat'ifid, Lat. *pinnatifidus*, feather-cleft. Applied to leaves which are cut transversely into several oblong parallel segments.

Pinnat'ulate, Lat. *pinnatulatus*, dim. of *pinnatus*, pinnate. Applied to the leaflet of a pinnate leaf, when it is again subdivided.

Pint. A measure for liquids chiefly. The imperial pint contains 34·659 cubic inches; but there was formerly a pint for wine, and another for beer and ale. The word is Dutch, and signifies a little measure of wine.

Pioneer', Fr. *pionnier*, contracted from *piochnier*, from *pioche*, a pickaxe, or *piocher* to dig. Pioneers are those whose business it is to march with, or before, an army, to repair the road, or clear it of obstructions, work at entrenchments, form mines to destroy an enemy's works, &c.

Pip. A disease among poultry, consisting of a white thin skin, or film, growing upon or under the tip of the tongue, which hinders their feeding.

Pipe (Saxon). 1. A wind instrument of music, consisting of a long tube of wood or metal. Pipe is not now, however, the technical name of any particular instrument, but is applicable to any tubular wind instrument, and it occurs in *bagpipe*.——2. A long tube, as for conducting water, gas, steam, &c. The large water and gas pipes are cast-iron; the principal ones are called *mains*, and the others *services*. The smallest sorts of services are generally made of some alloy, of which lead is the base; but some are made entirely of tin, others of lead only, and a few of brass.——3. A measure of wine, equal to 105 imp. gals. (nearly), or 126 wine gals. 2 pipes make 1 tun. In *practice*, however, the pipe varies according to the sort of wine it contains: thus, a pipe contains 138 gals. of Port, 130 gals. of Sherry, 140 gals. of Lisbon, 110 gals. of Madeira, &c. As these are rarely accurate, it is common to charge for the quantity which the vessel actually contains.

Pipe-clay. A clay of which tobacco-pipes are made. It is a species of clay, abounding in Devonshire and other parts of England, employed in the manufactory of various sorts of earthenware.

Pipe-fish. A name common to all the *Fistularidæ*, on account of the long tube on the fore part of the cranium, and to all the *Sygnathi*, on account of their tubular snout.

Pi'per. In *botany*, the pepper-genus of plants. *Diandria—Trigynia*. Name πιπέρι, from πέπτω, to concoct, because by its heat it assists digestion. The long pepper, black pepper, clove pepper, and cubebs, are all fruits of species of this genus.

Pip'erine. A crystalline principle, extracted from black pepper, by means of alcohol. It is colourless, insoluble in water, has hardly any taste, and fuses at 212° F.

Pip'ra. A genus of birds. The Manakins. Order *Passerinæ*: family *Dentirostres*. The rock manakins, or cocks of the rock, are large birds, have a double vertical crest on the head, formed of feathers arranged like a fan. The adult males of

the American species are of a most splendid orange colour. They live on fruit, scratch the ground like the common hen, and construct their nests in the depths of rocky caverns.

Pi'racy, πειρατεύω, an attempt. 1. In *law*, acts of robbery upon the high seas, equivalent to felony on land.——2. Any infringement in the law of copyright.

Pirogue', Sp. *piragua*. A canoe formed out of the trunk of a tree. The name in America for a narrow ferry-boat carrying two masts and a leeboard.

Pirouette' (French). In *dancing*, a rapid circumvolution upon one foot. In *riding*, the sudden turn of a horse so as to bring his head suddenly in the opposite direction to where it was.

Pisalphal'tum. Mineral pitch.

Pis'cary, from *piscor*, to fish. The right or liberty of fishing in another proprietor's waters.

Pis'ces. The Fishes. In *natural history*, the fourth class in the systems of Linnæus and Cuvier. The class is composed of oviparous vertebrata, with a double circulation, but in which the circulation is altogether effected through the medium of water. They form two distinct series, that of *Fishes, properly so called*, and that of the *Chondropterygii*, otherwise called *Cartilaginous fishes*. In the first division are the *Acanthopterygii*, the *Malacopterygii*, the *Lophobranchi*, and the *Plectognathi*.——2. In *astronomy*, the last of the signs in the fixed zodiac, and consequently the last of the southern and winter signs: marked ♓ on globes and planispheres. The sun enters Pisces about the 19th of February.

Pis'cis Austra'lis. The Southern Fish. One of the old constellations. Its brilliant, Fomalhaut, is nearly on the same meridian with Markab in Pegasus.

Pis'cis vo'lans. The Flying Fish. A constellation on the antarctic circle, consisting of 8 stars, all under the 4th magnitude.

Pis'iform, from *pisum*, a pea, and *forma*, likeness; pea-like. Granular iron-ore is called pisiform iron-ore, from its containing small rounded masses like peas in size.

Pissaphal'tum, from πισσα, pitch, and ασφαλτος, asphaltum. A thick variety of rock-oil. *See* Petroleum.

Pista'cia. A genus of trees. *Diœcia—Pentandria*. Name Πιστακια, supposed to be of Syriac origin. The trees which afford the mastic, Chian turpentine, and pistachio nuts, are species.

Pistach'ia, or Pistach'io Nuts. The fruit of the *pistacia vera*, a large tree, which grows in Arabia, Persia, and Syria; and also in Sicily, whence the nuts are chiefly brought. They are about the size and shape of a filbert, including a kernel of a pale greenish colour, pleasant, sweetish, and unctuous taste, resembling that of sweet almonds. Those imported from the east are the best.

Pis'til, Lat. *pistillum*, a pistil. The female organ of a flower, situated in the centre, and forming the rudiments of the fruit. Linné believed the pistil to originate from the pith, and the stamens from the wood.

Pistillif'erous, from *pistillum*, a pistil, and *fero*, to bear. Pistil-bearing. Applied to flowers or florets which contain one or more pistils, but no stamens.

Pist'ole. The name of a gold coin of several countries. The pistole of Spain (of 1801) is worth 15*s*. 11½*d*.; the quadruple pistole (of the same year) is worth 63*s*. 9½*d*. The value of the pistole of Berne is 18*s*. 11¾*d*.; that of Brunswick is 18*s*. 8½*d*.; of Geneva is 14*s*. 2*d*. (new), 16*s*. 4½*d*. (old); of Parma, 16*s*. 11½*d*.; of Piedmont, 22*s*. 2¾*d*.; and of Switzerland, 18*s*. 9*d*.

Pist'on. A thin body of metal, or other solid substance, adapted to move within a cylinder, so as to run freely up and down, air or water-tight. In the *lifting-pump*, the piston is sometimes (and perhaps more correctly) termed the *bucket*, being that part of the machine by which the water is lifted in the cylinder. The *solid-piston* of steam-engines and force-pumps is that to which the name piston is strictly applicable.

Pist'on-rod. The rod connected with a piston: that by which it is forced down and drawn up.

Pi'sum. The Pea: a genus of herbaceous trailing plants. *Diadelphia—Decandria*. Name πισον, borrowed from the Greeks. The Garden and Wild Peas are cultivated in England; but the Sea Pea (*P. maritimum*) is the only indigenous species.

Pitch. 1. Inspissated tar.——2. In *music*, the degree of acuteness or graveness of a tone.——3. The *pitch of a roof* is the inclination of the sloping sides to the horizon.

Pitch'blende. A compound of the oxides of uranium and iron.

Pitch-stone. A vitreous lava which occurs in veins and beds, and sometimes forms whole mountains. It intumesces and whitens before the blowpipe.

Pit-coal. The coal in common use throughout the country, and thus named because it is dug out of pits.

Pit'tacall. One of the six principles detected in wood-tar by M Reichenbach. It is a dark-blue solid substance, like indigo, and (like that pigment) when rubbed it assumes a copper-colour, passing (according to its degree of purity) into gold- or brass-yellow, so that all sub-

stances spread over with it appear as if gilded. From this circumstance, it has been named: πιττα, pitch, and καλλος, beautiful; hence *pittacall*, beautiful pitch. Pittacall would be highly useful as a pigment, could it be procured sufficiently cheap.

Pityri'asis, from πιτυρον, bran. Dr. Willan's name for a genus of cutaneous diseases, characterised by irregular patches of small thin scales, which repeatedly form and separate, but never collect into crusts, nor are attended by redness or inflammation.

Pi'u. In *music*, an Italian word for "a little more." It is prefixed to other terms, as *piu allegro*, a little brisker; *piu forte*, a little bolder, &c.

Piv'ot (French). 1. The pin, or short shaft, on which a body (as a wheel) turns or revolves.——2. In *military language*, that soldier upon whom the different wheelings are made in the evolutions of the drill.

Pix. 1. A Latin word for Pitch.——2. For Latin *pixis*. A little box in which the consecrated Host is kept in Roman Catholic churches.

Pizzica'to. In *music*, an Italian word, signifying that the strings of the violin must be pinched with the fingers.

Pla'card (Fr. and Eng.). 1. A written or printed paper, posted in a public place. It seems to have been formerly the name of an edict, proclamation, or manifesto, issued by authority.——2. In *architecture*, the decorations of a chamber-door.

Placen'ta, a cake. 1. In *anatomy*, a spongy body, which forms the medium by which the mother and child in the womb are connected.——2. In *botany*, the receptacle of the fructification of plants.——3. In *fossilology*, the name given by Klein to a section of Catocysti, because the shells are flat.

Placoi'dians. One of the orders into which fishes are divided by M. Agassiz. The order comprises all the cartilaginous fishes of Cuvier, except the sturgeons. The distinguishing character is the irregular covering of enamel plates upon the skin: whence the name, πλαξ, a plate, and ειδος, form. Epithet, *Placoidian*.

Pla'gal Mel'odies, from πλαγιος, oblique. In *music*, such as have their notes between the fifth of the key and its octave or twelfth.

Plagio'stoma. A genus of sub-equivalve, inequilateral, oblique shells, found only in a fossil state, and chiefly in the chalk. Name from πλαγιος, oblique, and στομα, mouth. Several species are known.

Plain Chant. In *music*, an ancient term signifying the chief melody.

Plain Chart. A chart wherein the meridians and parallels of latitude are straight lines.

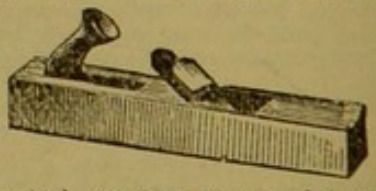
Plain'-sailing. The working of a ship's course on a plain chart, as if the earth were an extended plain. This kind of reckoning should never be attempted, except within the tropics.

Plan. A draught or form: properly, the representation of anything drawn on a *plane*. In a *geometrical plan*, the parts are represented in their natural proportions; a *perspective plan* is exhibited with diminution according to the rules of that science. The *raised plan* of a building is the elevation. The *plan* of a ship, machine, &c., is a section thereof, unless *ground-plan* is the term used. The *plan* of a bastion answers to the *face* of the same.

Plana'ria. The name of a genus of intestinal worms.

Plan'chet, Fr. *planchette*. A flat piece of metal, as the *planchets* prepared for the coining-press.

Plane, Lat. *planus*. 1. In *geometry*, a surface which coincides everywhere with a right line, answering to a *plain* in popular language. In *perspective*, *geometrical plane* is a plane surface, parallel to the horizon, placed lower than the eye, wherein the visible objects are imagined without any alteration, except as to size. A *horizontal plane* is a plane parallel to the horizon, which passes through the eye, or has the eye supposed to be placed in it. A *vertical plane* is a plane surface, which passes through the principal ray, and consequently through the eye, and is perpendicular to the geometrical plane.——2. In *astronomy*, an imaginary surface, supposed to pass through any of the curves described on the celestial sphere. Thus, we speak of the *plane* of the ecliptic, the *plane* of a planet's orbit, &c.——3. In *joinery*, an edged tool, of which there are great variety for different uses, and known by different names. The same principle is, however, common to all the sorts: a broad chisel or steel cutter, called the *plane iron*, is fixed into a hole cut obliquely through a piece of wood (perfectly *plane*



on one side), called the *plane stock*, beyond which the iron slightly projects, leaving an aperture before it called the *mouth* of the plane. The common use is to shave wood smooth, and those adapted for this purpose are *planes* properly so called. Their varieties are the *jack plane*, about 17 inches long; the *long plane*, about 26 inches; the *shooting plane* or *jointer*, about

20 inches; the *smoothing plane*, about 7½ inches: these are called *bench planes*, being always laid on the work-bench. Besides these, there is a *straight block*, for straightening short edges; the *plough*, a very narrow plane, having an apparatus to guide it in ploughing a groove at any required distance from the edge of a board; a *dado*, for similar purposes; a *toothing plane*, with a toothed iron, for roughening woods for veneering; *moulding planes*, with curved faces and cutting edges, for forming various ornamental mouldings, and known by the names of snipes'-bills, beads, hollows, rounds, ovolos, ogees, &c.; *rebating planes*, for cutting out rebates, or semi-grooves, on the edges of boards, and sometimes also for ornamental mouldings, &c.——4. In *crystallography*, the flat surfaces are called *planes*, or *faces* of the crystal.——5. In *botany*, *see* PLATANUS. The tree known by the name of *Plane* in England, is the Sycamore, or Great Maple (*Acer pseudo-platanus*). Its wood is valuable, being close and compact, easily wrought, and not liable to splinter or warp. It takes a fine polish.

PLANE TABLE. A rectangular board enclosed by a frame, graduated into degrees from the centre, for finding the position and distance of points which are situated in the same plane, taking angles, and laying down the work of a survey.

PLAN'ET, from πλανητη, wandering. 1. A wandering star, as distinguished from the fixed stars, which always maintain the same relative positions with relation to each other. In this primary sense of the term, comets and satellites are included; but modern astronomers restrict the term to those bodies which revolve about the sun, as a centre, with a moderate degree of eccentricity, thus excluding comets, the eccentricity of whose orbits is great, and satellites which revolve about their primaries, as these primaries do about the sun. The *elements of the planets* are certain quantities, which are necessary to be known in order to determine the theory of their ecliptic motions. These are seven:—(1.) The duration of the sidereal revolution. (2.) The semi-axis major. (3.) The eccentricity. (4 and 5.) The mean longitude of the planet at any given epoch, and the longitude of the perihelion at the same epoch. (6 and 7.) The longitude of the nodes of the orbit with the ecliptic at a given epoch, and the inclination of the orbit to this plane.

PLAN'ET WHEELS. Wheels by whose mutual connexion a variable angular motion, such as that of the radius vector of a planet in its orbit, may be exhibited. The common contrivance now in use for this purpose consists of two elliptical wheels, connected by teeth running into each other: these wheels revolve on their foci, and, while the driving ellipses move uniformly, the radius vector of the other has the required motion.

PLANETA'RIUM. *See* ORRERY.

PLANETOIDS. *See* ASTRONOMY.

PLA'NI. A family of the order *Malacopterygii subrachiati*, commonly called *flat-fishes*, comprising the great genus *Pleuronectes*, Lin.

PLANIPET'ALOUS, from *planus*, flat, and πιταλον, a petal; flat-leaved. A flower is *planipetalous*, or *planifolious*, when made up of plain leaves set round the centre.

PLAN'ISPHERE, from *planus*, plain, and *sphere*. 1. A projection of the sphere and its circles upon a plane.——2. An astronomical instrument used in observing the motions of the heavenly bodies, being a projection of the celestial sphere upon a plane, representing the stars, constellations, &c., in their proper situations, distances, &c., as the astrolabe, which is a common name for all such projections.

PLANK, Sax. *planc*, or *plank*. A name given generally to all timber, except fir, which is not more than four inches thick, and thicker than a *board*, which is an inch and a half downwards.

PLA'NO. A prefix to several words, as *plano-concave*, plane on one side and concave on the other; *plano-convex*, plane on one side and convex on the other (*see* LENS); *plano-horizontal*, having a level horizontal surface; *plano-subulate*, smooth and awl-shaped.

PLAN'TAIN. The *herbaceous plantains* form the genus *Plantago* (q. v.); the *water-plantain* is a species of Alisma; and the *Plantain-tree* of South America, &c. belongs to the genus Musa. The fruit of this perennial tree is highly valued by the Indians as an article of subsistence.

PLANT-CANE. A name in the West Indies for sugar-canes of the first growth, in distinction from the ratoons, or sprouts from roots of canes which have been cut.

PLANTIG'RADA. Plantigrade animals: from *planta*, the sole of the foot, and *gradior*, to walk. A tribe of Mammiferous quadrupeds, in which the whole sole of the foot is placed upon the ground in walking; distinct from the Digitigrada which walk on the extremities of the toes. The bear and badger are plantigrade animals; the cat and dog belong to the Digitigrade tribe.

PLASH'ING. A mode of modifying a hedge, by bending down some of the shoots and twisting them among the stems.

PLAS'MA. A grass-green variety of rhombohedral quartz, occurring in beds with common chalcedony. It was formerly in repute for ornamental purposes.

PLAS'TER. A composition of lime, sand, and water, for coating the walls of buildings. The composition still retains the

name of *plaster* after it has become dry and hard. In *pharmacy*, a compound, generally oxide of lead and olive oil, for applying externally.

Plas'ter of Paris. A preparation of a sub-species of gypsum, called *plaster-stone*, dug near Montmartre, in the neighbourhood of Paris. When the stone is calcined, and the powder made into a paste with water, it quickly sets, and has its bulk increased at the same instant, so that, under the name of *stucco*, it has been much valued for modelling and like purposes.

Plas'tic Clay. In *geology*, a name for one of the beds of the eocene period, from its being used in the manufacture of pottery, πλαστικος, fit for the art of fashioning. The plastic clay is a marine deposit answering to the London clay of English geologists.

Plas'tron (French). 1. A sort of leathern pad used by fencers to defend the body against thrusts.——2. A name for the sternum of reptiles.

Plat'anus. The plane-tree. A genus of trees. *Monœcia — Polyandria*. Name from πλατυς, broad, in allusion to the size of the leaves. The two principal species are the oriental and occidental, the one a native of the Levant, and the other one of the largest trees of North America.——2. The tree which bears the name of *plane* in England belongs to the genus *Acer*. *See* Plane.

Plate. The denomination usually given to gold and silver wrought into articles of household furniture. Gold plate pays a duty of 17*s.*, and silver plate a duty of 1*s.* 6*d.* per oz. Watch-cases, chains, collars, &c., are exempt.

Plat'band. In *architecture*, any square moulding with little projection, as the fasciæ of an architrave, the list between flutings, &c. The *platband* of a window or door is the lintel when it is made square and not much arched.

Plat'fond, } (French). The ceiling of
Pla'fond, } a room, the bottom of the projection of the armier of the cornice; a soffit.

Plat'form. A row of beams which support the timber-work of a roof lying at the top of a wall; also any erection of a temporary kind having a floor of boards, stone, &c., for some immediate purpose. The term is properly applicable to any elevated floor not wholly surrounded, as the floor of a stage, hustings, scaffold, &c. ——2. In *ships*, the orlop (q. v.).

Plat'ina. The Spanish word for *platinum* (q. v.), from *plata*, silver, or the river *Plata*, near which it was first found.

Pla'ting, or Plated Manufacture. The art of covering other metals with silver so as to give the articles manufactured somewhat the appearance of silver plate.

Plat'inum, Sp. *platina*. A metal which is found in flat grains, of a grayish-white colour, like tarnished steel, and containing always some other metal, as palladium, rhodium, osmium and iridium, in alloy. The metal when pure resembles polished steel, is harder than silver, about double its density, ductile, malleable, and unalterable in air or water, and has not its polish impaired by a white heat. Like gold it is only soluble in nitro-hydrochloric acid; but, unlike gold it cannot be fused in any considerable portion by the strongest heat of our furnaces, but may be welded like iron at a white heat. It is found in South America, the Ural mountains, and in minute quantity in Spain and Bavaria. It is about half the value of gold.

Platon'ic Year. The great year. The period of time determined by the revolution of the equinoxes, upon a supposition of the precession going on uniformly till they have made a complete revolution.

Pla'toon. 1. A small square body of soldiers, drawn out of a battalion of foot, when they form a hollow square, to strengthen the angles.——2. A small body acting together, but separate from the main body.

Plats (of a ship). Flat ropes of rope-yarn woven together and used for the same purposes as marline.

Plat'ting. In *commerce*, slips of bast, cane, straw, &c., *platted* or plaited for making hats, &c.

Platydac'tyli, pl. of *platydactylus*, from πλατυς, broad, and δακτυλος, a finger, toe. A sub-genus of nocturnal lizards, *Geckotida*, from the Mauritius. *See* Gecko.

Plat'ypus. The name given by Shaw to the *Ornithorhynchus* of Blumenbach, from πλατυς, broad, and πους, a foot. *See* Ornithorhynchus.

Plea, Norm. *ple*. 1. In *law*, that which is alleged by a party in support of his demand; but, in a more limited and technical sense, the answer of the defendant to the plaintiff's declaration. *Pleas to the action* are an answer to the merits of the complaint, which confesses or denies it. ——2. A cause in court.

Pleadings. In *law*, the mutual altercations between a plaintiff and defendant, or written statement of the parties in support of their claims, comprehending the declaration, count of narration of the plaintiff, the plea of the defendant in reply, the replication of the plaintiff to the defendant's plea, the defendant's rejoinder, the plaintiff's sur-rejoinder, the defendant's rebutter, &c., &c., till the question is brought to issue, that is, to rest on a single point.

PLEBE'IANS. The free citizens of Rome who were not in the class of patricians or clients.

PLECTOG'NATHI. An order of fishes comprising two families, the Gymnodontes and the Sclerodermi, characterised by having the maxillary bone soldered to the side of the intermaxillary, which alone constitutes the jaw, and the connexion of the palatine arch to the cranium by a suture. Hence also the name from πλεκτω, to bind, and γναθος, a jaw.

PLEC'TRUM. The small ivory instrument with which the ancients struck the lyre.

PLEDG'ET. In *surgery*, a compress or small flat tent of lint, laid over a wound to imbibe the matter discharged, and keep it clean.

PLEI'ADS, Lat. *pleiades*. A cluster of seven stars in the neck of the constellation Taurus: called by the Latins *Vergiliæ*, because they rose about the vernal equinox.

PLEN'ARTY, Lat. *plenus*, full. In *law*, the condition of an office, &c., when filled.

PLE'NUM (full). A term used in the Cartesian philosophy to denote the complete occupation of space by matter: opposed to *vacuum*.

PLE'ONASM, Lat. *pleonasmus*, Gr. πλεονασμος, from πλεις, full. In *rhetoric*, a form of expression in which more words are used than are necessary: a redundancy of words used to express a thought, as "I saw it *myself with my own eyes*." where the words in italics are superfluous.

PLEROSAU'RUS. A fossil saurian of the lias and oolite. Name from πληρης, complete, and σαυρα, a lizard.

PLESIOMOR'PHISM, πλησιος, near, and μορφη, form. The state of crystallised substances, of which the forms are nearly identical.

PLESIOSAU'RUS. An extinct genus of marine saurians, of which prodigious numbers are found in the lias. Name from πλησιον, near, and σαυρα, a lizard. Some individuals have been found upwards of 20 feet long.

PLEU'RA. Πλευρα. The Greek word for a rib, or the side of the thorax formed by the ribs; but now applied by anatomists to the membrane which lines the internal surface of the thorax, and covers its viscera. It forms a great process, the mediastinum, which divides the thorax into two cavities.

PLEUROBRAN'CHUS. A genus of gasteropods established by Cuvier: order *Tectibranchiata*. Name from πλευρα, the side, and βραγχια, branchia. The branchiæ being attached along the right side, in the furrow between the mantle and the foot. Various large and beautiful species inhabit the Mediterranean and Atlantic.

PLEURONEC'TES. A genus of malacopterygious fishes, of which the Plaice, Flounder, Sole, Turbot, Halibut, &c., are species. Name from πλευρα, the side, and νεω, to swim, νηκτης, a swimmer, because they swim on the side. They have also both eyes on the side, which is uppermost when they are swimming, and the upper side is always deeply coloured; whereas the other side is white. They are taken along the coasts of almost all countries, and furnish a delicious article of food. They form the family *Plani*, Cuvier.

PLEXIM'ETER, from πλεξις, percussion, and μετρον, measure. The name given by M. Piorry to the ivory plate which he uses in mediate percussion.

PLEX'US. The Latin word for *net-work*: applied to blood-vessels, nerves, &c., when many are near together, and the branches cross and intertwine in the form of a net.

PLI'CA, Plaited hair: from *plico*, to entangle. A disease of the hair, in which it becomes long and coarse, and matted and glued into inextricable tangles. It is peculiar to Poland, Lithuania, and Tartary: hence called *Plica Polonica*.

PLI'CATE, Lat. *plicatus*, plaited, folded. Applied to leaves when the disc is acutely folded up and down.

PLICIPEN'NES, from *plico*, to fold, and *penna*, a wing. A family of neuropterous insects, in which the inferior wings are usually wider than the others, and plaited longitudinally.

PLINTH, from πλινθος, a brick or tile. 1. A term in *architecture*, for a flat square member in form of a brick, which serves as the foundation of a column, being the flat square table under the moulding of the base and pedestal, at the bottom of the order.——2. The *plinth of a wall*, is two or three rows of bricks, which project from it in form of a platband; and in general, any flat high moulding which serves, in a front wall, to make the floors, sustain the eaves of a wall, or the lamier of a chimney.

PLI'OCENE, from πλειων, more, and καινος, recent. The name given by Sir C. Lyell to two of his four divisions of the tertiary strata; the eocene, miocene, older pliocene, and newer pliocene or pliestocene, as then characterised by the proportions of recent fossils they were supposed to contain; the newer pliocene *then* showing from 90 to 95 per cent.; the older pliocene from 30 to 35 per cent.; the miocene 18, and the eocene 3½ per cent.

PLOT, } In *surveying*, a plan or horizon-
PLAT, } tal section of any piece of land, country, or works.

PLOT'TING. The art of laying down on paper the angles and lines of a survey, by admeasurement from the field book.

PLOT'TING TABLE. An improved description of plane table.

PLOT'US. A genus of birds; the *Darters*. Order *Palmipedes:* family *Totipalmatæ*. The habits are similar to those of the pelicans; the body is about the size of a duck, but the neck is long. Name *plotus*, or *plautus*, flat-foot.

PLOUGH. 1. An agricultural machine for turning up the soil, preparatory to receiving the seed; and of which there are numerous forms.——2. A bookbinder's machine, for cutting the edges of books.——3. A description of plane used by joiners. *See* PLANE.

PLOUGH'SHARE. The part of a plough which cuts the ground at the bottom of the furrow, and raises the slice to the mould-board, which turns it over.

PLUG. In *architecture*, a piece of wood driven into a wall, to afford holding-surface for fixtures.

PLUG AND FEATHER. Key and Feather. A mode of dividing hard stones, by means of a long wedge called the *key*, and wedge-shaped pieces of iron called *feathers*.

PLUM. A fruit of several species, especially that of the *Prunus domestica*, said to have been introduced into England in the 15th century, and now cultivated over all parts of the country. There are, it is said, about 300 varieties of this tree. There is also the Bullace Plum of Britain, the Myrobalan Plum of the United States of America, and the Black Plum of Canada.

PLUM'B, PLUM'MET. A weight of lead, hung to a string, to sound depths; or on a level, to mark the perpendicular. *See* PLUMB-LINE.

PLUMBA'GO. 1. Graphite or black lead: from *plumbum*, lead. *See* BLACK-LEAD.——2. *Lead-wort*. A genus of plants, mostly shrubs. *Pentandria—Monogynia*. Warm climates.

PLUMB'ER BLOCK. In *mechanics*, a carriage fastened on to any contrivance, and adapted to support a shaft or axle.

PLUMB-LINE. An instrument chiefly used by builders, consisting of a leaden bob, suspended to the end of a line, used to determine the perpendicularity of their structures to the horizon. The *Plumb-rule* is used for the same purpose; but in this the bob is suspended to the end of a straight board, with a line marked down the middle, so that when the edge of the board is placed against the wall, or other object, the plumb-line shall exactly coincide with the line marked upon the board.

PLUMB'ERY. 1. The art of casting and working lead. Such tradesmen are called **plumbers**.——2. Works in lead.

PLUME, PLU'MULE. Lat. *plumula*, dim. of *pluma*, a feather. A little feather. The expanding embryo or germ of a plant, within the seed, resembling a little feather, and which speedily becomes a tuft of young leaves, with which the young stem, if there be any, ascends.

PLUME'-ALUM. A variety of asbestos.

PLUMO'SE, Lat. *plumosus*. Feathery, downy.

PLUM'MET. *See* PLUMB and PLUMB-LINE.

PLUNG'ER. A long solid cylinder, sometimes used in force-pumps, instead of the ordinary pistons or buckets.

PLURAL'ITY. In *ecclesiastical law*, the holding of more than one benefice.

PLUS. A Latin word signifying *more*. Used in *algebra* as the name of the character +, which denotes that the quantity before which it is written is additive.

PLUSH, Germ. *plüsch*, shag. A sort of shaggy cloth or stuff, with a velvet nap on one side, composed regularly of a woof of a single thread and a double warp; the one, wool of two threads twisted: the other, of goat's or camel's hair. Some plushes are, however, made wholly of worsted, others wholly of hair.

PLUTON'IC. Relating to *Pluto*, the mythological king of the infernal regions. The epithet is applied, by geologists, to certain rocks elaborated in the deep recesses of the earth. The plutonic rocks are those unstratified crystalline formations, such as granites, greenstones, and others of igneous origin, formed at great depths, whereas the volcanic rocks are solidified at or near the surface.

PLUVIAM'ETER, from *pluvia*, rain, and μετρον, measure. A rain-gauge; an apparatus for ascertaining the quantity of rain which falls at the place where the observations are made.

PLY'ERS. In *fortification*, a kind of balance or timber levers, for raising or letting down a drawbridge.

PLYM'OUTH MARBLE. A very fine variety of marble, found in various parts of Devonshire, especially near Plymouth. The ground is bluish-white, varied with veins of pale red, with some of brown and yellow. It takes a fine polish.

PNEUMAT'IC. Appertaining to air or gas. Πνευμα, wind. The chemist requires a large quantity of *pneumatic* apparatus in experimenting on gases.

PNEUMAT'ICS, from πνευματικη, from πνευμα, wind. The branch of science which relates to the equilibrium and motions, and other mechanical conditions and properties, of æriform fluids, as their weight, density, compressibility, and elasticity.

PNEUMATOL'OGY, from πνευμα, air, and λογος, discourse. 1. Pneumatics.——2. The doctrine of spiritual existences.

Pneumatom'achi, πνευμα, and μαχη, contest. In *ecclesiastical history*, a general term of reproach bestowed, in early times, upon those who impugned the divinity of the Holy Ghost.

Pneumatom'eter, from πνευμα, air, and μετρον, measure. A gasometer.

Pneumobran'chiata, πνευμα, and βραγχια, gills. Applied, by Hunter, to Perennibranchiate reptiles; and by Lamarck, to an order of Gastropodous Molluscs.

Pneumogas'tric, from πνευμων, the lung, and γαστηρ, the belly. An epithet for a nerve which arises from the lateral part of the medulla oblongata, immediately below the glosso-pharyngeal nerve: called also the *par vagum*.

Pneumo'nia, } From πνευμων, the
Pneu'monitis. } lung. Inflammation of the lungs. Called also *peripneumonia* and *peripneumonia vera*.

Pneumopleuri'tis, from πνευμων, the lung, and πλευρα, the pleura. Inflammation of the lungs and pleura.

Po'a. Meadow-grass. A genus. *Triandria — Digynia*. Name ποα, signifies herbage in general, but more especially grass. There are fifteen indigenous species.

Poc'ket (of wool). A bag containing about 25 cwt.

Po'co (It.). In *music*, signifies less; as *poco largo*, a little slow.

Pod. In *botany*, this word has been considered as synonymous with the Latin word *legumen* or legume, as well as *siliqua*, but its meaning is now restricted to this last.

Podes'ta. One of the chief magistrates of Genoa and Venice.

Pod'iceps. The Grebes. A genus of birds, separated from the Divers by Latham. Order *Palmipedes*; family *Brachypteræ*. The crested grebe, the best-known species, is about the size of a duck. *See* Colymbus.

Po'dium. A balcony.

Pœ'cile (Gr.). A celebrated gallery at Athens where Zeno taught his doctrines.

Pœcilit'ic, from ποικιλος, variegated. A term applied to the new red sandstone group of rocks, by M. Brongniart; and to the entire group of strata between the coal formation and the lias, by Mr. Conybeare.

Po'et-lau'reate. A poet whose duty it is to compose birth-day odes, and other congratulatory poems, for the sovereign in whose pay he is retained. The services formerly required of this important functionary are now dispensed with, so that the office is a sinecure. *See* Laureate.

Poind'ing. In *Scottish law*, that process affecting moveable subjects, by which their property is carried directly to the creditor.

Point, in *geometry*, is defined that which has neither length, breadth, nor thickness: that which has position, but no magnitude. A *conjugate point* is that into which, in some curves, the conjugate oval vanishes. There are also *points* of reflection, of retrogradation, and of contrary flexure, &c.——2. In *perspective*, a certain position with regard to the perspective plane.——3. In *astronomy*, the divisions of the great circles of the horizon and mariner's compass are termed *points*. The *cardinal points* are the east, west, north, and south. On the space between two of these points, making a quadrant or quarter of a circle, the compass is marked with subordinate divisions, the whole being 32 points. The zenith and nadir have the name of *vertical points*; and nodes are the *points* where the orbits of planets intersect the plane of the ecliptic. We have also *equinoctial* and *solstitial points*.——4. Among *sailors*, points are flat pieces of braided cordage, tapering from the middle towards each end: used in reefing the courses and topsails of square-rigged vessels. Hence, to *point a sail* is to affix points through the eyelet-holes of the reefs.——5. In *manufactures*, point is a general name for all kinds of lace worked by the needle; and sometimes the term is used for lace woven with bobbins. *Point-devise* is used to denote fine needle-work.——6. In *grammar*, *see* Punctuation.——7. In *artillery*, *pointing* a gun is placing it so as to give the shot a particular direction.——8. In *heraldry*, a point is an ordinary resembling a pile.

Point'al. In *botany*, the pistil of a flower. *See* Pistil.

Point-blank. In *gunnery*, denotes that the gun is levelled horizontally. In shooting point-blank, the ball is supposed to move directly to the object, without curve. The *point-blank range* is the extent of the apparent right line of a ball discharged.

Point'ed Ar'chitecture. The characteristic style of architecture usually called Gothic, in which all the arches are pointed at the top.

Poin'tel. 1. Something fixed on a point.——2. A kind of pencil or style.

Point'er. 1. A variety of the *Canis familiaris*, Lin., trained by sportsmen to find partridges, pheasants, and other feathered game. The Pointer differs from the Setter in this, that when he has approached sufficiently near the game, he stands erect, whereas the true-bred Setter lies close to the ground.——2. In *astronomy*, the Pointers are two stars in Ursa Major, the hindermost of the Wain, so called because they always point nearly in a direction towards the North Pole-star.

Point'ing. Among *masons*, filling the

joints and crevices of a wall with mortar or cement.

Point Net, or Lace. Lace worked with the needle, now superseded by bobbinet. *See* Point.

Poi'son. Any substance which in a particular manner deranges the vital functions and produces a mortal effect, if not counteracted. Substances of this sort are generally deleterious in certain doses; for, in small doses, the most active form the most valuable medicines. There are, however, some which are deleterious in the smallest doses, as hydrophobic virus; others are not deleterious when taken into the stomach, which are highly so when taken into the lungs, or applied to an abraded surface, as sulphuretted hydrogen.

Poi'trel, Fr. *poitrail*. A graving tool.

Polac'ca. A peculiar three-masted vessel.

Pol'acre (Sp. and Fr.). A vessel with three masts, each of one piece, so that they have neither tops, caps, nor cross-trees to their upper yards: used in the Mediterranean.

Polar'ity. The opposition of two forces in bodies, or that quality of a body by virtue of which peculiar properties reside in certain points: usually, as in magnetised and electrified bodies, properties of attraction and repulsion, or the power of taking a particular direction when freely suspended. Thus, we speak of the polarity of the magnetic needle. *See* Magnet.

Polariza'tion. The communication of polarity. By the *polarization of light and heat* is meant the change produced upon their agencies by reflection or refraction at certain angles, or by refraction in certain crystals, whereby they acquire the property of exhibiting opposite effects in planes at right angles to each other. Thus, when a ray of light is passed through a crystal of Iceland spar, it is separated into two portions of equal intensity; but if each of these rays be further acted upon by a second crystal, it is found that each of them has suffered a physical change, and is not affected by the second crystal in all positions, as it was by the first. The same applies to other media besides Iceland spar, and to heat as well as light. The discovery of the polarization of light is due to Huygens, and that of heat to Prof. Forbes, of Edinburgh.

Pole. In *physics*, the extremities of the axis about which a body revolves, or is supposed to revolve: from τολεω, to turn. Thus, the extremities of the axis of the earth are called its poles, and the points opposite are the poles of the world. In a sphere, the poles are 90° distant from the plane of a circle passing through the centre perpendicular to the axis. Thus, the zenith and nadir are the poles of the horizon.

Pole-axe. A description of hatchet, with a handle about 15 inches long, and a point or claw bending downwards from the back to its head. It is principally used in actions at sea, to cut away the rigging of the enemy attempting to board. Sometimes it is thrust into the side of an enemy's ship in attempting to board, and is therefore called the *boarding-axe*.

Pole'cat. The *Mustela putorius*, Lin., the terror of poultry-yards and warrens. It is the most sanguinary of all the weasel tribe. *See* Putorius.

Polemo'nium, Greek Valerian. A genus of perennial plants. *Pentandria—Monogynia*. Name from τολεμος, war; because, according to Pliny, kings had contended for the honour of its discovery. Jacob's-Ladder (*P. cœruleum*) is the only British species.

Polem'oscope: τολεμος, war, and σκοπεω, to view. A reflecting perspective glass, invented by Hevelius, who commended it as useful in sieges, &c., for discovering what the enemy is doing, while the spectator lies hidden behind an obstacle. The opera-glass is the polemoscope somewhat improved.

Poles of a Magnet. Points in a magnet where the intensity of the magnetic force is at a maximum: one of these attracts and the other repels the same pole of another magnet.

Pole'-star. A star of the second magnitude, the last in the tail of Ursa Minor. It is only 1° 41′ from the true pole, consequently never sets, and is therefore of great importance with navigators in the northern hemisphere.

Pol'icy. In *insurance*, the instrument by which a contract of indemnity is effected between the insurer and the insured: the writing containing the terms or conditions of a contract of insurance. Policies are said to be *valued* when the goods insured are valued at prime cost, and *open* when the goods are not valued. There are policies of marine insurance, of life insurance, &c.

Polit'ical Arith'metic. The art of reasoning by figures on matters relating to a nation, its revenues, value of lands and effects, produce of lands, manufactures, population, &c. &c.

Political Economy. The administration of the revenues of a nation, or the management and regulation of its resources and productive property and labour. Political economy comprehends all the measures by which the property and labour of a country are directed in the best manner to the success of individual industry and enterprise, and to the public prosperity. It is now considered a *science*.

Politics; πολιτικη, from πολις, a city. The science of government; a branch of ethics, which consists in the management of the affairs of a nation or state for its preservation, peace, and prosperity. Politics has hitherto been a science of trial and error.

Polings. Small boards supporting the earth during the formation of a tunnel, &c.

Poll. In *politics*, the register of those who give their vote; also the place where the votes are registered. The term belongs to the Sclavonic, and signifies *head:* hence a register of heads.

Poll'en. Fine flower or dust. The farina of flowers: the powder which adheres to the anthers of the flowers of plants, and which is contained in the anther, and is thrown out chiefly in warm dry weather when the coat of the latter contracts and bursts.

Pol'lux. 1. In *astronomy*, the name of a star of the second magnitude in the constellation Gemini.——2. *See* Castor.

Polonai'se. A robe or dress worn by ladies, and adopted from the fashion of the Poles.

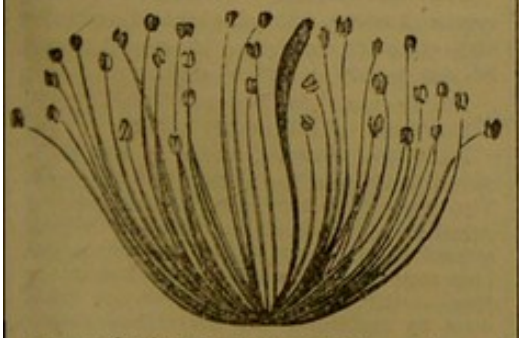
Polono'ise. In *music*, a movement of three crotchets in a bar, with the rythmical cesura on the last.

Poly, for πολυς, many. A prefix often found in the composition of words derived from the Greek.——2. In *botany*, a popular name of some species of Germander.

Po'lyacou'stic, from *poly* and *acoustic*. 1. That multiplies sound.——2. An instrument to multiply sounds.

Polyadelphia, from πολυς, many, and αδελφος, brother. The name of the 18th class of plants in the sexual system of Linné, embracing all plants with hermaphrodite flowers, in which the stamens are united by their filaments into thin or more distinct bundles. Example, St. John's wort, *Hypericum calycinum*.

Polyan'dria, from πολυς, many, and ανηρ, a male. The name of the 13th



class of plants in the sexual system of Linné, consisting of plants with hermaphrodite flowers, furnished with many stamens *inserted into* the common receptacle of the flower, by which circumstance the class is distinguished from *Icosandria*, where the stamens are situated on the calyx.

Polyan'thus. 1. A species of primrose (*primula*), so named from its many-clustered flowers: πολυς, many, and ανθος, a flower.——2. The name has also been given to other flowering plants which produce clusters of flowers on the same flower-stalks.

Pol'yarchy, πολυς, and αρχειν, to govern. The government of many, whether aristocratic or democratic.

Pol'ychrest, from πολυς, many, and χρηστος, use. A medicine supposed to be of use in many diseases.

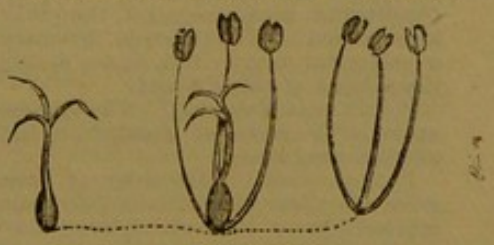
Polych'roite, from πολυς, many, and χροα, colour. The colouring matter of saffron, so called because it is susceptible of many changes of colour. The alcoholic solution is yellow, sulphuric acid turns it blue and then lilac; nitric acid makes it green.

Polydip'sia, from πολυς, many, and διψη, thirst. Excessive thirst.

Polyg'ala. Milk-wort. An extensive genus of plants. *Diadelphia--Octandria*. Name from πολυς much, and γαλα, milk, in allusion to the abundance of its milky juice. The common milk-wort is indigenous. The root of the *P. senega*, called rattlesnake-root, is employed in medicine.

Po'lygalic Acid. An acid constituting the peculiar principle of the rattlesnake-root (root of the *Polygala senega*), discovered by Gehlen, and described by him under the name of *senegin*. Polygalic acid is a white powder, dissolves in water, and abundantly in *boiling alcohol*, but is insoluble in ether and the fixed oils.

Polyga'mia, from πολυς, many, and γαμος, marriage. Polygamy. The name



of the 23rd class of plants in the sexual system of Linné, consisting of polygamous plants or plants having hermaphrodite flowers, and likewise male or female flowers, or both. The orders of the class are *Monœcia*, *Diœcia*, and *Triœcia*.

Polyga'mia æqua'lis. An order of the class *Syngenesia*, of the sexual system of plants. Plants with perfect florets, each

having pistils and stamina, and producing one seed.

Polyga'mia frustra'nea. An order of the class *Syngenesia*, of the sexual system of plants. Florets of the disk perfect; those of the circumference with an abortive pistil, or it is wanting altogether.

Polyga'mia necessaria. An order of the class *Syngenesia*, of the sexual system of plants. Florets of the disk with stamens only; those of the radius with pistils only.

Polyga'mia segrega'ta. An order of the class *Syngenesia*, in the sexual system of plants. Plants with several flowers either simple or compound, but with united anthers and a proper calyx, all included in one common calyx.

Polyga'mia superflua. An order of the class *Syngenesia*, of the sexual system of plants. Florets of the disk of the compound flowers perfect: those of the circumference having pistils only; but both kinds producing perfect seed.

Polyg'onum. Persicaria or Knot-grass. An extensive genus of holoraceous plants. *Octandria—Trigynia*. Name from πολυς, many, and γονυ, a joint. There are at least ten indigenous species of polygonum, among which are the Bistort, or Snakeweed, Water-pepper, Common Knotgrass, Buck-wheat, and Black Bird-weed.

Pol'yglott, from πολυς, many, and γλωττα, tongue. 1. Having many languages.——2. A book, particularly the Bible containing the Scriptures in several languages.

Pol'ygon, from πολυς, many, and γωνια, an angle. 1. A geometrical figure of many sides and angles.——2. In *fortification*, an *exterior polygon* is the distance of one point of a bastion from the point of another, reckoning all round the works: an *interior polygon* is the distance between the centres of the bastions, reckoning round as before.——3. In *mechanics*, when a series of more than three forces act in equilibrium upon one point, they may be represented in direction and intensity by a polygonal figure; this figure is termed the *polygon* of those forces.

Polyg'onal Numbers. The successive sums of a series of numbers in arithmetical progression.

Polygas'trica. An order of animalcules especially characterised by numerous cavities or stomachs (sometimes upwards of 200): whence the name πολυς, many, and γαστηρ, a stomach. Almost all the known genera of polygastric animalcules possess eyes: they are also found to possess an acute sense of taste; distinguish, pursue, and seize their prey; and although so excessively minute that 6,000,000 have been calculated as being contained in one drop of water, they avoid infringing upon each other when swimming. There is no proper skeleton, nor any secretion of shell; yet there are parts destined to give support. In the majority there is an alimentary canal, but no teeth for mastication. Notwithstanding their extreme minuteness, they appear to be the most numerous, the most prolific, the most active, and the most voracious of all living beings.

Pol'ygram, πολυς and γραμμα, line. A figure consisting of many lines.

Pol'ygraph, from πολυς, many, and γραφω, to write. An instrument for multiplying copies of a writing.

Polygyn'ia, from πολυς, many, and γυνη, a female. An order of plants having many pistils.

Poly'hallite, from πολυς, many, αλς, salt, and λιθος, stone. A mineral which occurs in masses of a fibrous texture at Ischel, in Austria, and is thus named from its containing sulphates of lime, magnesia, potash, and soda, coloured red by peroxide of iron. Lustre pearly.

Polyhe'dron, from πολυς, many, and ἑδρα, a side. 1. A solid contained under many sides or faces.——2. A multiplying glass: a lens cut into many facets, disposed in a convex form.

Polymig'nite, from πολυς, many, and μιγνυμι, to mix. A recently discovered mineral, so named in consequence of the variety of its constituents: titanic acid, zirconia, lime, yttria, oxides of iron, cerium, and manganese, with minute portions of magnesia, potash, silica, and oxide of tin. It is of a black colour, and metallic lustre; crystallised in small prisms. Sp. gr. 4·8.

Polym'nite. A stone, so named from πολυς and μυς, because it is marked with dendrites and black lines, so disposed as to represent rivers, marshes, and ponds.

Pol'ymorphs, from πολυς, many, and μορφη, form. Small and irregular shells not referred to any known genera.

Polyno'mial, from πολυς, many, and ονομα, a name. An algebraical name for any quantity consisting of several terms, as, $ax + bx^2 + cx^3 - dx^4$.

Pol'yparia. *See* Polypi.

Pol'ype, Poly'pus. } Πολυπους, from πολυς, many, and πους, a foot. 1. Something that has many feet or roots. The name has been used to designate a peculiar description of tumour which grows in the nose, from the erroneous idea that it has usually several roots or feet.——2. The name *Polype* has been used to designate the individual tubes, with their tentacula, of the *Polypus*, reserving this last as the name of the aggregate

gregate of the animal mass of polypes. *See* POLYPI.

POLYPET'ALOUS, from πολυς, many, and πεταλον, a petal; many-petalled. A botanical term applied to a corolla which has the petals separate.

POL'YPI, pl. of *polypus*. *See* POLYPE. The fourth class of Radiata or Zoophytes, so named because the tentacula which surround their mouth give them a supposed resemblance to an *Octopus* called *Polypus* by the ancients. These animals are commonly known as *corals;* and an idea was formerly generally entertained, that they were stony plants, (whence the name *zoophytes*). Such is the enormous accumulation of the stony envelopes formed by them in certain seas, that islands are produced, coasts extended, and harbours blocked up, by them; and with such facility that M. de Lamarck has hazarded the idea that the calcareous strata of the globe may have been produced by them. The orders are Carnosi, Gelatinosi, and Corallifera.

POLYPIF'ERA, } A term applicable to
POLYPIPH'ERA. } the habitations of polypi, but applied to that class of animals commonly known by the name of *Zoophytes*. *See* POLYPI.

POLYPO'DIUM. Polypody. A genus of perennial ferns, most of which are found in hot climates, but several inhabit Britain. Name from πολυς, many, and πους, a foot, because it has many roots. Some species are used medicinally.

POL'YSCOPE, πολυς, and σκοπεω, I view. In *optics*, a plano-convex lens, of which the convex surface is subdivided into several *facets*.

POLYSEP'ALOUS, trom πολυς, many, and sepal (q. v.). A term applied to a calyx which has its sepals separate from each other.

POLYSPER'MOUS, from πολυς, many, and σπερμα, seed; many-seeded.

POLYS'TOMA (rather *Hexastoma*). A genus of Entozoa belonging to the family *Tremadotea*, Rud. Name from πολυς, many, and στωμα, mouth; the body being depressed, smooth, and furnished with six cups or orifices arranged in a transverse line.

POL'YSTYLE, from πολυς, many, and στυλος, a column. A building surrounded by so many columns that they cannot readily be calculated at a first view.

POLYSYN'DETON, from πολυς, many, and συνδετος, connecting. A rhetorical figure by which the copulative is often repeated, as, "we have money *and* men *and* ships *and* stores."

POLYTECH'NIC, from πολυς, many, and τεχνη, art. Denoting many arts, as the *Polytechnic School* of France, which is designed to supply education for the various departments of active life, both civil and military. This has been one of the most justly celebrated schools of Europe.

POLY'THEISM, from πολυς, many, and θεος, God. The doctrine of a plurality of gods.

POLYT'RICHUM, from πολυς, many, and θριξ, hair. A genus of Cryptogamic plants of the order *Musci:* so named either from its resemblance to a woman's hair, or because in ancient times women used to dye the hair with it to prevent it from shedding. The golden maidenhair is a species.

POLYZ'OA, πολυς, and ζωον, animal. class of compound animals, resembling the Sertularia and the compound Ascidians.

POLYZ'ONAL LENS, πολυς, and ζωνη, zone. A burning lens composed of several zones or rings.

POMA'CEÆ. A natural order of plants, consisting of such as have a pomaceous fruit or fruit of an esculent, pulpy, apple, berry, or cherry kind.

POMA'TUM. *Pomado.* A name formerly applied to a fragrant ointment made with lard and apples, but now only to solid greasy substances used in dressing the hair.

POMEGRAN'ATE, from *pomum*, an apple, and *granatum*, grained. The fruit of the Pomegranate tree (*Punica granatum*), cultivated in warm climates. The fruit is a pulpy many-seeded berry, about the size of the orange, with a reddish rind.

POMŒ'RIUM, Lat. *post*, behind, *murus*, a wall. In *Roman antiquities*, a vacant space of ground within and without the walls of a city.

POM'PHOLYX, from πομφος, a bladder. 1. A small vesicle. —— 2. A cutaneous disease, described by Dr. Willan as an eruption of bullæ, appearing without inflammation around them and without fever.

POMPION. In *botany* (*see* CUCURBITA).

PO'MUM. The Latin word for *apple*, but applied in botany to any fleshy pericarpium or seed-vessel, containing a capsule within it with several seeds.

PONE (Lat.). In *law*, a writ which lies to remove actions of debt, detinue, nuisances, &c., out of an inferior court into the Common Pleas.

PONGO. 1. The name in Borneo, of a monkey, closely resembling the orang-outang in the proportions of all his parts, but somewhat larger, being nearly equal to man. He is the largest monkey known. ——2. The name has also been applied to the *Simia troglodytes*, Lin., or *Chimpanzé* of Guinea and Congo, but not properly

Pons Var'olii. An arched eminence of the *medulla oblongata*.

Pontee'. In *glass-works*, an iron instrument used to stick the glass on at the bottom, for the more convenient fashioning of the neck of it.

Pon'tiff, Lat. *pontifex*, a high priest. The Romans had a college of *pontiffs* (*pontifices*); the Jews had their *pontiffs*, and in modern times the Pope is denominated the sovereign *pontiff*, and his reign a *pontificate*.

Ponto'on, Fr. and Span. *ponton*. 1. A floating bridge, formed of flat-bottomed boats, anchored in two lines, with planks laid across, for the passage of soldiers and military stores. The boats themselves are sometimes called *pontoons*, and the bridge formed of them is accordingly a *pontoon-bridge*.——2. In *naval affairs*, a lighter: a low flat vessel, resembling a barge, furnished with cranes, capstans, and other machinery; used in careening vessels chiefly in the Mediterranean.

Pontoo'n-car'riage. A carriage made with two wheels only, and two side pieces, whose fore-ends are supported by timbers.

Pont-volant. A flying-bridge. This is a description of light bridge, used in sieges, for surprising a post or outwork which has but a narrow moat. It is composed of two small bridges, laid one over the other, and so contrived that by the aid of cords and pullies, the upper one may be drawn forward till it reaches the destined spot.

Poop. The highest and aftmost deck of a ship. The *poop-royal* is a short deck or platform, placed over the aftmost part of the poop, in the largest of the French and Spanish men of war, and serving as a cabin for their masters and pilots. This is usually called the *top-gallant-poop* by our seamen. *To have wind in the poop* is to have the wind behind or favourable.

Poop'ing. The shock of a heavy sea upon the stern or quarter of a ship, when she scuds before the wind in a tempest. The term is also used to denote the action of one ship running her stem into another's stern.

Pope, *Papa*, *παπα*, father. 1. The Bishop of Rome and head of the Catholic Church.——2. A small fish, the ruff.

Pop'injay. 1. In *ornithology*, a parrot.——2. The green woodpecker of Europe.

Pop'lin. A stuff made of silk and worsted.

Poplit'eal. Appertaining to the ham (*poples*), or back part of the knee-joint, as the *popliteal* artery.

Pop'ulus. Poplar tree. A genus of about 20 known species. *Diœcia—Octandria*. The most known species are the Abele or great white poplar (*P. alba*), the Black (*P. nigra*), the Aspen or trembling poplar (*P. tremula*): the one indigenous. All the species are of rapid growth; the wood is soft, but easily wrought, and not apt to swell or shrink. The Lombardy poplar (*P. dilatata*), is the finest species of the tree.

Por'cate, Lat. *porca*, ridge. When a surface has several longitudinal ridges.

Por'celain. A beautiful and semi-transparent variety of earthenware, first (and extensively yet) manufactured in China and Japan. The Chinese call it *tse-ki*, and the two chief ingredients which they employ in the manufacture of it are *pé-tun-tsé*, and *kao-lin*. The Portuguese were the first importers of the article, and bestowed upon it the name of *porcelain*, from *porcella*, a cup. The name is now used to denote generally all earthenware which has been semi-vitrified, and has become somewhat translucent in the process of firing; and the name *china*, or *china-ware*, is again used, to denote the finest variety of porcelain. *See* Pottery.

Porcel'lanite. A siliceous mineral, of various colours, which occurs in amorphous masses, or fragments often rifted. Its fracture is imperfectly concholdal, more or less glistening, and often has the aspect of certain porcelains. It melts before the blowpipe into black scoriæ, and yields by analysis silex 61, alumina 27, potash 3·6, magnesia 3, oxide of iron 2·4. It is supposed to be an alteration of some variety of argillaceous slate by pseudo-volcanic heat. It occurs in large masses near the pitch-lake of Trinidad, and often in the vicinity of coal-mines.

Porch. An arched vestibule at the entrance of a building. *See* Portico.

Por'cupine. 1. In *zoology*, *see* Hystrix.——2. The porcupine, properly so called, is the *H. cristata*, Lin. The name *porcupine* (Fr. *porc-épic*) is from *porcus* (Welch *porc*), a pig, and *spina*, a spine, or thorn: that is, *spiky-hog*, or *spine-hog*.

Por'cupine-fish. A species of diodon covered with spines.

Pores, from *πορος*, a passage. 1. The small interstices between the solid particles of bodies.——2. The animal body is provided with pores for respiration.

Porif'era, from *porus* and *fero*. } An
Poriph'era, from *πορος* and *φερω*. } order of Radiata, forming the various genera of sponge met with on every rocky coast of the ocean.

Po'rism, from *πορισμος*, acquisition. The ancient geometers gave this name to two classes of propositions: (1.) to corollaries; and (2.) to propositions affirming the possibility of finding such conditions as will render a certain problem indeterminate, or capable of innumerable solutions. The porism is not a theorem nor a problem, or rather it includes both. It asserts that a certain problem is inde-

terminate, and so far it partakes of the nature of a theorem; and seeking to discover the conditions by which this may be effected, it partakes of the nature of a problem.

Poros'ity. A property of matter; its molecules not being in absolute contact, but separated by *pores*.

Por'phyry, from πορφύρα, purple. The *porphyrites* of the Latins; a form of compound rock, composed essentially of crystals of felspar, disposed in a base of hornstone, which base in an Egyptian variety of porphyry is of a beautiful red colour, passing to a *purple*, and which, with its snow-white crystals of felspar, forms one of the most beautiful rocks in nature. There are, however, several varieties, as petrosiliceous porphyry, felspar porphyry, clinkstone porphyry, &c. Porphyry is an igneous rock, often forming masses of enormous thickness, and sometimes dikes like basalt.

Por'phyry-shell. A species of murex. The animal afforded the Tyrian purple.

Por'poise, from *porcus-piscis*, hog-fish. The *Delphinus phocæna*, Lin., so named from its shape.

Por'rect, Lat. *porrigo*, I extend. In *zoology*, when a part extends forth horizontally.

Port. 1. Lat. *portus*, a harbour, either natural or artificial, but usually applied to such harbours as are much resorted to, as the *port* of London; whereas *harbour* includes all places of safety for ships. Among *seamen*, the term is further applied to designate the larboard or left side of a ship, as a *heel to port*, meaning an inclination to the larboard side. *Port the helm*, is an order to put the helm to larboard. Also the opening in the ship's side for a gun.——2. A kind of wine made in Portugal, and so named from Oporto.

Por'tal. 1. Fr. *portail*, from Lat. *porta*, a gate. The arch over a door or gate; the frame-work of the gate; the lesser gate when there are two of different dimensions at an entrance.——2. A little square corner of a room, separated from the rest of the apartment by wainscoting.

Port'cullis, Fr. *port*, and *coulisse*, a groove. A strong grating of timber, fenced with iron, and made to slide up and down, in a groove of solid stone-work, within the arch of the portal of old castles, to be let down in case of surprise, to prevent the entrance of an enemy.

Por'ter. 1. Fr. *porteur*, from *porter*, to carry. A person who conveys burdens for hire.——2. Fr. *portier*, from Lat. *porta*, a gate; a gate-keeper.——3. A malt liquor, which differs from ale in being made with high-dried malt. It is so called from its being at first regarded as a drink well adapted for porters, and other labourers about the metropolis.

Porte, Sublime. The official title of the government of the Ottoman empire.

Port-fire. A pyrotechnic composition of 4 nitrate of potash, 1 sulphur, 2 mealed powder, and 1 sulphuret of antimony, well rubbed together. This composition is sometimes moistened with linseed oil.

Port'grave, Port'greve. } From *port*, and Sax. *gerefa*, a count or earl. Formerly the chief magistrate of a port or maritime town. This officer is now called mayor or bailiff.

Port'-holes. The embrasures in the side of a ship of war, through which the guns are pointed.

Por'tico (Ital.), from Lat. *porticus*, from *porta*, a gate. A long covered place, composed either of vaults supported by arcades, or of flat roofs supported by pillars, the sides being open.

Port'land Beds. The name given by geologists to a marine formation, occurring in the island of Portland, and in Wiltshire. The beds consist of coarse shelly limestone, fine-grained white limestone, and compact limestone (all having an oolitic structure), and chert.

Port'land Stone, Port'land Limestone. } A marine oolitic member of the Portland Beds. It is soft when quarried, but hardens by exposure to the atmosphere. It was formerly highly valued as a building material in London and elsewhere, but it is not durable.

Port'land Vase. A celebrated cinerary urn, presented by the Portland family to the British Museum. It was found in the tomb of the Emperor Alexander Severus and his mother. It was recently broken to pieces by an Irishman, but has been repaired in a masterly manner, by Mr. Doubleday.

Port-sills (of a ship) are the upper and lower edges of the ports.

Portula'ca. Purslane. A genus of herbaceous plants. *Dodecandria—Monogynia*. Name from *porto*, to carry, and *lac*, milk, because it (at least the garden-purslane, *P. oleracea*) is said to increase the flow of milk.

Pose. In *heraldry*, the attitude of a lion, horse, or other beast, standing still, with all his four feet on the ground.

Posi'tion, from *positus*. In *arithmetic*, a rule called also the *rule of false*, and *trial and error*, because in calculating on several false numbers, taken at random, as if they were the true one, and from the difference found, the number sought is determined. Position, both single and double, affords only imperfect and tedious processes for working some of the simpler cases of algebraical equations.——2. In *geometry*, when the direction of a line is known, it is said to be *given in position*, and to be *given in magnitude*, when its length is known. The investigation of

the relations that have place between the position of the different parts of a geometrical figure with regard to each other, has been named the *geometry of position*, and was first treated of by Carnot.——3. In *painting*, placing the model in the best way to suit the view of the artist.

Pos'itive, Lat. *positivus*. A term of relation, sometimes opposed to *negative*, as, (1). *Positive quantity*, an algebraical quantity affected by the sign +, being affirmative or additive; (2.) *Positive degree*, the state of an adjective which denotes the simple or absolute quality, without comparison or relation to increase or diminution; (3.) *Positive electricity*, in the Franklinian theory all bodies supposed to contain more than their natural quantity of the electric agency are said to be *positively electrified*, and those which have been deprived of some part of their electricity are said to be *negatively electrified*. Bodies electrified in these two different states attract each other, but bodies positively electrified repel other positively electrified bodies, and so of negatively electrified bodies. As the friction of glass and resin communicates to these substances a state of activity with regard to other bodies similar in the two cases, but opposite in their nature, the terms *vitreous* and *resinous* have been used in the same senses as *positive* and *negative*.

Pos'se comita'tus. The power of the county, which the sheriff is empowered to raise in case of riot, said to be all knights and other men, above the age of fifteen, able to travel within the county.

Posses'sive, Lat. *possessivus*. In *English grammar*, the genitive is termed the *possessive case*, as denoting possession; as, John's book.

Post. 1. Any piece of timber when used in an upright position, as a king-post.——2. A military station. Detachments placed in front of an army are termed *out-posts*, and those on the wings are *posts of honour*, as being most exposed. ——3. *See* Mail.

Post dissei'sin. In *law*, a writ for him who, having recovered by *præcipe quod reddat*, upon default of reddition, is again disseised by the former disseisor.

Post Dissei'sor. A person who disseizes another of lands which he had before recovered of the same person.

Pos'tea (Latin). The record or return of the proceedings by nisi prius into the Court of Common Pleas, after a verdict.

Post Entry. When goods are weighed or measured, and the merchant has got an account thereof at the Custom-House, and finds his entry (already made) too small, he must make a *post* or additional *entry* for the surplusage, in the same manner as the first was done.

Pos'tern (old French). 1. A small door or gate at the back of a building.——2. In *fortification*, a small gate usually in the angle of the flank of a bastion, or in that of the curtain, or near the orillon, descending into the ditch: called also the *sally-port*.

Post-fac'to Law. A law made after the act is committed.

Post Fine. In *English law*, a fine due to the sovereign by prerogative, after a *licentia concordandi*, given in fine of lands and tenements: called also *king's silver*.

Posti'lum. In *architecture*, the portico at the back of a temple.

Postlim'iny, from *post*, and *limen*, the end. *Postliminium* was the term used by the Romans to signify the return of a person to his own country, who had gone to sojourn in a foreign country, or had been banished or taken by the enemy. In the modern law of nations, the right of postliminy is that by virtue of which persons and things taken by an enemy in war are restored to their former state, when coming again under the power of the nation to which they belonged. The sovereign of a country is bound to protect the persons and property of his subjects, and a subject who has suffered the loss of his property by the violence of war, on being restored to his country can claim to be re-established in all his rights, and to recover his property. But this right does not extend, in all cases, to personal effects or moveables, on account of the difficulty of ascertaining their identity.

Post'master. An officer having the direction and superintendence of a post-office. The *postmaster-general* is the chief officer of the post-office department, and makes all contracts for the conveyance of the public mails, receives and is accountable for the moneys arising from the postage of letters, pays expenses, and superintends the whole.

Post-note. A bank-note intended to be transmitted by the public mail and made payable to order.

Post-obit, Lat. *after death*. In *law*, a bond for securing a sum of money on the death of an individual.

Post-of'fice. An establishment for the reception, conveyance, and delivery of letters. The post-office is perhaps one of the most beneficial institutions which a country can possess, and the framers and supporters of the Post Office Act (1839), which has transfused into that of this country both efficiency and economy, deserve the lasting gratitude of the nation for this one measure alone.

Postsce'nium. In *architecture*, the back part of a theatre behind the scenes.

Pos'tulate, Lat. *postulatum*, from *postulo*, to demand. A position assumed without proof, or one which is considered

as self-evident. It differs from an axiom in being put as a request or petition, whereas an axiom is asserted.

Pot'ash, Latinized *potassa*. The vegetable alkali, so called because it is obtained from the lixivium of the *ash* which remains from the incineration of certain vegetables by evaporation in iron *pots*. Potash is strictly the protoxide of potassium. In *commerce*, it is usually met with in the form of *black ashes*, obtained by evaporating the lixivium and fusing the residue; and *pearl-ash*, prepared by again lixiviating the black ashes to free them from some of their impurities, and evaporating to dryness. The ashes of commerce rarely contain more than 60 per cent. of the alkali. The greater part of the alkali of the black ash is in a caustic state (that is, in the state of oxide), but in the pearl-ash it is in the state of carbonate.

Potas'sa. The Latinized name of potash, adopted by chemists.

Potas'sium. The metallic basis of potash. Its sp. gr. being 0·865, it is lighter than water, and when thrown upon it floats, and burns with a beautiful rose-coloured flame, evolving hydrogen, and leaving the water a solution of pure potash. At ordinary temperatures it is solid, soft, and easily moulded by the fingers; and when cut exhibits a beautiful metallic lustre, closely resembling silver, which speedily tarnishes by exposure to the air. It conducts electricity like ordinary metals. It must be preserved in pure naphtha.

Pota'to. The well-known root of the *Solanum tuberosum*, a native of North America, where it was called by the native Indians *batatas*, which Europeans have altered to suit their particular languages. The potato, of which there are now almost innumerable varieties, has generally been regarded as a native of South America; but this arises from confounding it with the sweet potato (*Convolvulus batatas*), which is a native of the intertropical parts of America, and does not succeed well even in the warmer parts of Europe, and consequently is not attempted to be grown in this country as an article of food. It is often absurdly called the *Spanish potato*.

Poten'tial. Having power (*potentia*) to impress on us the ideas of certain qualities, though the qualities are not inherent in the thing, as *potential* heat. A *potential cautery* is any caustic application, as nitrate of silver, distinct from an *actual cautery*, or a red hot iron. The *potential mode* of a verb is that form used to express the power, possibility, liberty, or necessity of an action, indicated by *may* or *can*.

Potentil'la. Cinquefoil. A very extensive genus of plants, mostly perennials. *Icosandria—Polygynia*. Named from *potentia*, power, on account of its supposed medicinal virtues. There are 11 indigenous species, among which are the wild tansy or silver-weed, the common cinquefoil or five-leaved grass, the barren strawberry, the white, rock, shrubby, silvery, golden, and spring cinquefoil.

Pote'rium. Burnet. A genus of plants. *Monœcia—Polyandria*. Name from ποτηριον, a cup, in reference to the shape of its flowers. The burnet-saxifrage, so much used in the beverage called cool-tankard, is the British type.

Potoroo'. The name given in New Holland to the Kangaroo rat.

Pot'stone. The *Lapis Ollaris* of Pliny; the *Toftstein* of Werner, the *Talc ollaire* of Haüy. A variety of steatite, usually of a greenish colour, but of various shades, and often spotted. Sp. gr. 3.

Pot'tern Ore. An ore, so named by the miners, because it tends to vitrify like the glazing of potters' ware.

Pot'ters' Clay. A variety of clay usually of a grey colour, but becomes red when highly heated, and so named because it is used in the manufacture of the coarse red earthenware.

Pot'tery. In reference to chemical constitution there are only two genera of baked stoneware; the first consists of a fusible earthy mixture, along with an infusible, which when combined are susceptible of becoming semi-vitrified and translucent in the kiln. This constitutes porcelain or china-ware, which is either hard and genuine, or tender and spurious, according to the quality and quantity of the fusible ingredient. The second kind consists of an infusible mixture of earths, which is refractory in the kiln, and continues opaque. This is pottery, properly so called, but it comprehends several subspecies, which graduate into each other by imperceptible shades of difference. To this head belong earthenware, stoneware, flintware, *fayence*, delfware, iron-stone china, &c.

Pounce. 1. Gum-sandarach pulverized to a fine powder, and used to prevent ink from spreading on paper.——2. Ground charcoal, inclosed in some open stuff, as muslin, to be passed over holes forming the lines of a pattern, to mark the same on the material on which the pattern is to be embroidered, &c.——3. In *falconry*, the talons of a bird of prey are called *pounces*, perhaps from the same root as Sp. *punzar*, and Ital. *punzone*.

Pound, Sax. *pund*; a standard weight. 1. The imperial troy pound contains 5760 troy grains, and the imperial avoirdupois pound contains 7680 avoirdupois grains, or 7000 grains troy; hence 144 lbs. avoirdupois = 175 lbs. troy.——2. A money of account = 20*s*.

POUPART'S LIGAMENT. An abdominous muscle.

POURPRE'STRE, Fr. *pour*, and *pris*, taken. In *law*, a wrongful inclosing or encroaching on another's property, highway, &c.

POW'DER, Fr. *poudre*, contracted from *pouldre*. A general name for all dry substances comminuted or triturated to fine particles, but the term is applied technically to substances reduced to fine particles for medicinal purposes. We have also *gunpowder* (q. v.), and *hair-powder*, which is pulverized starch.

POW'DERINGS. Devices of minor character, to fill up vacant spaces in carved works, &c.

POW'ER. 1. In a *philosophical* sense, is the faculty of doing or performing anything: ability or strength. The exertion of power proceeds from the will, and, in strictness, no being destitute of will or intelligence, can exert power. In man *power* is active or speculative: *active power* is that which moves the body; *speculative power* is that by which we see and judge, or by which we think. Power has also been distinguished into *active* and *passive*: the power of *doing* or *moving*, and the power of *receiving* impressions and of *suffering*.——2. In *mechanics*, that which produces motion or force, or which may be applied to produce it. Hence the term *mechanical powers* (q. v.). The term also comprehends *momentum*, as the *power* of the wind, and *force* and the *power* of steam. We also call the aggregate capabilities of a machine its *power*, as a steam-engine of 200 horse-power (this power perhaps made up of two others, the *power* of steam and the *power* of the atmosphere).——3. In *arithmetic* and *algebra*, that which arises by the successive multiplication of any quantity into itself; the *degree* of the power being always denominated by the number of equal factors that are employed. *See* INVOLUTION and EXPONENT.——4. In *law*, the authority which one man gives to another to act for him, and it is sometimes a reservation which a person makes, in a conveyance, for himself to do some acts, as to make leases and the like. The deed or instrument by which authority is conveyed is termed a *power of attorney*.——5. In *politics*, &c., rule, sway, authority, actual government. The *powers* of government, are legislative, executive, judicial, and ministerial. The ecclesiastical and military *powers* are subject to the civil, and that of the sovereign is limited by law.

POW'ER-LOOM. A loom worked by steam or water.

POWL'DRON. In *heraldry*, that part of the armour which covers the shoulders.

POX Sax. *pocce*, a pustule. Strictly, eruptions of any kind, but restricted to small pox, chicken pox, the vaccine, and the venereal diseases. When used without any epithet, *pox* signifies the *lues venerea*.

POY'NING'S LAW. An act of parliament, made under Henry VII., whereby the law of England was introduced into Ireland, under the lieutenantship of Sir Edward Poyning.

POZZUOL'ANA. Volcanic ashes brought from Pozzuoli, a town in the bay of Naples, and used to mix with lime in making Roman cement.

PRACTICE. In *arithmetic*, a rule by which the operations of the general rules are abridged in use.

PRÆCOG'NITA (before known). Things previously known in order to understand something else. The knowledge of the structure of the human body is one of the *præcognita* of the medical skill.

PRÆCOR'DIA, from *præ*, before, and *cor*, the heart. The forepart of the region of the thorax.

PRÆFEC'TURE. In *antiquity*, an appellation given to certain towns in Italy whose inhabitants had the name of Roman Citizens, but were governed by prefects sent from Rome.

PRÆMU'NIRE. A Latin corruption of *præmonere*, to pre-admonish. 1. A writ, or the offence for which it is granted. The offence consists in introducing a foreign authority into England, i.e., introducing and maintaining the papal power, creating *imperium in imperio*, and yielding that obedience to the mandates of the pope which constitutionally belongs to the sovereign. Both the offence and the writ are so denominated, from the words used in the writ *præmunire facias*—Cause A. B. to be forewarned to appear before us, to answer to the contempt wherewith he stands charged.——2. The penalty incurred by infringing a statute.

PRÆNO'MEN, from *præ*, before, and *nomen*, a name. The name among the Romans like our Christian name, serving to distinguish brothers, &c. from each other, as Caius, Julius, &c.

PRÆTEX'TA. A long white robe, with a purple border, worn by the children of the higher classes of ancient Rome.

PRÆ'TOR. A chief magistrate among the Romans, instituted for the administration of justice in the absence of the consuls engaged in war, &c. The hall or court where the prætor administered justice was called the *prætorium*.

PRAGMAT'IC SANCTION. In *civil law*, a rescript or answer of the sovereign, delivered by advice of his council or college, order, or body of people, who consult him in relation to the affairs of the community. The like answer given to a particular person is called simply a rescript. The term *pragmatic* is directly

from the Latin *pragmaticus*, from πραγματικος, and this from πραγμα, something performed from πρασσω, to do: hence *pragmatic* meddling.

PRAIRIE. A French word, signifying *meadow*, and used throughout America as a general name for those remarkable natural meadows, or plains, which characterise the valley of the Missisippi, and a great part of Texas, and are very common in other localities. Prairies are divided into three classes: (1.) The *heathy* or *bushy*, which are covered with brush-wood, and abound with springs; (2.) The *dry* or *rolling*, which are destitute of water, and of all vegetation except grass; and (3.) The *alluvial* or wet prairies.

PRAM, Dut. *praam*. 1. A description of flat-bottomed boat or lighter, used in Holland for conveying goods to, or from, a ship.——2. A similar boat, mounting several cannon; used in covering the disembarkation of troops.

PRASE. A leek-green (*prasine*) translucent variety of rhombohedral quartz: the *prasem* of Werner and the *quartz prase* of Brongniart. Sp. gr. 2·5.

PRA'SINE, from πρασον, a leek. A term applied to designate the grass-green colour of the purest kind.

PRA'TIQUE (French). Intercourse: communication between a ship and the port in which she arrives. Hence a license or permission to hold intercourse and trade with the inhabitants of a place after having performed quarantine, or upon a certificate that the ship did not come from an infected place. The term is used chiefly in the South of Europe, where vessels coming from countries infected with contagious diseases are subjected to quarantine.

PRAX'EANS. A sect of heretics, that sprung up in Asia in the 2nd century, founded by Praxeas, a heresiarch.

PREB'END, from *præbeo*, to allow. The stipend or maintenance granted out of the estate of a cathedral or collegiate church. It is *simple* when restricted to the revenue only, and *dignitary* when jurisdiction is annexed.

PREB'ENDARY. The ecclesiastic who enjoys a prebend. He differs from a canon in this: he receives his prebend in consideration of his officiating in the church; the canon merely in consequence of being received into the cathedral.

PRECE'DENT, from *præ*, before, and *cedo*, to go. 1. Going before in time.——2. In *law*, a judicial decision which serves as a rule for future determinations of the same kind.

PRECEN'TOR, from *præ*, before, and *canto*, to sing. 1. The leader of the choir in a cathedral.——2. The leader of the congregation in the psalmody of Scottish churches.

PRE'CEPT, from *præ*, before, and *capio*, to take. 1. A commandment to be taken as an authoritative rule of action.——2. In *law*, a command or mandate in writing.

PRECES'SION, from *præcedo*, to go before. A term in *astronomy*, to denote that slow and imperceptible motion by which the equinoxes change their places, receding westwards, or contrary to the rest of the signs, and which causes the sun's equinoctial place to precede the usual calculation. The annual amount is about 50¼″, that is, if the celestial equator cuts the ecliptic in a particular point on any day of this year, it will, on the same day of next year, cut in a point 50¼″ west of the point of its former intersection; and the sun will come to the equinox 20′ 23″ before he has completed his revolution of the heavens. Hence it appears that the equinoctial points will make an entire revolution in about 26,000 years.

PREDESTINA'TION. A term used in *theology*, to signify the preordination of men by the Supreme Deity to everlasting happiness or misery! One who believes in this doctrine is a *predestinarian*.

PRE'DIAL, Lat. *prædium*, farm. Belonging to a farm: thus *predial* slaves, in opposition to *domestic*.

PRE'DICABLE. In *logic*, a term which can be affirmatively predicated of several others.

PREDIC'AMENT, Lat. *prædicamentum*, from *prædico*, to affirm. In *logic*, a category.

PRED'ICATE. In *logic*, something affirmed or denied of the subject: *prædico*, to affirm.

PRE-EMP'TION, *præ* and *emption*. The right of purchasing before others. Thus the kings of England had formerly the right of *pre-emption*, or of buying provisions for their households in preference to all others.

PRE'FIX, *præ* and *fix*. A letter or syllable put to the beginning of a word, to affect its meaning. A prefix is united to a word, as *in*separable, and therefore differs from a preposition.

PRECIP'ITANT, PRECIP'ITATE, PRECIPITA'TION. In *chemistry*, when to a solution of some salt, as alum, another solution, as of potash, is added, which causes a decomposition of the salt, and the base falls (is *precipitated*) to the bottom of the vessel in a (usually) pulverulent form, the phenomenon is usually termed *precipitation*; the substance which sinks is called the *precipitate*, and the substance by means of which the precipitation is effected, is denominated the *precipitant*. *See* DECOMPOSITION. The following tables contain a useful and simple scheme of precipitants of the metals, and of the acids in salts, originally constructed by J. J. Griffin.

INDICATING PRECIPITANTS FOR METALS IN SALTS.

Solutions to be Neutral.				Solutions to be Acid.	Metals indicated.
Carbonate of Soda.	*Ammonia.*	*Potash.*	*Red Prussiate of Potash.*	*Sulphuretted Hydrogen Gas.*	
None					1. Potassium
None					2. Sodium
None					3. Ammonium
	None				4. Barium
	None				5. Strontium
	None				6. Calcium
		White (All five are soluble in excess of the precipitant)	Brown		7. Manganese
		White	Blue		8. Iron, Protosalts
		White	None		9. Magnesium
		White		Yellow	10. Cadmium
		White		Black	11. Bismuth
		White (All six are soluble in excess of the precipitant)	Yellow-Red		12. Zinc
		White	White		13. Tin, Protosalts
		White		None	14. Aluminum
		White		Black	15. Lead
		White		Yellow	16. Tin, Persalts
		White		Orange	17. Antimony
		Black	Red-Brown		18. Mercury, Protosalts
		Blue If boiled, Red	Red-Brown		19. Cobalt
		Blue If boiled, Black	Yell.-Green		20. Copper
		Green	Yell.-Green		21. Nickel
		Green	None		22. Chromium
		Green	Light-Blue		23. Iron, Persalts & Protosalts mixed
		Yellow	Yellow-Red None from the Perchloride		24. Mercury, Persalts
		Yellow Sometimes slight and Black	None		25. Gold
		Yellow	Yellow		26. Platinum
		Deep-Brown	None		27. Iron, Persalts
		Lt.-Brown	Brown		28. Silver

INDICATING PRECIPITANTS FOR ACIDS IN SALTS.

Nitrate of Baryta.	*Nitrate of Silver.*	*Nitrate of Lead.*	*Chloride of Calcium.*	SALTS INDICATED.
None	None			1. Nitrates
None	None			2. Chlorates
None	White			3. Chlorides
None		Yellow		4. Iodides
None		White		5. Arsenites
None	Black			6. Sulphurets
White (All five soluble in Nitric Acid without effervescence)	None			7. Fluorides
White	Yellow			8. Phosphates
White	Brown			9. Arseniates
White			White [Soluble in Water]	10. Borates
White			White [Insoluble in Water]	11. Oxalates
White [Soluble in Acids with effervescence]				12. Carbonates
White [Insoluble in Acids]				13. Sulphates
Yellow				14. Chromates

PREEN. A forked instrument used by cloth-dressers.

PREHEN'SILE, from *prehendo*, to seize. Seizing, adapted to seize or lay hold of. Thus the tail of some monkeys is *prehensile*, and they use it to grasp the branches of trees.

PREH'NITE. A siliceous mineral, thus named after Colonel Prehn, who brought it from the Cape of Good Hope. It has since been discovered in England, in the amygdaloidal wacke of Gloucestershire, and the basalt of Staffordshire. It occurs crystallised, in granular and stellular fibrous concretions, massive and reniform. It is of a green, grey, or white colour, and internal pearly lustre: scratches glass. Sp. gr. 2·6 to 2·9. It is allied to stilbite, and is classed by the French among the zoolites.

PRE'LUDE, from *præ*, before, and *ludo*, to play. A term in *music*, denoting a short symphony or flight of fancy, which serves as an introduction to a regular composition, as the overture of an opera.

PRE'MISES, Lat. *præmissa*. 1. In *logic*, the two first propositions of a syllogism, from which the conclusion is drawn. Also propositions antecedently proposed or proved.——2. In *law*, lands, tenements, &c., mentioned in the preamble of a lease or deed.

PRE'MIUM (Latin). A reward. 1. A prize offered for a specific discovery, &c. ——2. The recompense to underwriters for insurance.——3. A sum per cent. on loans, distinct from the fixed interest.

PREMON'STRANTS. An order of regular canons (called also *White Canons*), or Monks of Prémontré, in the Isle of France, instituted in 1120. They were subsequently to be found in every part of Europe.

PREPARA'TION. In *music*, the adjustment of two notes, by whose introduction a note which would be discordant is heard in the preceding harmony.

PREPOSI'TION, from *præ*, before, and *pono*, to place. A word placed before another, to express some relation or quality, as, exercise is necessary *to* health. Prepositions govern cases of nouns, and are sometimes, in colloquial language, placed after the word governed, as, the horse *which* he rode *on*, for the horse *on which* he rode.

PREROG'ATIVE, from *præ*, before, and *rogo*, to demand. A peculiar privilege. Thus the *royal prerogative* is the special pre-eminence which the sovereign has over all other persons, and out of the course of the common law, in right of the regal dignity: as the right of appointing ambassadors, and of making peace and

war. It is the *prerogative* of the House of Peers to decide legal questions, after the decisions of the courts of law have been appealed against, &c., &c.

Prerog'ative Court. In *law*, a court established for the trial of testamentary causes, when the deceased has left goods within two different dioceses, in which the probate of wills belongs, by special prerogative, to the archbishop of the province.

Presby'opia, from πρεσβυς, old, and ωψ, the eye. A defect of sight common to old men, by which objects near the eyes are seen confusedly, but at remoter distances distinctly.

Pres'byter, πρεσβυτερος, from πρεσβυς, old, elder. An elder; a person in the primitive church, somewhat advanced in age, who had authority in the church, and whose duty was to feed the flock over which the Holy Spirit had made him overseer.

Presbyte'rian. 1. Relating to ecclesiastical government by presbyters. Thus the government of the Church of Scotland is *presbyterian*.——2. One who believes in the validity by ordination and government by presbyters.

Pres'bytery. An ecclesiastical judicatory, consisting of all the pastors of churches within a certain district, and one ruling elder (*presbyter*) from each parish, commissioned to represent the parish in conjunction with the minister. This body receives appeals from the kirk-sessions, and appeals lie from it to the synod.——2. In *architecture*, a portion of the choir of a church, fitted with seats for the dignitaries of the Establishment.

Prescrip'tion. In *law*, claim of title authorized by immemorial usage: custom continued till it has the force of law (in Scotland 40 years). Title to lands, roads, &c., may be obtained by prescription: and a right may similarly be lost or prescribed by neglecting to use it. The first is *positive*, and the other *negative*, prescription.

Pres'ent Tense. In *grammar*, that form of a verb which expresses action or being in the present time; as, I am writing. *See* Tense.

Presenta'tion. In *ecclesiastical law*, the act of offering (*presenting*) a clerk to the bishop or ordinary for institution in a benefice. An advowson is the right of *presentation*.

Present'ment. In *law*, the notice taken by a grand jury of any offence from their own knowledge or observation, without any bill of indictment laid before them at the suit of the queen, and on which the officer of the court must afterwards frame an indictment before the party presented can be put to answer it.——2. The official notice in court which the jury gives of the surrender of a copyhold estate.——3. In a more general sense presentment comprehends inquisitions of office and indictments.

Presents. In *law*, is used for a deed of conveyance, a lease or other written instrument, as in the phrase "Know all men by these *presents*," i.e., the writing itself, *per presentes*.

Preserve'. 1. Fruit or other vegetable seasoned and kept (*preserved*) in sugar or sirup.——2. An inclosure on grounds for the preservation of game.

Pre'sident, from *præsidens*. An officer elected to preside over a corporation or company of men to keep order, manage their affairs, or govern their proceedings. Also an officer appointed or elected to govern a province, or to administer the government of a nation. In the United States of America the president is the chief executive magistrate. A *vice-president* is one who is second in authority to the president.

Press, Fr. *presse*. A machine by which something is to be *compressed*, crushed, or squeezed, as a *packing-press* for forcing goods into a more compact form; a *cane-press* (usually a *cane-mill*) for crushing the sugar-canes to obtain the sugar-juice; a *cider-press* for squeezing the juice out of apples, &c. The common sorts are screw, lever, and hydrostatic presses; but as the combinations of all the mechanical agents (reducible indeed to inclined plane and lever) are almost illimitable, there may be presses made of an almost infinite variety of forms. In *printing* various kinds of presses are used (*see* Printing-press); and the art and business of printing, and the publications which are issued by means of printing, are all comprehended in the unqualified term "*The Press*." Hence we speak of the *liberty of the press*, the *licentiousness of the press*, &c. &c.

Press-gang, from *press* and *gang*. A detachment of seamen under the command of an officer empowered to impress men into the naval service.

Pressiros'tres, from *pressus* and *rostrum*, a bill. A family of birds of the order *Grallatoriæ*, Cuv., *Grallæ*, Lin., comprising genera with very long legs, without a thumb, or in which the thumb is too short to reach the ground, and a moderate bill, strong enough to penetrate the ground in search of worms. The bustards, plovers, and lapwings are examples.

Press-work. In *printing*, the operation of taking impressions from the types.

Presta'tion-money. A sum of money paid yearly by archdeacons and other dignitaries to their bishop, *pro exteriori jurisdictione*.

Pres'timony, from *præsto*, to supply

A term in canon law denoting a fund for the support of a priest, appropriated by the founder, but not erected into any title or benefice, and not subject to the pope or ordinary. In Spain *prestimonio* is a prebend for the support of poor clergymen, on condition of their saying prayers at certain stated times.

Presto. An Italian word meaning *quick;* used in *music* as a direction for a quick lively movement or performance.

Presumption of Law. The assumption of the truth of a certain state of facts by the ordinary custom of law.

Presumptive Evidence. In *law*, is that which is derived from circumstances which necessarily or usually attend a fact, as distinct from direct evidence or positive proof.

Presumptive Heir. One who would inherit an estate if the ancestor should die with things in their present state, but whose right of inheritance may be defeated by the birth of a nearer heir before the death of the ancestor; distinct from *heir-apparent*, whose right is indefeasible, provided he outlives the ancestor.

Pret'erite, from *præter*, beyond. A term in grammar applied to the tense which expresses an action perfectly past or finished, but with a specification of time: called also the *perfect tense.*

Preterimper'fect. In *grammar*, a term designating the tense which expresses action or being, not perfectly past. The term is awkward.

Preteri'tion, from *prætereo*, to pass by. A rhetorical figure, by which, in pretending to pass over anything, we make a summary mention of it. Praise and blame are often artfully bestowed by *preterition.*

Preterper'fect, from *præter*, more than, and *perfect* (q. v.). A term in grammar equivalent to *preterite*, applied to the tense of verbs which expresses action, or being absolutely past.

Preterpluper'fect, from *præter*, beyond, *plus*, more, and *perfect* (q. v.). A term in grammar designating the tense of verbs which expresses action or being past, prior to another past event or time; better denominated the *prior past* tense; that is, past prior to another event.

Pre'tor, } A judge among the ancient
Præ'tor. } Romans, answering to the modern chief justice or chancellor, or both. In later times there were pretors appointed to distribute justice in the provinces; such provinces being called *præfectures.*

Prevarica'tion. A shuffling; *prævaricor*, from *præ*, before, and *varicor*, to straddle. In *civil law*, the collusion of an informant with the defendant, for the purpose of making a sham prosecution. In *common law*, a seeming to undertake a thing falsely or deceitfully, for the purpose of defeating it.

Preven'tive Service. A designation for the duty performed by the armed police engaged in watching the coasts, for the purpose of preventing smuggling and other illegal acts.

Price. By the price of a commodity is meant its value estimated in money, or simply the quantity of money for which it will exchange. By *price current* is meant a list or enumeration of the various articles of merchandise, with their prices, the duties (if any) payable thereon when imported or exported, with the drawbacks occasionally allowed upon their exportation.

Pricking-up. In *architecture*, the first coat of plaster in work of three coats upon lath.

Prick-post. In *architecture*, a post, in wooden buildings, between two principal posts.

Prick-punch. A piece of tempered steel with a round point, to impress a round mark on cold iron.

Priest, from Lat. *præstes*, a chief. Among *pagans*, priests were persons whose appropriate business was to offer sacrifices and perform other sacred rites of religion. In the *modern churches*, a priest is a person who is set apart or consecrated to the ministry of the religion of his country. In England, the word is understood to be chiefly applicable to the subordinate orders of the clergy, above a deacon and below a bishop, but in the United States of America, the word denotes any licensed minister of the gospel.

Pril'lon. A name, in Cornwall, for tin extracted from the slag.

Pri'ma Fa'cie. "On the first view" of anything. A term in logic.

Pri'mæ Vi'æ. First passages. A term in anatomy, employed to denote the stomach and intestinal tube, because they are the first passages for what is taken into the stomach.

Pri'mage. In *commerce*, a certain allowance, paid by the shipper or consignee of goods, to the marines and master of a vessel for loading the same. It differs in amount at different places, from a penny to sixpence a pack, ball, &c.

Pri'mary, Lat. *primarius*, from *primus*, first; first in order, original; as—1. In *pathology*, applied to diseases, to their symptoms, causes, &c., to denote priority, in opposition to what follows, or what is *secondary.* — 2. In *geology*, applied to rocks or strata, supposed, from the absence of fossil remains, to have been formed before animals and vegetables existed: those in which organic remains appear being termed *secondary.* It is now known, however, that some portions of those so called *primary rocks* (gneiss

mica schist, argillaceous schist, &c.), are newer than others which belong to the *secondary* groups. To obviate this confusion, Mr. Lyell has proposed the term *hypogene*, which will probably be adopted by geologists instead of *primary*.——3. In *astronomy*, applied to those planets which revolve about the sun, in distinction from the *secondary planets*, which revolve about the *primarics*.——4. In *physics*, the *primary qualities* of bodies are such as are original and inseparable from them, as extension, in distinction to those qualities which are *secondary*, as softness, hardness, &c.——5. In *optics*, the *primary colours* are those into which a ray of solar light may be separated.——6. *Primary quills*, the largest feathers of the wings.

Pri'mate, low Lat. *primas*. An archbishop.

Pri'mates. In *zoology*, the first order of animals in the class Mammalia, in the system of Linné, including four genera, *Homo*, man, *Lemur*, the lemur, *Simia*, the ape, and *Vespertilio*, the bat.

Prime, from *primus*. 1. A *prime number* is one which cannot be divided without remainder by any number except itself and unity, as 5, 7, 11. A *prime figure* is a geometrical which cannot be divided into any other figure more simple than itself, as a triangle, a pyramid, &c.——2. *Primes* are numbers adopted by chemists, in conformity with the doctrine of definite proportions, to express the ratios in which bodies enter into combination. Primes, duly arranged in a table, constitute a scale of chemical equivalents. They are supposed to express the ratios of weights of atoms, according to the atomic theory.——3. The *prime vertical* is the vertical circle which passes through the poles of the meridian, or the east and west points of the horizon. Dials projected on the plane of this circle are called *prime vertical*, or north and south dials. *Prime of the moon* is the new moon, when it first appears after the change.

Pri'mer-fine. In *England*, a fine due to the crown on the writ or commencement of a suit by fine.

Pri'mer-sei'sin. In *feudal law*, the right of the king, when a tenant *in capite* died seised of a knight's fee, to receive from the heir, if of full age, one year's profit of the land if in possession, and half a year's profit if the land was in reversion expectant, on an estate for life: abolished 12 Charles II.

Pri'mine. In *botany*, the outermost covering of an ovule.

Prim'ing. 1. In *painting*, the first colour laid on the canvass, on the walls of a building, &c.——2. The powder laid in the pan of a gun (with a flint-lock), to receive the fire from the steel, and being ignited to fire the powder of the charge.——3. In *steam-engines*, the hot water carried along with the steam from the boiler into the cylinders, and which is always an evil.

Pri'ming-wire. A pointed wire, used to penetrate the vent of a musket, &c., for examining the powder of the charge, or for piercing the cartridge.

Prim'itive, Lat. *primitivus*, from *primus*; original. 1. A term formerly used in geology, in the same sense as *primary* is at present.——2. In *grammar*, a primitive is a word not derived from any other: an original word.——3. In *painting*, primitive colours are red, yellow, and blue, from which all other colours are compounded.

Pri'mo. An Italian word, meaning *first*; used in music in that sense, as *primo canto*, the first treble, *alto primo*, the first counter tenor, &c.

Primogen'iture, from *primus*, first, and *genitus*, begotten; seniority by birth among children. In *law*, the right which belongs to the eldest son or daughter.

Primor'dial, Lat. *primordialis*. 1. First in order: *primus*, first, and *ordo*, order.——2. First principle or element.

Prim'ula. Primrose. A genus of perennial flowering plants. *Pentandria—Monogynia*. Name from *primulus*, very early, because it flowers in the beginning of the spring. The common primrose (*P. vulgaris*), the cowslip or paigle (*P. veris*), oxlip (*P. elatior*), the bird's eye (*P. farinosa*), and Scotch primrose (*P. scotica*), are indigenous in Britain. There are also 25 exotic species, mostly hardy plants.

Pri'mum Mob'ile. In the *ancient astronomy*, this was the ninth or highest sphere of the heavens, above those of the planets and fixed stars, and including all the others.

Prin'ceps Sena'tus. In *ancient Rome*, the citizen whose name was written first on the list of the Senate by the Censors.

Prin'ce's Metal. Prince Rupert's Metal. One of the many modifications of brass.

Prin'cipal, Lat. *principalis*, chief, from *princeps*, sovereignty. 1. In *law*, a *principal challenge* is where the cause assigned carries with it *prima facie* evidence of partiality, favour, or malice. A *principal* is an actor or absolute perpetrator of a crime.——2. In *commerce*, a capital sum lent on interest, due as a debt, or used as a fund, so called as distinct from *interest* or *profit*.——3. In *architecture*, a main timber in an assemblage of carpentry.——4. The head of a Scottish University.——5. In *fine arts*, the chief circumstance in a work of art.

Prin'ciple, from *principium*, beginning. 1. In *science*, a truth admitted either without proof, or considered as having been proved. In the former sense it is

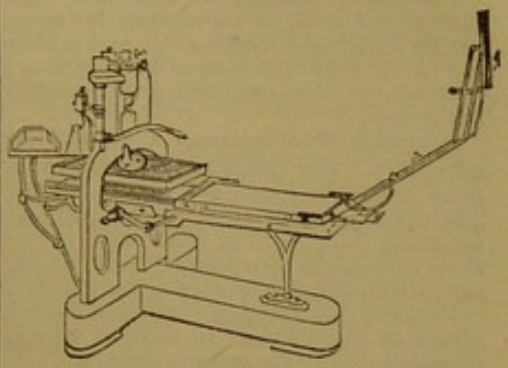
synonymous with *axiom*, and in the latter it is an *established principle*.——2. The term is vaguely used in chemistry. It sometimes denotes a component part, as the *constituent principles* of bodies. At other times it means a substance, on the presence of which certain qualities, common to a number of bodies, depend: thus we say the *acidifying principle*. We have also *proximate principles* of animal and vegetable bodies, meaning thereby substances peculiar to those bodies, which result from peculiar modes of combination of ordinary matter.

Print'ing. The art of taking copies by impression of type, engraved plates, and blocks, or any design or work whatever, in black ink, or pigments of various colours, but the word *printing*, without any distinctive addition, is usually understood to imply typography, or printing from type, usually called *letter-press printing*. The art is divided into two departments, *composition*, or the arrangement of the types; and *press-work*, or the taking off impressions from the types so arranged: the workmen employed are therefore distinguished into two classes—*compositors* and *pressmen*.

Print'ing-ink. A composition, according to Mr. Savage's recipe, of balsam of capivi (36), lamp-black (12), indigo and Prussian-blue (together, p. æq. 5), Indian-red (3), turpentine soap (dry 3). This gives a superfine black ink: the pigments for the coloured inks are carmine, lakes, vermilion, red-lead, gall-stone, Roman-ochre, yellow-ochre, verdigris, blues and yellows mixed for greens, indigo, Prussian-blue, Antwerp-blue, lustre, umbre, sepia, Venetian-red, &c.

Print'ing-machine. A general name for all self-acting printing-presses. The first machine of this sort was projected by Mr. William Nicholson, (1790); but the first operative machine of the sort was contrived by, and constructed under the direction of, Mr. T. König, a clock-maker from Saxony, (1804). This formed a basis for the admirable machine of Messrs. Cowper and Applegarth, first constructed for printing the *Times* newspaper, and which is capable of throwing off 4200 copies per hour of that large paper.

Print'ing-press. The common apparatus employed in taking impression from types.



Prion'tes. A genus of passerine birds: the *Motmots*. Family *Tenuirostres*. They are beautiful birds, as large as the magpie: fly badly, are solitary, build in holes, and feed on insects.

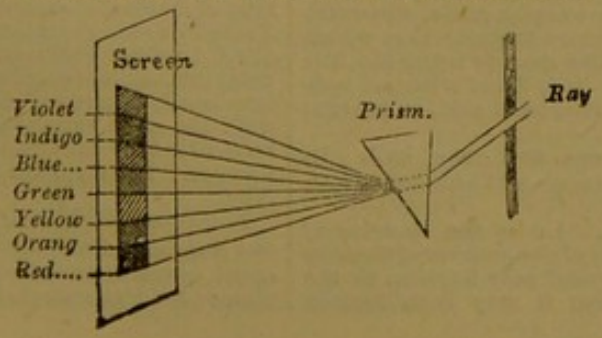
Pri'or (Latin). 1. The first in the order of time.——2. The superior of a convent.

Pri'sage, Fr. *prise*, from *priser*, to prize. *See* Butlerage.

Priscil'lianists. A Christian sect, so denominated from Priscillian, bishop of Avila, who practised magic, maintained the errors of the Manichees, and held it to be lawful to make false oaths in support of one's cause and interest.

Prism, Gr. πρισμα, from πριω, to cut. 1. A solid, whose bases or ends are any similar equal and parallel plane figures, and whose sides are parallelograms. They receive particular names from the figure of their bases, as triangular, square, pentagonal, hexagonal, &c.——2. In *optics*, a triangular prism of glass, which separates the rays of light passing through it, in consequence of the different degrees of refrangibility that take place in different parts of the same ray.

Prismat'ic Colours. The colours manifested by the decomposition of a ray of light in passing through a glass prism. These are violet, indigo, blue, green, yellow, orange, and red.



PRISMAT'IC SQUARE OR COMPASS. An instrument used in surveying, for measuring horizontal angles only, and which are taken from the magnetic meridian; a graduated float-card being attached to the needle.

PRIS'MOID, from πρισμα, a prism, and ειδος, like. The frustrum of a wedge: a solid which has two rectangular faces, and the remaining faces trapezoids, terminating with their parallel edges in the same lines as the two parallel faces, which are called *ends*, the greater being the *base*.

PRIS'ONS, MAMERTINE. Certain fearful places of confinement in ancient Rome, intended chiefly for state prisoners.

PRIVATE'ER. A ship of war, owned and equipped by a private man or men, at his or their expense, to seize or plunder the ships of an enemy in war. Such ship must, however, be licensed or commissioned by government, otherwise it is a pirate.

PRIV'ATIVE, from *privo*, to bereave. 1. That of which the essence is the absence of something: *darkness* is a privative.—— 2. In *grammar*, a prefix to a word, which changes its signification, and gives it a contrary sense, as *un* in *unwise*. The privative is, however, sometimes a suffix, as *less*.

PRIV'ILEGE. A writ of privilege is one to deliver a privileged person from custody, when arrested in a civil suit.

PRIV'Y, Fr. *privie*, private. In *law*, a partaker: a person having a private interest in any action.

PRIV'Y CHAMB'ER, Gentlemen of the. Officers of the king's household.

PRIV'Y-COUNCIL. An extensive body, with whose advice and assistance the crown administers the government. *Privy Counsellors* are made by nomination of the crown, without patent or grant.

PRIV'Y-SEAL. A seal affixed by the sovereign, or the lord keeper of the privy seal, called also *Privy-Seal* from his office, to instruments which are afterwards to pass the great seal.

PRO and CON. *Pro et contra*. For and against.

PRO'A. Flying Proa. A description of vessel, used in the South Seas, with the head and stern exactly alike, but with the sides differently formed: that which is intended for the lee side being flat, the other rounded. It is fitted with an outrigger, on the windward side, to prevent its upsetting.

PROAU'LION, προ and αυλη, hall. In *architecture*, the same as Vestibule, which *see*.

PROB'ABILITY. 1. In the *doctrine of chances*, the ratio of the number of chances by which the event may happen, to the number by which it may both happen and fail; so that if there be constituted a fraction, of which the numerator is the number of chances for the events happening, and the denominator the number for both happening and failing, the fraction will properly express the value of the probability of the events happening.—— 2. *Probabilities* is used synonymously with chances: we thus speak of the *science of probabilities*, and the *doctrine of chances*.

PROB'ABILISM. In *theology*, a theory according to which it is lawful to follow a *probable* opinion in doubtful points, even though others may appear to be more probable.

PRO'BANG. A flexible piece of whalebone, with an oval piece of ivory or piece of sponge fixed to the end; used by surgeons to push down into the stomach foreign bodies which stick in the œsophagus.

PRO'BATE, Lat. *probatus*, from *probo*, to prove. 1. In *law*, the probate of a will is the proving of its genuineness or validity, or the exhibition of the will to the proper officer, with the witnesses, if necessary, and the process of determining its validity and the registry of it, and such other proceedings as the laws prescribe as preliminary to the execution of it by the executor.——2. The right or jurisdiction of proving wills, which in England belongs to the spiritual courts.

PROBE, Germ. *probe*, proof. A surgeon's instrument, of a long and slender form, for examining the depth or other circumstances of a wound, ulcer, or cavity, or the direction of a sinus, and the like.

PROBE SCIS'SORS. Scissors used to open wounds, the blade of which, to be thrust into the orifice, has a button at the end.

PROB'LEM. Προβλημα. A question proposed. 1. In *logic*, a proposition that appears neither absolutely true nor false, and consequently may be asserted either in the affirmative or negative; or, *generally*, any question involving doubt or uncertainty, and requiring some operation, experiment, or further evidence, for its solution.——2. In *mathematics*, a proposition in which some operation is required.

PROBOSCIDIA'NA. Proboscidians. A family of mammiferous animals, of the order *Pachydermata*, characterised by a cylindrical trunk or *proboscis*, composed of several thousands of small muscles, variously interlaced, extremely flexible, endowed with the most exquisite sensibility, and terminated by an appendage resembling a finger. The elephant is the only living type.

PROBOS'CIS. Προβοσκις, from προ, before, and βοσκω, to feed. The lengthened tube, snout, or trunk belonging to the Proboscidians. *See* PROBOSCIDIANA.

PROCAR'DIUM, from προ, before, and καρδια, the orifice of the stomach. The pit of the stomach.

PROCELLA'RIA. A genus of birds: the *Petrels*. Order, *Palmipedes*; family, *Longipennes*. Of all the Palmipedes, these remain most distant from land; and when a tempest intervenes, they are forced to seek shelter on reefs and ships, from which circumstance they derive the name of *storm-birds*: that of *Petrel* (Little Peter) has been given them on account of their habit of walking on the water, which they effect by aid of their wings. They chiefly inhabit the Antarctic Seas; the Giant Petrel only is found in the South Seas. It is the largest of all the species, surpassing the goose in size, whereas the common species is scarcely larger than a lark.

PRO'CESS. 1. In *law*, the whole course of proceedings in a cause, real or personal, civil or criminal, from the original writ to the end of the suit. *Original process* is the means taken to compel the defendant to appear in court. *Mesne process* is that which issues, pending the suit, upon some collateral or interlocutory matter.—2. In *anatomy*, a production of any part, as the projecting part of a bone.

PROCE'S VER'BAL. In *French law*, an authentic minute of an official act, or statement of facts.

PRO'CHRONISM, from προ, before, and χρονος, time. An error in chronology, when events are dated anterior to the time at which they happened.

PRO CONFES'SO, in *law*, is applied to a defendant in Chancery, who appears and is afterwards in contempt for not answering; wherefore the matter contained in the bill shall be taken *pro confesso* (as though it had been confessed).

PROCON'SUL. Originally, an officer invested with the consular command without the office.

PROCRUS'TES. In *mythology*, a famous robber of Ancient Greece, who tortured his victims by placing them on an iron bed, and stretching or mutilating them to suit its dimensions. Hence the expression—"The bed of Procrustes."

PROC'TOR, } from *procuro*, to care for.
PROCURA'TOR, } 1. One employed to manage the affairs of another; and, appropriately, a person employed to manage another's cause in a court of law.——2. A magistrate of a university.——3. One who undertakes the care of any legal proceeding for another.

PROCUM'BENT, Lat. *procumbens*. Trailing and a little bent upwards: applied to stems of plants when lying upon the ground without sending out roots.

PROCURA'TION, from *procuro*. 1. In *ecclesiastical affairs*, a sum of money paid to the bishop or archdeacon by incumbents on account of visitations, called also proxy.——2. In *law*, the instrument by which a person is empowered to transact the affairs of another.

PROCURA'TOR, } The first of these terms
PROC'TOR. } is used commonly in the general sense of manager, and the other in a legal sense. *See* PROCTOR.

PRO'CYON. 1. In *astronomy*, the Dog-star: προ, before, and κυων, a dog. Procyon is a star of the second magnitude, in the constellation Canis Minor.——2. In *zoology*, the *Racoon*, a genus of plantigrade animals. The *P. lotor* of North America is about the size of a badger, is easily tamed, and eats nothing it has not previously dipped in water.

PRODU'CING. In *geometry*, the continuing of a right line to any required length.

PRO'DUCT, Lat. *productus*, from *produco*. In *arithmetic* and *algebra*, the quantity arising from the multiplication of two or more factors together.

PRO'DIGY. A surprising though natural event: distinguished from *miracle*, which is something out of the course of nature.

PROEMPTO'SIS, from προ, before, and πιπτω, to fall. The lunar equation, or addition of a day, necessary to prevent the new moon from happening a day too soon according to the civil calculation.

PRO'FILE, Fr. *profil*, from *pro* and *fil*. 1. Primarily, an outline or contour: hence, in *sculpture* and *painting*, a head or portrait represented in a side view.——2. The perpendicular section of a building; also the contour of any member, as a cornice.

PROF'IT (Fr.), from Lat. *proficio*, to advance. Gain made by the sale of produce or manufacture, after deducting the value of the labour, materials, and all expenses, together with the interest of the capital employed (whether land, machinery, buildings, instruments, or money). *Net profit* is the gain made by selling goods at a price beyond all costs and charges.

PROGNO'SIS, from προ, before, and γινωσκω, to know. The foretelling the event of diseases from their symptoms.

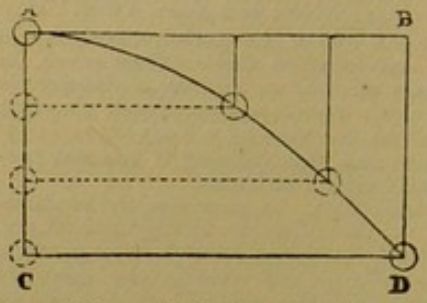
PRO'GRAMME, } from προ, before, and
PRO'GRAM, } γραφω, to write. A detailed advertisement, or account, of some public entertainment, previously issued.

PRO'GRESS. The state journeys of royal personages.

PROGRES'SION. A series of numbers, in *arithmetic*, proceeding according to a certain order, termed *arithmetical*, *geometrical*, or *harmonical*.

PROHIBI'TION. In *law*, a writ to forbid any court from proceeding with a cause then depending, on suggestion that the cause of it does not properly belong to that court.

Projec'tile. 1. Impelling, or impelled forward: as a *projectile* force, a *projectile* motion: *pro*, before, and *jacio*, to throw.——2. A body projected into the atmosphere: as a stone thrown from a sling, a bullet from a gun, &c. The laws of projectiles are identical with those by which the motions of bodies falling perpendicularly in free space are governed. Thus, a body at A, if projected forward towards B, will



arrive at D exactly in the same time that it would descend to C, if simply left unsupported at A.

Projec'tion. 1. In *mechanics*, communication of projectile force.—— 2. A branch of perspective; the art of forming the representation of a body upon a plane, by drawing straight lines through a given point or parallel, from the contour, and from the intermediate lines of the body, if any, so as to cut the plane; then colouring the respective compartments according to the degree of light, shade, and hue of each surface. In the projection of the sphere there are three principal points; the *stereographic*, in which the eye is supposed to be placed on the surface of the sphere; the *orthographic*, in which the eye is supposed to be at an infinite distance; and the *gnomic*, in which the eye is supposed to be placed in the centre of the sphere.——3. Among the *alchemists*, the casting of a certain powder, called the *powder of projection*, into a crucible full of some prepared metal or other matter, which was thereby to be transmuted into gold.

Projec'ture. In *architecture*, the jutting out of mouldings.

Pro'jojoy. A peculiar vegetable production, described by Mr. Mackay, of the British Consulate at Maracaibo, in a letter to the Zoological Society (read in September, 1839). The plant somewhat resembles the trefoil in its leaves and branch, and at the extremities of the latter there are buds, which contain neither leaves nor flowers, but an insect (resembling a wasp) which, as it grows, falls to the ground, or remains on its parent plant, feeding on the leaves till the plant is exhausted, when the insect returns to the earth, disappears under the surface, and dies. Soon after, the two head-legs begin to sprout and vegetate, the shoot extending upwards; and the plant in a short time reaches the height of six inches, and produces new viviparous buds, which perform again the same functions. The same or a similar production is also known in North Carolina.

Prolapse, *prolapsus*. A protrusion or falling down of a part of some viscus of the body, as the uterus, rectum, &c.

Prolate, Lat. *prolatum*. A spheroid is said to be prolate when it is produced by the revolution of a semi-ellipsis about its long diameter; when revolved about its short diameter, it produces an *oblate* spheroid.

Prolegom'ena, Gr. προλεγομενα, from προ, before, and λεγω, to speak. Preliminary observations or remarks prefixed to a book, &c.

Pro'legs. A name for what are otherwise termed the spurious legs of insects. They consist of fleshy and retractile tubercles.

Prolep'sis, προληψις, from προ, before, and λαμβανω, to take. Anticipation. 1. A rhetorical figure by which objections are anticipated or prevented.——2. An error in chronology, wherein an event is dated before the actual time: an anachronism.

Prolif'ic, } Lat. *prolifer*, from *pro-*
Prolif'erous, } *les*, offspring, and *fero*, to bear. A term applied in *botany* to stems which shoot out new branches from the summit of the former ones, as in the Scotch fir; and to blossoms, when one grows out of another, as happens in the genus polyanthus.

Prome'theans, from *Prometheus*. Small glass tubes, containing concentrated sulphuric acid, and surrounded with an inflammable mixture, which they ignite on being pressed.

Prom'ise, Lat. *promissum*. In *law*, a declaration, verbal or written, made by one person to another, for a good or valuable consideration, in the nature of a covenant, by which the promiser binds himself, and, as the case may be, his legal representatives, to do or forbear some act; and gives to the promisee a legal right to demand and enforce a fulfilment.

Prom'ontory, Lat. *promontorium*. A headland, or high point of land, projecting into the sea beyond the line of the coast. It differs from a *cape* in being *high* land.

Prona'tion. The act of turning the palm of the hand downwards, which is performed by means of the muscles called pronators. Opposed to *supination*.

Prona'tor. In *anatomy*, a name common to two muscles of the hand, the *pronator radii quadratus*, and *pronator radii teres*, the use of which is to perform the

opposite action to that of the supinators, viz. *pronation*.

Pro'noun, Lat. *pronomen*. A word used instead of a noun or name, to prevent the repetition of it. Pronouns are *personal* when they simply denote the person, as I, thou, he; *possessive*, when they also denote possession, as his, its; *relative*, when they express a relation to something going before, as which, what; *interrogative*, when they serve to ask a question, as whose, which; *demonstrative*, when they point out things precisely, as this, that; *indefinite*, when they point out things indefinitely, as any, some.

Proof. 1. In *law* and *logic*, that degree of evidence which convinces the mind of the certainty of truth or fact, and produces belief.——2. In *printing* and *engraving*, an impression taken for correction.——3. In *general*, trial or experiment to ascertain a fact. The quality of spirit is ascertained by *proof* (their specific gravity); hence high *proof*, first *proof*, second, third or fourth *proof*. What is technically called *proof-spirit* consists of equal parts of alcohol and water, and the strength is numerically estimated either higher or lower than this standard; as 11 *over* proof, 5 *below* proof. The term *proof* is also used to designate impenetrability, strength, &c. of bodies, as *water-proof*, *fire-proof*, *proof* against shot, &c.

Prop. *See* Fulcrum.

Propædeu'tics, from προ, and παιδευω, I instruct. German authors use this term to signify the preliminary learning connected with any art or science.

Propagan'da. A term used, during the French revolution, to designate certain secret societies, whose object was the propagation of democratic principles, and latterly any society for making political proselytes. Members of such societies are called *propagandists*, and their practice of propagating their tenets is *propagandism*.

Prope'des. Applied by Kirby to the soft appendages of certain larvæ, behind the true feet.

Prop'er, Lat. *proprius*. Belonging to an individual thing; not common. In *heraldry*, any object represented of its natural colour is so termed.

Prop'erty. 1. A peculiar quality of anything, naturally essential to it: called by logicians an *essential mode*.——2. In *law*, ownership: also the thing owned.

Prophylac'tic, from προφυλασσω, to guard against. Any means used with a view to guard against disease.

Propi'tiatory. Among the *Jews*, the mercy-seat, or lid of the ark of the covenant.

Pro'polis, from προ, before, and πολις, the city. A thick, odorous substance, resembling wax, used by bees to stop up the holes and crevices in their hives, to prevent the entrance of cold air, &c.

Propor'tion, from *pro* and *portio*, a share. 1. The comparative relation of one thing to another.——2. In *mathematics*, an equality of ratios; for instance, if $\frac{a}{b} = \frac{c}{d}$ then are a, b, c, d in proportion, which is denoted by placing the quantities thus, $a : b :: c : d$ or $a : b = c : d$, and is read as a is to b so is c to d. Proportion is direct as, $a : b :: c : d$; inverse, as $b : a :: d : c$; alternate, as $a : c :: b : d$. For *arithmetical*, *geometrical*, and *harmonical proportion*, *see* Arithmetical, Geometrical, and Harmonical.——3. In *arithmetic*, a rule by which, when three numbers are given, to find a fourth, which bears the same relation to the third as the second does to the first, or, bearing the same relation to the second as the first does to the third. The former is *direct*, and the latter *inverse* proportion.——4. *Compass of proportion*, a name given by some authors to a sector.——5. *Definite proportions*, the limited proportions in which elementary substances combine chemically to form compound bodies.

Propor'tional. 1. Relating to proportion, as proportional compasses.——2. One of the terms of a proportion, which receives different names according to the place it holds in the proportion. Thus a *mean proportional* is the middle term of three continued geometrical proportionals; a third, fourth, &c., proportional, is the third, fourth, &c., term of a geometrical proportion.

Proposi'tion, from *propono*. 1. In *logic*, one of the three parts of a regular argument, wherein some quality, either positive or negative, is attributed to a subject.——2. In *mathematics*, a statement in terms of either a truth to be demonstrated or an operation to be performed. It is called a *theorem* when it is something to be proved, and a problem when it is something to be done.——3. In *rhetoric*, something affirmed for discussion or illustration.——4. In *poetry*, that part of a poem in which the author states the subject matter of it.

Propræ'tor. A Roman magistrate who is related to a prætor, as a pro-consul is to a consul. *See* Pro-consul.

Pro Ra'ta (Latin). In proportion. A commercial and financial phrase.

Pro re Na'ta (Latin). An idiomatic phrase, signifying, as occasion may serve, as circumstances may require, &c.; used in law, medical prescriptions, &c.

Proroga'tion, from *prorogo*, to stretch forward (primarily). In England, the continuation of parliament from one session to another, as an adjournment is a continuation of the session from one day to another.

PROSCE'NIUM. Προσκήνιον. The place or stage before the scene in the ancient theatres, where the *pulpitum* stood, into which the actors came from behind the scenes to perform.

PROSCRIP'TION, *proscriptio*, among the Romans, was the public offer of a reward for the head of a political enemy. The names of the *proscripti*, or persons proscribed, which was posted up in tablets at the forum.

PROS'ENCHYMA, προσεγχέω, I pour still more upon. Cellular tissue, the cellules of which taper to each end.

PROSEN'NEAHE'DRAL, Gr. προς, ἐννέα, and ἕδρα. In *crystalography*, having nine faces on two adjacent parts of the crystal.

PROS'ODY. Προσῳδία, from προς, and ᾠδή, an ode. That part of grammar which treats of the quantity of syllables, of accent, and the laws of versification.

PRO'SOPOPY, PROSOPOPE'IA. } Personification: προσωπον, a person, and ποιεω, to feign. A rhetorical figure, in which things are spoken of as animate beings, or where an absent person is introduced as speaking. It is, therefore, more extensive than personification, which it, however, includes.

PROS'TATE, Lat. *prostatus*, standing out; jutting. Applied chiefly to a very large, heart-like gland, situated between the neck of the urinary bladder and the bulbous part of the urethra.

PROS'THESIS, προς, and τιθημι, I place. In *grammar*, one or more letters prefixed to a word. *See* METAPLASM.

PROS'TRATE, Lat. *prostratus*, lying flat upon the ground. Applied in *botany* to stems spreading horizontally over the ground.

PRO'STYLE, from προ, before, and στυλος, a column. A temple or other building, with columns only in the front. When there is also a portico at the opposite front, the temple is an *amphiprostyle*.

PROSYL'LOGISM. In *logic*, when two or more syllogisms are so connected that the conclusion of the former is the major or minor of the following.

PROT. A prefix in chemical terms for *proto* (q.v.).

PRO TAN'TO (Latin). For so much.

PROT'ASIS. Πρότασις. 1. A proposition. ——2. In the *ancient drama*, the first part of a play, explaining the argument of the piece.

PROTEST', from *pro* and *testor*, to affirm. 1. To *protest a bill*, is for a notary public, at the request of the payee, to make a formal declaration, under hand and seal, against the drawer of the bill, on account of non-acceptance or non-payment, for exchange, cost, commissions, damages and interest, of which act the indorser must be notified within such time as the law prescribes. The instrument containing such declaration is termed a *protest*. ——2. A solemn declaration of opinion, commonly against some act; appropriately a formal and solemn declaration in writing, of dissent from the proceedings of a legislative body.——3. A writing attested by a justice of the peace or consul, drawn by the master of a vessel, stating the severity of the voyage by which the ship has suffered, and showing that the damage sustained was not owing to the neglect or misconduct of the master.

PRO'TESTANTS. The adherents of Luther at the Reformation, in 1529, who *protested*, or made a solemn declaration of dissent from a decree of the Emperor Charles V. and the diet of Spires, and appealed to a general Council. The same name was subsequently given to the followers of Calvin, and in present usage it includes all belonging to the reformed churches.

PROTESTA'TION. In *law*, a declaration in pleading, by which the party interposes an oblique allegation or denial of some fact, protesting that it does or does not exist.

PRO'TEUS. Πρωτεύς. 1. A marine deity, the son of Oceanus and Tethys, whose distinguishing characteristic was the faculty of assuming different shapes.—— 2. The generic name of a Batrachian reptile, about 12 inches long, the thickness of the finger, with a vertically compressed tail, and four small legs. Also the name of a genus of infusoria, remarkable for the mutability of their forms, and sudden transformations.

PROTHON'OTARY, low Lat. *protonotarius*, from πρωτος, chief, and *notarius*, a notary. 1. Anciently, the title of the chief notaries of the emperors of Constantinople. Hence, 2. In *England*, an officer in the Court of Queen's Bench and Common Pleas. The prothonotary of the Queen's Bench records all civil actions; in the Common Pleas the prothonotaries enrol all declarations, pleadings, judgments, &c., make out judicial writs and exemplifications of records, &c.——3. The *apostolic prothonotaries* are 12 persons in the Court of Rome, constituting a college, who receive the last wills of cardinals, and make informations and proceedings necessary for the canonization of saints, &c.

PRO'THYRUM, προ and θυρα. In *architecture*, a porch before the outer door of a house.

PRO'TO, from πρωτος, first. A prefix, expressing relation in priority. Also, in *chemistry*, when more than one oxide of a substance is known, the first has the prefix *prot* for *proto*, as *protoxide* of nitrogen. *See* OXIDE.

Pro'tocol, low Lat. *protocollum*. A term in law and diplomacy, for the original copy of any writing: the first minute, draught, or summary. The term is from πρωτος, first, and κολλα, glue, probably from the gluing together of the pieces of paper on which the draught was first made.

Pro'togene. A variety of granite, in which talc takes the place of mica, as in that of Montblanc.

Pro'topope, from *proto* and *pope*. The imperial confessor, an officer of the holy directing synod, the supreme spiritual court of the Greek Church of Russia.

Pro'to Salts. Salts of which protoxides are the bases, as a protosulphate, a protonitrate.

Protox'ide. A first oxide. *See* Oxide and Proto.

Protozo'a, πρωτος, and ζωον, animal. The simplest class of animals, or those on the first step of organisation.

Protrac'tor, Lat. from *pro* and *traho*, to draw. A mathematical instrument, used for laying down on paper the angles of a survey or other figure. It is usually a small semicircle of brass, having its ends connected by a straight rule, the outside of which constitutes the diameter, and is itself divided into 180 parts, termed degrees, with a small point in the diameter, which marks the centre. Circular protractors are, however, also used, having divisions marked quite round from 0° to 360, the same as the theodolite, which, indeed, the protractor represents.

Pro'vence Rose. A species of rose, highly valued for its beauty and fragrance. There are three varieties, the white, blush, and dwarf.

Prov'ince. Lat. *provincia*, from *pro* and *vinco*, to conquer. 1. Among the Romans a province was a country of considerable extent, which being reduced under their dominion was new-modelled, subjected to the command of an annual governor sent from Rome, and to such taxes and contributions as the Senate thought fit to impose. The provinces had also the appellations of *consular* and *prætorian*, according as they were governed by consuls or prætors. The term *province* is now used for a country belonging to a kingdom or state, situated at a distance from, but more or less dependent upon it. Such is Canada, in reference to Great Britain. ——2. In the ecclesiastical division of England there are two provinces, viz., those of Canterbury and York, under the jurisdiction of their respective archbishops.

Provi'so, Lat. abbr. of *provisus*, it being provided. An article or clause in any statute, agreement, contract, grant, or other writing, by which a condition is introduced; a conditional stipulation which affects an agreement, contract, law, grant, &c.

Provi'sor. A person nominated to a benefice before the death of the incumbent, and to the prejudice of the rightful patron.

Prov'ost, Sax. *profost*. 1. The chief magistrate of a town, having the same functions as the mayor of other cities.——2. In a *general sense*, a person who is appointed to superintend or preside over something; as the *provost* of a college, answering to president; *provost of the mint*, a particular judge, appointed to apprehend and prosecute false coiners. The *provost marshal* in the army and navy is the chief executioner. The *provost of the royal stables* is an officer of the household, and holds the Queen's stirrup when she mounts her horse.

Prow, Lat. *prora*. The head or forepart of a ship, in opposition to the poop or stern.

Prox'imate, nearest; *proximus*, next. A *proximate cause* is that which immediately precedes and produces the effect, as distinguished from the *remote*, *mediate*, or *predisposing* cause. *Proximate principle*. *See* Principle.

Prox'y, contracted from *procuracy*. A person deputed to act for another. Peers may vote in parliament by *proxy*.

Prunel'lo. 1. The Brignole plum: a variety of the common plum.——2. A sort of stuff formerly used for clergymen's gowns.

Pru'nus. A genus of pomaceous trees. *Icosandria—Monogynia*. Name *prunus*, a plum-tree, *prunum*, a plum or prune. The cherry trees, plum trees, apricot and sloe are well known species. Don enumerates 36 species in all, mostly hard wooded trees.

Pruri'go, from *prurio*, to itch. A papulous eruption, of which six varieties are described by Willan.

Prus'sian Blue. A compound of a rich blue colour, well known as a pigment. In *chemical nomenclature*, it is a ferrocyanodide of iron, and is the precipitate which falls when prussiate of potash is poured into a solution of a persalt of iron.

Prus'sic Acid. An acid so called because it was first obtained from Prussian-blue. *See* Hydrocyanic Acid.

Psalte'rium, Lat. *psalter*. The third cavity of the stomachs of ruminating animals, so called, as it resembles the leaves of a book.

Psal'tery. Ψαλτηριον. An instrument of music, used by the Jews, but the form of which is not now known. That which now bears the name is a flat triangular instrument, truncated at the top, strung with thirteen chords of wire, mounted on two bridges at the sides, which are struck with a plectrum, or crooked stick.

Psellis'mus, from ψελλιζω, to stammer in speech. A defect of speech, in which articulation is depraved.

Pseudepig'raphy, ψευδης, false, and επιγραφη, inscription. The ascription of false names of authors to works.

Pseu'do. Ψευδος. False: a prefix signifying false, counterfeit, or spurious.

Pseudoblep'sis, from ψευδης, false, and βλεψις, sight. False or depraved vision: imaginary objects floating before the sight, or real objects appearing with imaginary qualities.

Pseudodip'teral, ψευδης and δις, twice, and πτερον, wing. In *architecture*, in a building, when the distance from each side of the cell to the columns on the flanks is equal to two intercolumniations.

Pseudo-er'ythine. A substance of a snow-white appearance, has the form of scales or flat needles, is a little soluble in water, but dissolves freely in alcohol. It is obtained by digesting parmelia roccella in boiling alcohol, and treating the alcoholic solution exactly as if it were intended to prepare erythine. It yields no bitter principle.

Pseudo-metal'lic. An epithet for that degree of lustre in minerals where it can only be observed when the mineral is held towards the light.

Pseudomor'phous. Not having the true or natural form (μορφη, form), but having a form arising from some accidental circumstance.

Pseudo-scor'piones. A family of Arachnides, of the order *Trachearia*. The genera are *Galeodes*, Oliv., and *Chelifer*, Geof. They take their name from their scorpion-shape. They are all terrestrial, and have an oval body with eight legs.

Pseudo'thyron, ψευδης, and θυρα, door. In *architecture*, a false door.

Pseudo-ti'nea. All the caterpillars whose habitations (sheaths) are fixed or immoveable, are termed *Pseudo-tineæ* by Reaumur; those which construct portable ones, which they transport with them, are true tineæ.

Psit'tacus. The Parrot. A genus of birds: order *Scansoriæ*: name borrowed from the Greek ψιττακος. The species are well known for the facility with which they learn to imitate the human voice. They feed on all sorts of fruit, climb among the branches of trees by aid of their beak and claws, and build in hollows of trees. Their voice is naturally harsh and disagreeable, and they are almost universally ornamented with the brightest colours. They exist in both continents, but hardly any of them are found beyond the torrid zone. The species are exceedingly numerous.

Pso'æ. Ψοαι. 1. The loins.——2. The name of two pair of muscles in the loins.

Psora'lea. An extensive genus of plants, many of them trees and shrubs. *Diadelphia — Decandria*. Name from ψωραλεος, scabby, because the calyx and other parts of the plant are more or less besprinkled with glandular dots, causing a scurfy roughness. Warm and temperate climates.

Psori'asis, from ψωρα, itch. A disease characterised by a rough scaly state of the cuticle, sometimes continuous, sometimes in separate patches, and for the most part accompanied with rhagades or fissures of the skin. Dr. Willan describes eight varieties of the disease.

Psychol'ogy, from ψυχη, the soul, and λογος, a discourse. The doctrine of the soul or mind: mental philosophy.

Psy'chomancy, from ψυχη, and μαντια, prophecy. Divination by the dead, in which they were supposed to appear as spirits.

Psychrom'eter, from ψυχρος, cool, and μετρον, measure. An instrument for measuring the tension of the aqueous vapour in the atmosphere.

Ptar'migan. The white game, *Tetrao albus*, Gm. *See* Lagopus.

Pte'ris. Brake. A genus of ferns. Name from πτερον, a wing, on account of the resemblance of the leaves to wings. There are 21 species, of which the common brake and stone-fern are the British types.

Pterocar'pus. A genus of trees. *Diadelphia—Decandria*. Name from πτερον, a wing, and καρπος, fruit; in allusion to the wing-like expansion of the legume. Hot climates. The trees which afford the red sandal-wood, the Andaman red wood, one of the sorts of dragon's blood, and the African kino, are species.

Pterodac'tylus, } An extinct genus
Pterodac'tyle. } of winged saurian, placed among the Agamians, in the family Iguanida, by Cuvier. It is only to be found among the fossils of the old Jura limestone. Name from πτερον, a wing, and δακτυλος, a finger; its chief characteristic being an excessive elongation of the second toe of the fore-foot, which was more than double the length of the trunk, and most probably served to support some membrane, which enabled the animal to fly, like that upheld by the ribs of the dragon.

Pter'omys. The flying squirrel. A genus of mammiferous animals; order Rodentia. Name from πτερον, a wing, and μυς, a rat. The skin of the flank extending between the fore and hind legs, imparts the faculty of supporting them-

selves for a moment in the air, and of making great leaps. There are several species found in Poland, Russia, and Siberia, and also in America, and the Indian Archipelago.

Pteroph'orus. A sub-genus of fissipennate tineæ, having wings with fringed edges like feathers. The caterpillars have sixteen feet, live on leaves, but construct no tube. Name from πτίσσω, a wing, and φέρω, to bear.

Pterop'oda. Pteropods. A class of molluscs which swim in the ocean, but being deprived of feet, can neither fix themselves to other bodies, nor crawl. The organs of locomotion consist of fins, placed like wings on the two sides of the mouth: whence the name, from πτίσσω, a wing, and πους, a foot. Four genera only are known, and these abound in the colder regions of the ocean.

Pter'opus. A sub-genus of the bat tribe, found in the East Indies. It is the largest bat known, and the flesh is eaten. Name from πτίσσω, and πους, a foot.

Ptolema'ic. In *astronomy*, the Ptolemaic system was that maintained by Ptolemy, who supposed the earth to be fixed in the centre of the universe, and that the sun and stars revolved round it. This theory was received for ages, but was finally superseded by the Copernican system.

Ptolema'ites. A sect of ancient heretics among the Gnostics.

Pubes'cence, Lat. *pubescentia*, from *pubes*. In *botany*, this term comprehends all the various downy, woolly, or hairy clothing of plants, which Linné reckoned the seventh of their fulcra or appendages.

Pub'lican, Lat. *publicanus*, from *publicus*. Amongst the *Romans*, publicans were farmers of the taxes and public revenues, and the inferior officers of this class were deemed oppressive.

Pu'ceron. The name of a small insect, frequently found on the young branches of trees and plants, often in such clusters as nearly to cover them. The name is French, from *puce*, a flea; but the insect has no resemblance to the flea, and so far from hopping, it rarely walks. *See* Aphis.

Puck. In *mediæval mythology*, a domestic fairy, famous for nocturnal exploits.

Pud'ding. In *nautical language*, a thick wreath or circle of cordage, tapering from the middle towards the ends, and fastened about the mast below the trusses, to prevent the yards from falling down, should the ropes sustaining them be shot away.

Pud'dingstone. A conglomerate, composed of *rounded* stones imbedded in a paste. The fragments composing breccia are angular.

Pud'dle (for engineering purposes). A mixture of good tempered clay and sand, reduced to a semi-fluid state, and rendered impervious to water by manual labour.

Puer'peral, Lat. *puerperalis*, relating to child-bearing.

Puff'ball. In *botany*, *see* Lycoperdon.

Puf'fin. A bird. 1. The *Alca arctica*, Lin., is the most common species. It is about the size of a pigeon, sometimes breeds on the English coast, and is very common on those of France during the winter. *See* Fratercula.——2. The *Procellaria puffinus*, Gmelin, about the size of a crow, and very common in almost every sea. —— 3. The *Procellaria anglorusis*, Temminck, about the size of a woodcock. It breeds in immense numbers on the northern coast of Scotland.

Pug'ging. A coarse kind of mortar, laid on the boards between joists.

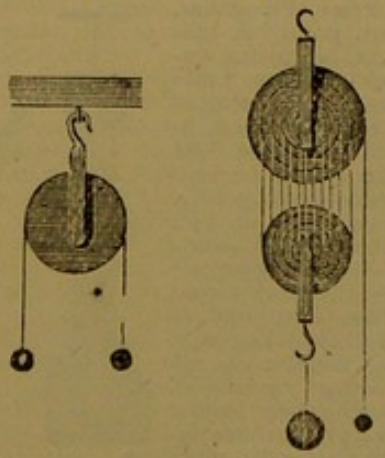
Pu'gil, Lat. *pugillus*, dim. of *pugnus*, the fist. The eighth part of a handful.

Pug-piling. The same as *Dovetail Piling*.

Puisne Judges, Fr. younger. The judges and barons of the King's Bench, Common Pleas, and Exchequer, are so named, excepting the chief judges and baron.

Pu'lex. The Flea. A genus of apterous insects, of the order (rather composing the order) *Suctoria*, Cuv. There are many species peculiar to quadrupeds and birds. They also attack the human subject, but are not natural to man.

Pul'ley. In *mechanics*, one of the simple machines or mechanical powers. The term is strictly applicable to the small wheel turning on a pin in a block, with a furrow or groove, in which runs the rope that turns it. The word is now, however, used in the general sense of tackle, to denote all parts of the machine for raising weight, of which the pulley forms a part. The first cut is an example of the



single pulley, the second of a system of pulleys.

PULMONA'RIA. Lungwort. A genus of perennial plants. *Pentandria—Monogynia.* Named from *pulmo*, the lung, because of its virtues in diseases of the lungs. The species are all hardy plants.

PULMONA'RIÆ. The first order of Arachnides, characterised by a well-marked circulating system, and pulmonary sacs, always placed under the abdomen: hence the name.

PULMO'NEA. The first order of Gasteropods, distinguished from all the other Mollusca by respiring elastic air, having no branchiæ, but a net-work of pulmonary vessels. Some of them are terrestrial, as the slug (*limax*), and snail (*helix*): others are aquatic.

PULSE, Lat. *pulsus*, from *pello*, to drive. 1. In *animals*, the beating or throbbing of the heart and arteries; more particularly the sudden dilatation of an artery, caused by the projectile force of the blood. It is generally felt at the wrist, by pressing the radial artery.——2. In *botany*, leguminous plants or their seeds, from their being *pulled* (?) Beans, peas, vetches, lupins, &c. are examples of pulse.

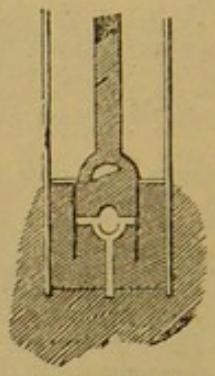
PULVIL'LI, in *insects*, are the cushions of soft hair closely set, with which their feet are provided, by means of which they are enabled to suspend themselves against gravity.

PUL'VINATED, Lat. *pulvinar*, a pillow. In *architecture*, expresses a swelling in any portion of an order, as the frieze of the Ionic order, for example.

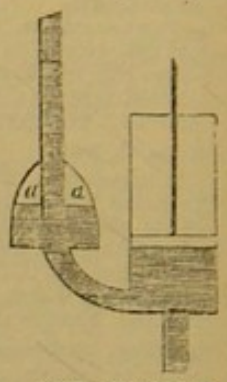
PU'MA. A name of the Couguar (*Felis discolor*, Lin.), found in both Americas.

PUM'ICE, } A light, spongy, fib-
PUM'ICE-STONE. } rous lava, supposed to be produced by the disengagement of gases, while the lava is in a plastic state. It melts before the blowpipe into a white enamel or glass. Immense quantities are often ejected by volcanoes.

PUMP, Fr. *pompe*, Dut. *pomp*. A machine for raising water or other fluid: usually consisting of a tube or tubes, in which valves and pistons or buckets are made to operate. Pumps are of two kinds: (1.) Those upon the lifting principle, therefore called *lifting pumps*, and absurdly *suction pumps*. (2). Those upon the forcing principle, termed *force pumps*. The first sort are applied to wells when the height does not exceed 33 feet. The principle is shown in the first cut. The force-pump acts by compression instead of by exhaustion, and is mostly employed for great depths, or for supplying boilers against the force of steam. The principle



FORCE-PUMP.



LIFT-AND-FORCE PUMP.

will be understood from the second figure. The *lift-and-force pumps* are, however, often combined, forming a machine which gives a continuous and regular supply. The principle is shown in the third figure, it being understood that *a a* is an air-chamber, the elasticity of the air within it acting upon the surface of the water and forcing it upward through the delivering pipe. There are numerous other forms of pumps; indeed there is perhaps no machine of which there are so many forms and modifications.

PUNCH, } Fr. *poinçon*. 1. A com-
PUNCHE'ON. } mon name for all iron tools used by stone-cutters, &c., for cutting or chipping. Also the name of a short stout piece of steel, or iron steeled, used for stamping out pieces so as to make perforations in iron plates and the like. A die is also sometimes termed a *punch*.——2. In *carpentry*, a piece of timber raised upright under the ridge of a building, and in which are joined the little timbers, &c.——3. *Puncheon* is sometimes applied as the name of a large cask containing about 120 gallons. In this sense the word is synonymous with *hogshead*.

PUNC'TATE, Lat. *punctatus*, dotted. Applied to parts of plants, &c.

PUNCTUA'TION, from *punctum*, a point. The art of marking with points the divisions of a discourse or other writing into sentences and clauses. It is accomplished by means of four points: the period (.); the colon (:); the semicolon (;); and the comma (,). The art is modern; the ancients wrote without any distinction of members, periods, or words.

PUN'DIT. A name in Hindoostan for a learned Brahmin.

PU'NICA. The pomegranate tree. A genus of *Icosandria—Monogynia*. The *P. granatum* or common pomegranate is a

native of the south of Europe; the *P. nana* of the West Indies.

Puni'ceal, from *puniceus*. Of a fine bright red colour, like the flowers of the pomegranate (*punica*).

Punt. An oblong flat-bottomed boat, with a square head and stern.

Pu'pa 1. In *entomology*, the chrysalis. ——2. In *conchology*, a genus of cylindrical univalve land shells belonging to the family Colimacea.

Pupiv'orous, from *pupa* and *voro*, to feed. Feeding on the larvæ or pupæ of insects.

Pura'na, *Sanscrit*, a poem. The sacred books of India explanatory of the Shaster.

Pur'beck Beds or strata. The lowest deposits of the Wealden group, consisting of various kinds of limestones and marls.

Pur'gatory. A place appointed for the satisfaction of temporal punishments, which among Roman Catholics are distinguished from the eternal, the latter alone being remitted by the death of Christ.

Purg'ing Flax. Mill mountain. A plant, the *Linum catharticum*, a decoction of which is an effectual and safe cathartic.

Purg'ing Nut. The seed of the *Jatropha curcas*, which affords an oil which is employed in some places as the castor oil is in this country.

Pu'rim. Among the *Jews*, the Feast of Lots, instituted to commemorate their deliverance from the machinations of Haman.

Pu'ritans. The dissenters from the Church of England were so called in derision, because they professed to be guided by the pure word of God, in opposition to all traditions and human institutions.

Pur'lins. Pieces of timber which are laid across the inside of rafters, to keep them from sinking in the middle.

Purple of Cassius. Gold purple. A vitrifiable pigment, which stains glass and porcelain of a beautiful purple hue. It is obtained by adding to a neutral muriate of gold a mixture of the protochloride and perchloride of tin, all in solution. A beautiful purple precipitate falls.

Pur'pura. 1. One of the four genera into which Brugueir has divided the gasteropods, forming the genus *Buccinum*, Lin. The species are numerous, and the animal secretes a purple liquor, which was formerly used in dyeing wool, &c., and is supposed to be the substance of the Tyrian dye, so highly prized in ancient Rome for producing the imperial purple. ——2. A disease in which small distinct purple specks appear on the skin.

Pur'pure. In *heraldry*, purple; represented in engraving by diagonal lines from right to left.

Purpu'ric Acid. An acid obtained by treating uric or lithic acid with dilute nitric acid. It has a fine purple colour when in solution, but in a dry state it is a fine powder of a cream colour.

Pur'purine. A colouring principle which exists in madder, and hence called *madder-purple*.

Purs'er. In the *navy*, an officer who has charge of the provisions of a ship of war, and attends to their preservation and distribution among the officers and crew.

Pur'suivants. In *heraldry*, the lowest order of officers at arms. They attend the heralds when they marshal public ceremonies. The term is French, *poursuivant*, a state messenger.

Purvey'ance. In *English law*, the royal prerogative of pre-emption, abolished by 12 Charles II., c. 24.

Pus, πύος, matter. Applied to designate the whitish, bland, cream-like fluid, heavier than water, found in abscesses and on the surface of sores.

Pus'tule, from *pus*, (q. v.). An elevation of the cuticle, sometimes globate, sometimes conoidal in its form, and containing pus or lymph, which is in general discoloured.

Puta'men. A Latin name for the shell of a nut: applied in botany as another term for the endocarp, stone, or shell of certain fruits.

Putamin'eæ. The name of the 25th natural order of plants according to Linné, comprising such as have an outer shell (*putamen*), over a hard fruit.

Put'chock. The root of a plant which grows abundantly in Scinde, and is exported in considerable quantities from the north-west coast of India into China, where it is burned as incense in the temples of the gods. It yields a fine smoke, and diffuses a grateful odour in burning.

Put'logs, Put'locks. Pieces of timber, about seven feet long, used in building scaffolds.

Puto'rius. One of the four sub-genera into which Cuvier has divided the genus *Mustela*, Lin. This sub-genus comprises the polecat, and mink or norek of the north and east of Europe.

Putrefac'tion, from *putrefacio*, to make rotten. 1. The spontaneous decomposition of animal and vegetable matters, attended with fœtid exhalations: called also *putrid*, or *putrefactive fermentation*. In the process of putrefaction, the solid and fluid matters are resolved into gaseous compounds which escape, and earthy matters which remain. The requisites of the process are (1.) a certain degree of humidity, (2.) a certain degree of heat, and (3.) the presence of oxygen (a constituent of atmospheric air) All organic bodies, when life is extinct, decay with

more or less rapidity (when the requisites are present), according as they contain more or less nitrogen.

PUT'TY, Sp. *potea*. 1. A cement composed of whiting and linseed oil, beaten or kneaded to the consistency of dough; used to fasten glass in sashes, stop crevices, &c.——2. A white powder formed by calcining an alloy composed of equal parts of tin and lead. It forms the base of most enamels, and is also used in polishing metals, stones, and glass.

PYC'NODONTS. Thick-toothed fishes: πυκνος, compact, and ὀδους, a tooth, their leading character consisting in a peculiar armature of all parts of the mouth, with a pavement of thick, round, and flat teeth, the remains of which, under the name of *bufonites*, occur most abundantly throughout the oolite formation. The pycnodonts are now extinct: five genera have been recognised.

PYC'NOSTYLE, from πυκνος, close, and στυλος, a column. A method of intercolumniation which has only a diameter and a half between each pair of columns. Exemplified in the ruins of Palmyra.

PYLO'RUS, from πυλη, an entrance, and ωρεω, to guard. The inferior aperture of the stomach which opens into the intestines.

PYRA'CIDS. There are several vegetable acids which, when distilled, undergo decomposition, and new acids are generated by the process: these new acids are distinguished by the name of *pyracids* from πυρ, fire, and acid. Thus, tartaric acid yields *pyrotartaric acid*; mucic acid yields *pyromucic acid*; gallic acid yields *pyrogallic acid*, &c.

PYR'AMID, πυραμις. 1. A geometrical solid, having one of its sides, called the *base*, a plane figure, and the other sides triangles, their points joining in one point at the top, called the *vertex*. The edge of the base and the vertex are called the two *directrices*, and the straight line extending between them is called the *generatrix*. Pyramids are termed triangular, square, &c., according to the number of their sides.——2. A building of a pyramidal form. Those of Egypt are the most celebrated structures of this sort, and many attempts have been made to ascertain their use. Some have supposed them to have been erected for astronomical purposes; others have taken them for religious edifices; but it seems to be now generally agreed that their principal, if not their sole use, was to serve as sepulchres for the kings and other great men of the land. There are a considerable number of these pyramids between Cairo and Meidan, on the west side of the Nile, but the three of Memphis have attracted particular attention from their size. These have from time immemorial been regarded as the most stupendous wonders of the world. The dimensions of the largest has been variously given as follows, in French feet.

	Height.	Width of one of its sides.
Le Bruyn,	616	704
Prosper Alpinus,	625	750
Thevenot,	520	682
Niebuhr,	440	710
Greaves,	444	648

This pyramid, according to the least of these dimensions, covers upwards of 11 acres (English), and may be ascended on the outside by 208 steps.

PYRAM'IDAL NUMBERS are formed by the successive sums of polygonal numbers, in the same manner as polygonal numbers are formed from arithmetical progressions, thus: *Arithmetical Progression*, 1, 2, 3, 4, 5, &c.; *Polygonal Numbers*, 1, 3, 6, 10, 15, &c.; *Pyramidal Numbers*, 1, 4, 10, 20, 35, &c.

PYRAM'IDOID, } Parabolic spindle. A
PYR'AMOID. } solid formed by the revolution of a parabola about its base or greatest ordinate.

PYRE'THRUM. Feverfew. An extensive genus of plants. *Syngenesia; Poly. superflua*. Name from πυρετος, fever, being regarded as a specific for some fevers. Most of the species are hardy, many are perennial, some shrubby, and a few annual. The common, sea, and scentless feverfew are British species.

PYRETOL'OGY, from πυρετος, fever, and λογος, discourse. The doctrine of fevers.

PYREX'IA. Fever: from πυρ, fire. Febrile disease, under the systematic name *Pyrexiæ*, constitute the first class in Cullen's Nosology. Epithet, *Pyrexial*, febrile.

PYRI'TES, πυριτης, fire-stone. A name first given to the native sulphuret of iron, because it emits sparks of fire when struck against steel, and because, when heated red hot, the sulphur which it contains burns with a lambent blue flame. The name is now used to designate three native sulphurets, the ferruginous, the cupreous, and the arsenical. The first is bisulphuret of iron, the second of copper, and the third of arsenic; and they have all a general similarity in external appearance. Their colour varies from yellowish-white to golden-yellow, with a high degree of metallic lustre.

PY'RO-ACET'IC SPIRIT, } Acetone. Py-
PY'RO-ACET'IC ETHER. } roxilic spirit. A colourless limpid liquid, of a peculiar penetrating odour, so called because it is obtained along with acetic acid by the dry distillation of the acetates. It is highly inflammable, and is therefore often used in lamps, instead of spirit of wine. Boiling point 132° F., sp. gr. 0·792.

Py'ro-acids. The prefix *pyro* is attached to the products obtained by subjecting organic acids to heat, which gives rise to distinct classes of acids.

Pyroch'roa. A genus of heteromerous Coleoptera of the Trachelide family. The species are found in the spring in woods, and their larvæ live under the bark of trees.

Pyro-cit'ric Acid. A peculiar acid obtained by subjecting citric acid to dry distillation, saturating the acid liquor which results with lime, and decomposing the precipitate with oxalic acid. It is therefore reckoned one of the pyracids.

Pyro-cit'ric Ether. A colourless and transparent liquid, obtained by heat acting on a mixture of citric acid, alcohol, and sulphuric acids. Sp. gr. 1·04.

Pyro-gal'lic Acid. An acid obtained from gallic acid by heat. It sublimes in crystalline plates, which are white and brilliant, and contain no water. Soluble in water.

Pyro-kin'ic Acid. An acid obtained by heat from kinic acid. It passes over in a liquid state, but crystallises in tufts, when the liquor is filtered and evaporated.

Pyrolig'nous Acid. Wood vinegar. This acid liquid, which passes over during the destructive distillation of wood, is a mixture of various products, the most abundant of which is acetic acid. This liquor being rectified by a second distillation, the acetic acid passes over, contaminated with a minute portion of a brown empyreumatic oil. This, from its smell, was regarded for some time as a distinct acid, and was accordingly called *pyroligneous* acid (from πυρ, fire, and *lignum*, wood), and the salts which it formed were in consequence termed *pyrolignites*.

Pyrolig'nous Spirit. *See* Pyroxilic Spirit.

Pyro-lith'ic Acid, } When uric or li-
Pyro-u'ric Acid. } thic acid concretions are subjected to dry distillation, silvery white plates of pyrolithate of ammonia sublime. A solution of these, poured into that of subacetate of lead, gives a precipitate of pyrolithate of lead. The precipitate being washed, and diffused through water, into which passes a stream of sulphuretted hydrogen, the pyrolithate of lead is decomposed; and the liquid becomes a solution of pyro-lithic or pyro-uric acid. Acicular crystals are obtained by evaporation.

Pyro-mal'ic Acid, } The liquid acid
Pyro-sor'bic Acid. } which passes over in subjecting malic or sorbic acid to dry distillation, is so named. It affords crystals by evaporation.

Pyro'mancy, from πυρ, fire, and μαντια, prophecy. Divination by the fire of the ancient sacrifices.

Pyro-mecon'ic Acid. An acid obtained when meconic or parameconic acid is distilled. It is soluble in water and alcohol, and affords crystals when its solutions are evaporated.

Pyrom'eter, from πυρ, fire, and μετρον, measure. The name of an instrument for measuring degrees of heat, higher than the range of the mercurial thermometer, as that of furnaces and the like. *Wedgewood's Pyrometer* consists of a metallic groove or gauge, the sides of which gradually converge; pieces of very pure clay are made into small cylinders, having one side flattened, and being heated to redness, they are made to fit the larger extremity of the groove. As it is a property of clay to contract and become harder by exposure to a high temperature (supposed to be) in proportion to the heat to which it is exposed, all that is necessary to make an observation is, to subject one of the cylinders of clay to the heat of the furnace, and when it is again cooled, to try how far it slides downwards in the gauge, which is marked off into 240 parts or degrees, each calculated to be equal to 130° of Fahrenheit's scale. The zero is red heat, supposed to be 1077° Fah.

Daniels' Register Pyrometer consists of two parts, the register and scale. The register is a solid bar of black-lead earthenware highly baked. In this a hole is drilled, into which a bar of platinum or malleable iron (6 inches long) is put, which rests against the bottom of the cavity. A cylindrical bar of porcelain (called the index), is then placed upon the top of the bar, and confined in its situation by a ring of platinum. This arrangement being subjected to an increase of temperature, the metal rod expands and forces the index to recede, and the amount of displacement being noted, the temperature is known by the scale on the index.

Pyro-mu'cic Acid. An acid obtained by distilling mucic acid in a retort. The matter which comes over is mixed with four times its weight of water, and then evaporated, when the pyromucic acid is deposited in crystals. It forms soluble and crystallisable salts called *pyromucates*.

Pyroph'ane, from πυρ, fire, and φανος, clear. A mineral which in its natural state is opaque, but is rendered transparent by heat.

Pyroph'orus, from πυρ, fire, and φορος, bearing. A generic name for any chemical preparation which becomes ignited on exposure to the air. Several such substances are prepared, mostly, however,

depending on the same ultimate principle. *Homberg's pyrophorus*, the best known, is readily prepared by calcining together 3 parts alum and 1 part sugar, or flour, in a bottle of stone or other fitting material, until no product appears to be given off; the mouth of the bottle is then to be stopped, and the whole set aside to cool: the bottle will now be found to contain a black powder, which will spontaneously take fire when poured out.

PYRO-PHOS'PHORIC ACID. The acid formed when phosphoric acid, or any of its salts, is subjected to a heat of 415° F.

PYROR'THRITE, from πυρ, fire, and *orthrite* (q. v.). A mineral resembling orthrite, but differing from it essentially. Pyrorthrite burns like charcoal before the blow-pipe, whereas orthrite melts.

PYR'OSCOPE, from πυρ, fire, and σκοπεω, to view. An instrument for measuring the intensity of heat radiated from a fire.

PYRO'SIS, from πυροω, to burn. A disease called in Scotland *water-brash*, and in England *black-water*: known by a sensation of heat in the stomach, attended with copious eructations, generally of a watery insipid fluid.

PYROSO'MA. A floating polypus, differing from the coral in being locomotive, and is so named from πυρ, fire, and σωμα, body, because it emits a sort of phosphorescence which is considerably augmented when the animal is irritated. The pyrosomæ unite in vast numbers, and arrange themselves in the form of a hollow cylinder, open at one end and shut at the other, and in this form the body moves about by the alternate dilatation and contraction of the individual animals.

PYRO-TARTAR'IC ACID. An acid obtained by exposing tartaric acid to heat in a retort. When the tartaric acid in the retort is kept at a temperature of 374°, a liquid passes into the receiver, which yields by evaporation crystals of pure pyro-tartaric acid.

PYR'OXENE, from πυρ, fire, and ξενος, a stranger. The name given by Haüy and Brongniart to augite, because it is not altered by fire.

PYROX'ILIC SPIRIT, } Pyrolignous spi-
PYROX'YLIC SPIRIT. } rit. *Pyro-acetic spirit.* A liquid often improperly termed naphtha. It is one of the products obtained by subjecting wood to destructive distillation. When the pyrolignous acid is saturated with quick lime, and distilled, it yields 1 per cent. of this spirit. *See* PYRO-ACETIC SPIRIT.

PYROX'ILINE. A name given by Dr. Ure to pyroxanthine or eblanine, because obtained from pyroxilic spirit. If potash be added to unrectified pyro-acetic spirit, a precipitate of pyroxiline falls, mixed with tarry matter. From this impurity it is freed by washing with alcohol of sp. gr. 0·84. It has an orange red colour closely resembling ferro-prussiate of potash.

PYRR'HIC. Πυρρίχιος, from πυρρίχη, an ancient military dance. A poetical foot consisting of two syllables.

PYRRHOCO'RAX. A genus of passerine birds belonging to the family *Dentirostres*, Cuv. Name a corruption of *pyrocorax*, the πυροκοραξ of Pliny, from πυρ, fire, and κοραξ, a crow, the feet and beak being flame-coloured, and their other characters coinciding nearly with those of the crows, to which they were for a long time united.

PYRRHO'NIANS, } A sect of ancient phi-
PYRR'HONISTS. } losophers, founded by Pyrrho, a native of the Peloponnesus. They were also called *Sceptics*, because they professed to doubt everything, and although they seemed always in search of truth, they never acknowledged that they had found it. Hence the terms *scepticism* and *pyrrhonism* became synonymous.

PYR'ULA. A genus of marine pyriform univalve shells, belonging to the family *Canalifera*, Lam. Pyrulæ occur both recent and fossil; the former on muddy bottoms, and the latter in the London clay.——2. In *ornithology*, the bull-finch.

PY'RUS. An extensive genus of trees of the natural order Pomaceæ, and arranged by Linné in the class *Icosandria*, and order *Pentagynia*, of the sexual system. Name *pyrus*, a pear; the pear-tree being the type of the genus. The apple, quince, whitebeam, mountain-ash, &c. trees are also species.

PYTHA'GOREANS. A sect of ancient philosophers, so called from their being followers of Pythagoras of Samos, who lived in the reign of Tarquin, the last king of Rome. Pythagoras first taught that the sun was a moveable sphere, situated in the centre of the universe, and that the planets revolved about this centre. This doctrine was revived by Copernicus, and has in consequence been named the *Copernican system* of astronomy.

PYTH'IA, } The priestess of Apollo,
PYTH'ONESS. } who delivered oracular answers at Delphi in Greece.

PYTH'IAN GAMES. One of the four national festivals of Greece, celebrated every fifth year near Delphi, in honour of Apollo, who overcame the dragon Python.

PYX, from πυξις, a box. The name of the box in which the consecrated host is kept by the Romish priesthood. The *trial of the pyx*, or pix, at the Mint, is a trial of the coins previous to their being put into circulation, and is so called from the box in which the coins to be tried are kept.

PYXI'DIUM, πυξις, a small box. A fruit which divides circularly into a lower and upper half.

PYX'IS. Πυξις, from πυξος, the box-tree. Properly a box; but, from its resemblance, the cavity of the hip-joint. *See* ACETABULUM.

Q.

Q, the seventeenth letter of the English alphabet, is an articulation, borrowed from the oriental *koph*, or *quoph*. It never ends an English word, and is always followed by *u*, in which it differs from *k*. Q, as a numeral, stands for 500, and with a dash over it $\overline{Q}$, for 500,000. It is often used as an abbreviation for *question*.

Q. E. D. An abbreviation of *quod erat demonstrandum*, which was to be demonstrated.

Q. E. F. An abbreviation of *quod erat faciendum*, which was to be done.

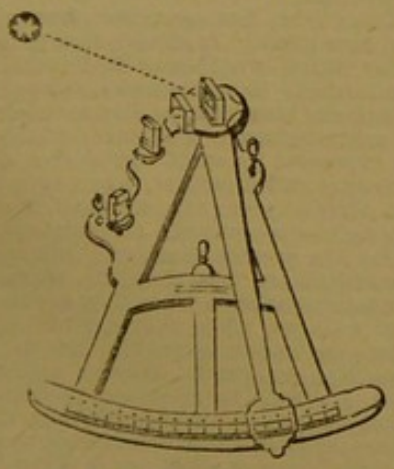
Q. P. An abbreviation of *quantum placet*, as much as you please.

Q. S. An abbreviation of *quantum sufficiat*, as much as may suffice.

QUADRAGES'IMA. Lent: *quadragesimus*, fortieth, because it consists of forty days.

QUAD'RANGLE, Lat, *quadratus angulus*. A quadrilateral figure: a surface having four sides and four equal angles.

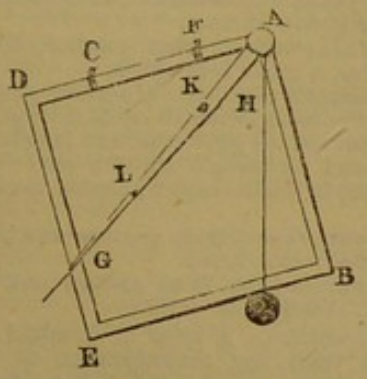
QUAD'RANT, from *quadrans*, a fourth. 1. In *geometry*, the fourth part of a circle, or 90 degrees.——2. An instrument for taking the altitudes of the sun and stars, of great use in astronomy and navigation. Quadrants are variously made, but Hadley's reflecting quadrant is most commonly used. It consists of an octant



(eighth part of a circle), an index, a speculum, two horizontal glasses, two screens, and two sight vanes.

QUADRAN'TAL TRIANGLE. In *trigonometry*, a spherical triangle, having one side equal to a quarter of a circle.

QUAD'RAT, from *quadratus*, squared. 1 In *printing*, a piece of metal cast like the letters, used for filling up the incomplete lines at the ends of paragraphs.——2. A mathematical instrument called also a *line of shadows*, and a *geometrical square*. It is frequently an additional member on the face of the common and some other quadrants. It is made of four plane rules, joined together at right angles, where A



is the centre, to which a plummet is attached. Each side is divided into 100 or 1000 equal parts: C and F are two sights fixed on the side AD; and GH is an index, joined to the centre A, in such a manner as to move freely, yet to remain in any given situation. On this there are also two sights, K and L. The side DE is called the line of direct shadows; and the side BE is termed the line of reversed shadows.

QUAD'RATE, Lat. *quadratus*, square. 1 Having four equal and parallel sides.——2. In *astrology*, the same as *quartile*.

QUADRAT'IC EQUATIONS. Equations in which the unknown quantity is of two dimensions, or of the second degree, or *squared*.

QUAD'RATO (It.). In *music*, the note B in the natural scale.

QUAD'RATRIX. In *geometry*, a mechanical line, by means of which right lines may be found equal to the circumference of circles and other curves, and other parts.

QUAD'RATURE, from *quadratus*, squared 1. In *geometry*, the reducing of a figure to a square: the finding of a square which will be equal in area to the given figure: thus, the quadrature of the circle has been a mathematical problem since the days of Euclid, and it is not yet solved. ——2. In *astronomy*, that position of the moon, with relation to the sun, when she is equally distant from the points of conjunction and opposition.

QUADREL', Ital. *quadrello*. A sort of artificial stone, made of a dry chalky

earth, and dried in the shade for two or more years: used in some parts for building, and so named because it is square.

QUADRICAP'SULAR, from *quadra* and *capsula*: having four capsules to a flower.

QUADRIDEN'TATE, from *quadra* and *dentatus*, toothed: four-toothed. A botanical term.

QUAD'RIFID, from *quadra* and *fidus*, cut: four-cleft. A botanical term.

QUADRI'GA, from *quatuor*, four, and *jugum*, yoke. An ancient chariot drawn by four horses abreast.

QUADRILAT'ERAL, from *quatuor*, four, and *latus*, a side: four-sided.

QUADRILL'E (French). 1. A game played by four persons, with 40 cards, being the remainder of the pack after the four tens, nines and eights are thrown out.——2. A dance, in which eight persons usually join.

QUADRILO'BATE, from *quatuor* and *lobatus*, lobed: four-lobed.

QUADRILO'CULAR, from *quatuor* and *locularis*, celled: four-celled.

QUADRIMA'NI. A tribe of Carabici, so named from the arrangement of the joints of the tarsi, and the quadrate shape of the thorax: *quadra* and *manus*, a hand. There are many genera, as Acinopus, Daptus, Harpalus, &c., all preferring sandy and hot localities.

QUADRIPHYL'LOUS, from *quatuor* and φυλλον, a leaf: four-leaved. A botanical term.

QUADRIP'LICATE, from *quatuor* and *plica*, a fold: having four folds or plaits. A term in conchology.

QUADRIRE'ME, from *quatuor* and *remus*, an oar. An ancient ship of war, furnished with four rows of oars.

QUADRISUL'CATA, from *quatuor* and *sulcus*, a furrow. Applied to ungulate quadrupeds, whose hoofs are divided into four digits.

QUADRIVAL'VULAR, from *quatuor* and *valva*, a valve: having four valves. A term in botany.

QUADRIV'IUM (Lat.). The four lesser arts—arithmetic, music, geometry, and astronomy.

QUADRO'ON, from *quadra*; *quatuor*, four. A name in Mexico, &c. for the offspring of a Mulatto woman by a white man: a person quarter-blooded.

QUA'DRUM. In *music*, the same as *natural*.

QUADRU'MANA, from *quadra* and *manus*, a hand. The name of the second order of mammalia, in Cuvier's arrangement, including all the monkey tribes, which are very numerous.

QUADRUPE'DIA, *quatuor*, and *pes*, foot. All vertebrate animals, fitted with four extremities for progression, were formerly so termed; but the term is no longer used as indicative of a particular group of animals.

QUÆS'TOR. An officer among the Romans, who had the management of the public treasury.

QUAIL. A migratory bird, somewhat smaller than the partridge. It is the least of all the gallinaceous birds. *See* COTURNIX.

QUA'KERS. A christian sect, otherwise called *Friends*, which sprung up in England during the protectorate of Cromwell. They have few articles of faith, insist chiefly on moral virtue, mutual charity, the love of God, and a deep attention to the feelings and emotions of the mind, which they regard as the secret workings of the Holy Spirit. Their worship is devoid of ceremonies, and they uniformly profess great probity and uprightness in their dealings, and affect the utmost frugality in their manner of living, and singular plainness and simplicity in their dress.

QUAL'ITATIVE. Regarding the qualities or properties of a body, without reference to quantity.

QUAL'ITY, Lat. *qualitas*, from *qualis*, such. Property. Qualities are *natural* and *accidental*. Whiteness is a *natural quality* of snow; figure and dimension are *natural qualities* of solids; but blue is an *accidental* or *adventitious quality* of cloth; and all determinate figures, as cube, square, sphere, &c. are *accidental qualities* of solids. *Essential qualities* are such as are necessary to constitute a thing what it is: *sensible qualities* are such as are cognisable by the senses, as colour, smell, taste, &c.

QUAN'TITATIVE. Regarding quantities; as a *quantitative* analysis of any chemical compound.

QUAN'TITY, Lat. *quantitas*, from *quantus*, how much. In *physics*, that property of anything which may be increased or diminished. In *mathematics*, any portion, definite or indefinite, known or unknown, of any magnitude whatever, which can be expressed by units. In *algebra*, quantities are called *positive*, when they have the sign + prefixed, and *negative* when the sign — is prefixed. All positive quantities are greater than, and all negative quantities are less than, 0. Quantities are said to be *given* when they are known, and *unknown* when they are not given. Given or known quantities are denoted by *a*, *b*, *c*, &c.; and unknown quantities by *z*, *y*, *x*, &c. In *grammar*, quantity denotes the measure and magnitude of syllables, or that which determines them to be called long or short; or it is the measure of time in pronouncing a syllable.

QUAN'TUM (Latin). The quantity. In *law*, *quantum meruit*, an action on the case, grounded on the necessity to pay a

man for doing some service, *as much as it merits* or deserves. *Quantum valebat*, or *valebant*, an action to recover of the defendant for goods sold *as much as they were worth*.

Qua-qua-ver'sal, Lat. *quaquà*, on every side, and *versus*, inclined. Inclined to every side: facing all ways, as the *quaqua-versal dip* of coal-beds.

Quaranti'ne, Ital. *quarantina*, forty. Properly, the space of forty days; appropriately, the regulation by which a ship arriving in port, and suspected of being infected with plague, or other malignant contagious disease, is obliged to forbear all intercourse for the space of forty days. *See* Lazaretto.

Qua're (Latin). Wherefore, for what reason. A term in *law*, affixed to the title of several writs.

Qua're Impedit (Lat.). A writ lying for one who has a right of advowson against one who disturbs him by presenting a clerk when the church is vacant.

Quar'rel, Welch *gwarel*. 1. An arrow with a square head.——2. A pane of glass, a square. *See* Quarry.

Quar'ry, Fr. *carré*, for *quarré*. 1. The same as *quarrel* (q.v.). 2. In *falconry*, from Fr. *querir* (?), to fetch: the game which a hawk pursues or has killed.——3. Fr. *carrière*, an artificial excavation, formed in rocky ground, for the purpose of obtaining marble, stone, slate, &c.

Quar'tan. *Febris quartana*. The fourth-day ague; the exacerbations occurring every fourth day.

Quarta'tion. An operation in assaying, by which the quantity of one thing is made equal to the *quarter* or fourth part of the quantity of another thing. Thus, in refining gold, it is alloyed with three parts of silver, so that the gold may constitute only one *quarter* of the mass, and thereby have its particles too far separated to be able to protect the other metals originally associated with it, such as silver, copper, lead, tin, &c., from the action of the acids employed in the processes of parting.

Quar'ter, Lat. *quartus*. The fourth part. Thus the fourth part of 112 lbs., or 28 lbs., is called a quarter; eight bushels (fourth of a ton) is a quarter of grain; the fourth part of the moon's monthly revolution is called a *quarter*, and is either first, second, third, or last.

Quar'ter-cloths. In *ships*, long pieces of painted canvas, extending on the outside of the quarter-netting, from the upper part of the gallery to the gangway.

Quar'ter-days. In *law*, these are the 25th of March, or Lady-day; the 24th of June, or Midsummer-day; the 29th of September, or Michaelmas-day; and the 25th of December, or Christmas-day.

Quar'ter-deck (of a ship). The short upper deck from the foremost end of the main-chains to the stern.

Quarter'ing. In *heraldry*, the dividing of a coat of arms into quarters, by parting, couping, &c. by perpendicular and horizontal lines.

Quar'ter-mas'ter. 1. An officer in the navy, who assists the mates in their duties, in stowing the hold, coiling ropes, keeping time by the watch-glasses, &c. ——2. An officer in the army, whose business it is to attend to the quarters for the soldiers, their provisions, fuel, forage, &c. The *quartermaster-general* marks the marches and encampments of the army, the head-quarters, &c., &c.

Quar'ter-railing. In a *ship*, narrow-moulded planks, reaching from the top of the stern to the gangway, serving as a fence to the quarter-deck.

Quar'ter-round. In *architecture*, the same as *ovolo* (q.v.).

Quar'ters. 1. A place of temporary residence, as the winter-quarters of an army.——2. In *farriery*, the quarters of a horse's foot are the sides of the coffin, between the toe and heel. *False* quarters are a cleft in the horn of the hoof, extending from the coronet to the shoe.——3. In *house-carpentry*, slender pieces of timber placed between the puncheons and the posts, to nail the laths to, in partitions. If four-inch thick they are called double quarters.——4. The stations of a ship's crew in time of action.

Quar'ter Sessions. In *law*, a general court, held quarterly by the justices of peace of each county, with jurisdiction to try and determine felonies and trespasses.

Quartet'to, } (Italian). A musical com-
Quartet'te. } position for four voices, or for four instruments.

Quar'tile. In *astrology*, an aspect of the planets when they are three signs or 90 degrees distant from each other: quadrate.

Quar'tine. The fourth envelope, from the outside, of the vegetable ovulum.

Quar'to, Lat. *quartus*. A book in which every sheet being twice doubled makes four leaves.

Quartz, Fr. for Germ. *quarz*. Rock crystal. Silex in its purest form occurring in 6-sided prisms, with pyramidal points: primitive form a rhomboid. It is strictly an oxide of silicium (silicon according to some). It melts before the oxy-hydrogen blow-pipe into a white glass, but cannot be fused by the common blow-pipe, except when mixed with alkalies. It is an ingredient in every rock, and many of the gems are simply quartz combined with some oxide, which gives the colour, as the amethyst, opal, and Bristol diamond.

Quartz Sin'ter. A mineral found in the form of siliceous concretions.

Quartz'ose Rock. A primary unstra-

tified rock, consisting of quartz of a granular form, united sometimes to other crystalline elements.

Qua'si Con'tract. In *civil law*, an act which has not the strict form of a contract, but has the force of one, as if (*quasi*) the forms had been all complied with.

Quasimo'do. In the *Roman Catholic calendar*, the first Sunday after Easter.

Quas. Quass. A fermented liquor drunk by the peasantry of Russia, and made by pouring warm water on rye or barley meal. It is reckoned an excellent antiscorbutic.

Quas'sia. A genus of trees. *Decandria Monogynia*. Nat. order *Gruinales*. There are two species, both natives of South and North America and West Indies: that which affords the bitter quassia of the shops is a beautiful tree. The bitter extract has been considered as a principle *sui generis*, and named *quassine*. The term *quassia* is derived from *quassi*, the name of a slave who first used it, with uncommon success, as a secret remedy for the malignant endemic fevers which frequently prevail in Surinam.

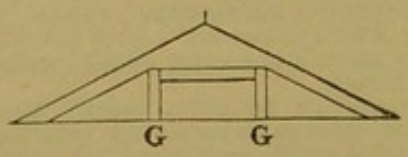
Quas'sine, } The bitter extract of quas-
Quas'site. } sia *amara* and *excelsa*. It crystallises in very small white prisms. Its solutions are colourless and intensely bitter.

Quatre'foil (French). Four-leaved grass: a favourite bearing in coat armour.

Quav'er, from *quiver*. 1. In *music*, a measure of time equal to half a crotchet, or the eighth part of a semi-breve.——2. A shake performed by the voice or on an instrument.

Queb'radas (Spanish). The name given by the Spaniards to the enormous perpendicular rents of the Andes. The word has been adopted by geographers, &c.

Queens or Queen Posts. In *carpentry*, the name given to those coupled bearers, G G, framed with one straining beam be-



tween them, for supporting roofs of from 30 to 40 feet span, instead of the single king-posts used in roofs of from 20 to 30 feet span.

Queen's-Yellow. An old name of Turbith mineral (yellow sub-sulphate of mercury.)

Quer'citrin. The yellow colouring matter of quercitron bark. It crystallises in yellow spangles.

Quer'citron. A dye-stuff. The inner bark of the *Quercus tinctoria*, a tree which grows spontaneously in North America, and has been introduced into France and Bavaria. Its colouring matter is *quercitrin*.

Quer'cus. The oak. A genus of trees. *Monœcia — Polyandria*. Natural order *Amentaceæ*. There are about 60 species, besides varieties. The common oak (*Q. robur*), and durmast (*Q. pubescens*), are natives of Britain; the evergreen, black, white, Italian, and Turkey oaks, are natives of the south of Europe, as is also the cork-tree and kermes. America has 33 species, of which the live oak is perhaps the most valuable for ship-building.

Ques'tionist. A candidate for a bachelor's degree at Cambridge.

Quest-men. In *law*, persons chosen to inquire into abuses and misdemeanors, especially such as relate to weights and measures.

Ques'tus. In *law*, land which does not descend by hereditary right, being acquired by one's own labour and industry.

Quick'-beam, } The wild sorb (*Sorbus*
Quick'en-tree. } *aucuparia*) or mountain ash.

Quick-lime. Lime in its most active and caustic state, before it is slaked; and prepared by exposing any carbonate of lime, as common limestone, marble, chalk, &c., to a full red-heat for some time, whereby the carbonic acid and water are expelled, and a simple oxide of calcium left.

Quick-match. A combustible preparation used by artillerymen. It is formed of cotton strands dipped in a boiling composition of vinegar, saltpetre, and powder.

Quick'set-hedge is a general name for *all* living hedges, but, in a stricter sense, the name is applied only to those planted with hawthorn, or *Cratægus oxyacantha*, under which name these young plants or sets are sold by the nursery-gardeners.

Quick-sil'ver, *argentum vivum*. A name for mercury. *See* Mercury.

Quick-work signifies all that part of a ship which is under water when she is laden. The term is also applied to that part of the side which is above the sheer-rail.

Quid'dity. In the *school philosophy*, essence. That which is a proper answer to the question *quid est?* The term is now used to designate any trifling nicety or cavil.

Quid pro quo. A Latin phrase, used to denote that one thing is made use of to supply the defect of another. A *quid pro quo* is a *succedaneum*.

Qui'etists. A sect of mystics originated by Molino, a Spanish priest, who maintained that religion consists in the internal rest (*quietus*) of the mind, employed in contemplating God and submitting to his will.

QUIE'TUS (Latin), rest. An exchequer term, used for discharge or acquittance to accountants. In *law*, a *quietus est*, granted to a sheriff, discharges him of all accounts due to the crown.

QUILL, Ir. *cuille*, a reed. Quills are the hard and strong feathers of geese, &c., used in writing. They are divided into firsts, seconds, thirds, and flags, according to their order in the wing: the seconds and thirds are the best. The Riga quills are the finest, and the first quality of these brings in London about £3 per mille = 1200.

QUILT, QUILT'ING. 1. A stuff made by putting wool, cotton, &c., between pieces of cloth, and sewing them together. ——2. The act of making a *quilt* is also named *quilting*.

QUI'NATE. 1. In *chemistry*, the same as *kinate*, the *quinic acid* being the same as the *kinic*.——2. In *botany*, from Lat. *quinque*, five, an epithet for a digitate leaf having five leaflets on a petiole.

QUINCE. The fruit of the *pyrus cydonia*, called the Cydonian apple (*Cydonium malum*) by the ancients, from a town in Crete, in the neighbourhood of which it abounded.

QUIN'CUNX, Lat. corrup. of *quinque* and *uncia*. In *horticulture*, the quincunx order is a plantation of five trees, disposed one at each corner, and the fifth in the middle ⁘ and this order, repeated indefinitely, forms a regular grove, which viewed by an angle of the square or parallelogram, presents equal or parallel layers.

QUINDEC'AGON, from *quinque*, five, and *decagon* (q. v.). A plain geometrical figure, with fifteen sides and as many angles.

QUINDECEM'VIRI. Roman magistrates, to whose care was intrusted the Sibylline books.

QUIN'INA, QUIN'INE. An alkali obtained from the yellow Peruvian bark, called *quinquina* by the French. The sulphate, or rather disulphate of quinina is much employed in medicine, and possesses all the virtues of the bark in a high degree of concentration. Quinina when pure is pearly white, and intensely bitter. It crystallises (but with much difficulty) in silky flocculi.

QUINQUAGES'IMA SUNDAY. Shrove-Sunday, so called, being about the fiftieth day before Easter (*quinquagesima*, fifty).

QUINQUAN'GULAR, Lat. *quinque* and *angulus*. Having five angles.

QUINQUECAP'SULAR, Lat. *quinque* and *capsula*. Having five capsules.

QUINQUEDEN'TATE, Lat. *quinque* and *dentatus*. Five-toothed.

QUINQUEFO'LIATE, Lat. *quinque* and *foliatus*. Five-leaved.

QUINQUELO'BATE, Lat. *quinque* and *lobatus*. Five-lobed.

QUINQUELOC'ULAR, Lat. *quinque* and *locularis*. Five-celled.

QUINQUENA'LIA. *Anciently*, public games celebrated every five years.

QUINQUERE'MIS, *quinque* and *remus*, an oar. A Roman war-ship having five banks of oars.

QUINQUEVAL'VULAR, Lat. *quinque* and *valvularis*. Having five valves.

QUIN'TAL (Fr.). A weight originally of 100 lbs., but now commonly of 112 lbs. It however differs considerably in different countries.

QUIN'TESSENCE, Lat. *quinta essentia*, fifth essence. 1. A term used by the alchemists to signify the active principle of anything, in which its properties and virtues reside, separated by art from the inert matters with which it is combined.——2. The pure essential part of anything. The term is now chiefly used by quack doctors and perfumers.

QUIN'TILE, from *quintus*, fifth. The aspect of the planets, when distant from each other the fifth part of the zodiac, or 72 degrees.

QUINTIL'IANS. A sect of ancient heretics, founded by Quintilia.

QUIN'TINE. The fifth envelope of the vegetable ovulum.

QUIN'TUPLE. In *music*, a species of time, containing five crotchets in a bar.

QUIN'ZAINE. The fourteenth day after a feast day, in *chronology*, or the fifteenth, including the feast day.

QUI'POS. A name given, in Peru, to knots and cords of various colours, which imperfectly supply the place of writing.

QUI PRO QUO, Lat. one for another. A verbal ambiguity.

QUIRI'TES. The common people of ancient Rome, as opposed to the soldiery.

QUIRK. In *building*, a piece taken out of any regular ground plot or floor.

QUIRK'ED MOULDING. In *architecture*, one whose convexity is sudden, in the form of a conic section.

QUI-TAM. In *law*, an information, when the party informing prosecutes for the king and himself.

QUIT-CLAIM. In *law*, a release of any action that one person has against another: a deed of release by which all claims are relinquished to another without warranty.

QUIT-RENT, Lat. *quietus redditus*. In *law*, a small rent reserved, payable in token of subjection.

QUIT'TER-BONE. In *farriery*, a hard round swelling on the coronet, between the heel and the quarter, usually on the inside of the foot.

QUO ANIMO (Lat.). With what mind: with what intent, as *animo furandi*, with the intention of stealing.

QUOD PERMIT'TAT. In *law*, a writ for the heir of him that is disseised of common of pasture, against the heirs of the disseisor.

QUOIN, Fr. *coin*, a corner. 1. Quoins are stones, or other materials, put into the corners of brick buildings, to strengthen them. If the stones project before the face of the wall, and have chamfered edges, they are termed *rustic quoins*.——2. In *artillery*, a loose wedge of wood put below the breech of a cannon to adjust its elevation.

QUOIT, Dut. *coite*. A sort of annular disc of metal, to be pitched at a fixed object, in the game called *quoits*. A flat stone is used in common practice.

QUO JURE (Lat.). By what law, right, or title.

QUO MI'NUS. In *law*, a writ which issues from the Exchequer, to take the body of the defendant, in the same manner as the *Capias* in the Common Pleas, and the *Latitat* in the Queen's Bench.

QUO'RUM, Lat. gen. pl. of *qui*, who. Such a number of persons as is competent, by the law in the case, to transact business. The term originates from the words of a justice-of-peace commission, "*quorum aliquem vestrum unum esse volumus.*"

QUO'TIENT, from *quoties*, how often. The name, in *arithmetic*, for the number which results from the division of one number by another. *See* DIVISION.

QUO WARRAN'TO. In *law*, a writ which lies against a person, or corporation, that usurps any franchise or liberty against the Crown.

Q. V. 1. An abbreviation of *quantum vis*, as much as you will.——2. An abbreviation of *quod vide*, which see: frequently used in this dictionary.

R

R is the eighteenth letter of the English alphabet, and an articulation *sui generis*, having no resemblance in pronunciation to any other letter. As a Roman numeral it stands for 80, and with a dash over it for 80,000. R, or ℞, placed at the beginning of medical prescriptions, is a contraction of *Recipe*, take. In ancient times (says Dr. Paris), such was the supposed importance of planetary influence, that it was usual to prefix a symbol of the planet under whose reign the ingredients were to be collected, and it is not, perhaps, generally known, that the character which we at this day place at the head of our prescriptions, and which is understood and supposed to mean *recipe*, is a relic of the astrological symbol of Jupiter, as may be seen in many of the older works on pharmacy.

RAB'BET, Fr. *raboter*, to plane. A deep groove or channel, cut longitudinally in a plank or piece of timber, to receive the edge of another plank, which is to be let into it. This is termed a *rabbet-joint*; and the plane with which the rabbet is made, is denominated a *rabbet-plane*.

RAB'BI, RAB'BIN. A title assumed by the Jewish doctors, signifying lord, or master.

RAB'BINISTS. Those among the Jews who adhered to the Talmud and the traditions of the rabbins, in opposition to the Caraites, who reject all traditions.

RA'BIES. A Latin term for madness. Generally applied to the disease in dogs, otherwise called hydrophobia (*rabies canina*).

RA'CA (Syriac). Vanity or folly. Pronounced by the Jews with gestures of indignation.

RACE, RACE-COURSE. In *engineering*, the canal along which the water is conveyed to and from a water-wheel.

RACE'ME, Lat. *racemus*, a cluster or bunch. In *botany*, a species of inflorescence, consisting of a cluster of flowers, rather distant from each other, each on its own proper stalk, and all connected together by one common peduncle.

RACEM'IC ACID. The name given by M. Gay-Lussac to an acid isomeric with tartaric acid, and obtained along with it in decomposing tartrate of lime by means of sulphuric acid. It has been called *vinic acid*, which, on the Continent, is also a name of tartaric acid (German, *weinsäure*).

RACEMOVIN'IC ACID. An acid formed by the action of alcohol on racemic acid. It crystallises, and differs from tartrovinic acid in containing an atom more water.

RA'CHIS, ῥαχις. The vertebral column of mammals in birds.

RACK, Sax. *racan*, to stretch. 1. An engine of torture, composed of pulley-tackle, formerly too much used for extorting confessions from suspected persons.——2. In *mechanics*, a straight machine which has teeth or cogs similar to those of a toothed wheel.——3. In *ships*, a frame of timber containing several sheaves, and usually fixed to the opposite sides of the bowsprit, to direct the sailors to the respective ropes passing through it.——4. In *stables*, a railed convenience above the manger for the reception of hay.

RACK'ET, Fr. *raquette*. The instrument with which players at tennis strike the ball.

RACK'ING-PACE (of a horse). An amble, but with a shorter and quicker tread.

RACK'-RENT. In *law*, the full yearly value of the land.

RAC'OVIANS. In *ecclesiastical history*, the Unitarians of Poland are so called, from Racow, a city of that country, where the Socinian Catechism was published.

RA'DIANT. In *geometry*, a straight line proceeding from a given point or fixed pole, about which it is conceived to revolve. In *physics*, *radiant heat* is that which is thrown off at the surface of hot bodies in all directions.

RADIA'TA. The name given to the fourth great division of the animal kingdom, because the parts of the body of the animals composing it are arranged round an axis, and in one or several radii or lines, extending from pole to pole; whence the name. The division comprises five classes; viz. Echinoderma, Acalepha, Polypiphera, Poriphera, and Polygastrica. The Radiata have also been termed *Zoophyta* or *Zoophytes*.

RA'DIATE, Lat. *radiatus*, rayed. Diverging like rays from a common centre. Applied to compound flowers, in which the florets of the centre differ in form from those of the circumference. Example, the daisy.

RA'DIATED IRON PYRITES. A variety of sulphuret of iron, which occurs regularly crystallised, in radiated, granular, and lamellar concretions, in spherical, and also in cylindrical masses, with fibres diverging from the centre or axis. Iron 46, sulphur 54.

RA'DIATING POINT. In *optics*, any point from which rays of light proceed.

RAD'ICAL, from *radix*, a root. 1. In *chemistry*, applied to that which is considered to constitute the distinguishing part of an acid, by its union with the acidifying principle. Thus sulphur is the radical of sulphuric acid, and nitrogen of the nitric acid.——2. In *botany*, applied to leaves which spring from the root, like those of the cowslip.——3. In *philology*, a radix, or simple underived, uncompounded word.

RAD'ICAL BASS. In *music*, the same as *fundamental bass* (q. v.).

RAD'ICAL QUANTITIES. In *algebra*, all quantities under the *radical sign* (q. v.).

RAD'ICAL REFORMERS. In *politics*, a party who desire the *rooting out* of abuses which have crept into the government, and the remodelling all our institutions.

RAD'ICAL SIGN. The sign $\surd$ placed before any quantity to denote that the root of that quantity is to be extracted: thus, $\surd a$, and $\surd \overline{a + b}$.

RAD'ICANT, Lat. *radicans*, rooting. Applied in *botany* to stems which cling to other bodies for support, and strike root by means of fibres, which do not imbibe nourishment. The ivy (*hedera helix*) is an example.

RADICA'TION, from *radicate*, to root. In *botany*, the disposition of the root of a plant with respect to the ascending and descending caudex and the radicles.

RAD'ICLE, Lat. *radicula*, from *radix*, a root: a rootlet. In *botany*, that part of the embryo which grows downwards and becomes the root.

RADIOM'ETER, from *radius*, rod, and *μετρον*, measure: the forestaff. An instrument for taking the altitudes of the celestial bodies.

RAD'ISH. In *botany*, the common and horse-radish belong to the genus *Cochlearia*; the garden-radish is the *Raphanus sativus*. The water-radish is a species of *Sisymbrium*.

RA'DIUS (Lat.), a ray. 1. In *geometry*, a right line, drawn or extending from the centre of a circle to the periphery; the semidiameter of a circle.——2. In *mechanics*, the spoke of a wheel, &c.——3. In *anatomy*, a bone of the forearm, which accompanies the ulna from the elbow to the wrist; so named from its supposed resemblance to the spoke of a wheel.——4. In *botany*, the marginal part of the corolla of compound radiate flowers. Also the *radii* of a peduncle of a compound umbel are the common stalks or spokes of that umbel, and the *pedicelli* are the stalks of the florets.

RA'DIUS VEC'TOR. In *physics*, a line drawn from the centre of force of any curve in which a body is supposed to move by centripetal force, to that point of the curve where the body is supposed to be. Plural, *Radii vectores*.

RAF'TERS. In *carpentry*, pieces of timber which stand in pairs on the railing-piece, meet in an angle at the top, and form as it were the ribs of the roof.

RAG'BOLT. An iron pin or bolt with barbs on its shank to hold it in its place.

RAGG, RAGS'TONE, } called also *Rowley Ragg*, and *Dudley Basalt*. A fusible siliceous stone, of a dark grey colour, with shining crystals, and a granular texture; so named from its rough fracture. It is used as whetstone, and is found near Dudley.

RAG'MAN'S ROLL. A roll or register of the value of benefices in Scotland, made by Ragimund, a legate of the pope, and according to which the clergy were afterwards taxed by the court of Rome: hence the word *rigmarole*.

RAG'ULED. In *heraldry*, a *cross raguled* may be best understood by calling it two ragged staffs.

RA'IA. A genus of fishes, the *Rays*, recognised by the horizontally flattened body, which resembles a disk: order *Chondropterygii*, with fixed branchiæ: family *Selachii*, Cuv. *Raia*, in Latin, and *Βατις* and *Βατος*, in Greek, are the ancient names. The subdivisions are the Sting-ray, Spotted Torpedo, Thornback Skate, &c.

RAIL. 1. In *fences*, the rails are the

pieces of timber which lie horizontally from post to post. Similarly the upper and lower part of the banister of a stair-case are called *hand-rail* and *foot-rail*.——2. In *framing*, those pieces which lie horizontally are called *rails*; and those which are perpendicular are *stiles*.——3. In *ships*, planks nailed for ornament, or security, on the upper-works; also curved pieces of timber, extending from the bows to the continuation of the stern, to support the knee of the head.——4. In *ornithology*, rail is a name of the *Rallus crex*, Lin., or corn-crake; called also the *Quail-king*, because it arrives and departs with those birds, and leads a solitary life on the same grounds.——5. In *engineering*, &c., *see* RAILWAY.

RAIL'ROAD, } An improved description
RAIL'WAY. } of roadway, first used about 1680, under the name of *tram-way* and *tram-road*; being formed of tram-plates of wood. Cast-iron tram-plates were next employed (1738); then wrought-iron (1786); and, at length, wrought-iron edge rails were adopted in the collieries of the north of England, and are now everywhere used in the construction of railways in this and other countries. The steam-engine was applied to railways about 1808, but only to drag the waggons up ascents by a rope, the engine being stationary. Thirty miles an hour, including stoppages, seems to be about the average speed upon the public lines of railway; but the limit of velocity does not appear to be yet known; but it is somewhere *beyond* 60 *miles an hour*.

RAIL'WAY, ATMOSPHERIC. A system of locomotion on railways, in which atmospheric pressure is employed as the motive power.

RAIL'WAY-LINK. *See* DRAW-LINK.

RAIL'WAY-SLIDE. A contrivance on railways, for shifting a carriage from one line of rails to another. It consists of a platform upon wheels, and having upon it two or more pairs of rails of the same gauge as those of the line, so that a carriage, being upon the platform, may be run off conveniently upon the line of rails.

RAIN'BOW. A circular image of the sun, variously coloured. It is thus produced: the solar rays entering the drops of falling rain are refracted to their further surfaces, and thence, by one or more reflections, transmitted to the eye. At their emergence from the drop, the rays are separated into their prismatic colours, and are thus exhibited to an eye properly placed to receive them. The *Lunar rainbow* is a similar, but less usual, phenomenon, caused by the refraction of the moon's rays.

RAIN'-GAUGE. An instrument contrived to measure the quantity of rain which falls on a given surface of a locality; called also an *ombrometer* and *pluviometer* (q. v.)

RAI'SERS. Among *joiners*, the upright boards of the front of the steps of a flight of stairs.

RAI'SING. In *carpentry*, pieces which lie under the beams, over the posts or puncheons, by the side of the house.

RAI'SINS. The dried fruit of the vine. Raisins are produced from various species of the vine, and take names accordingly, as muscatels, blooms, sultanas, &c. They are also named from the place of their growth, as Smyrnas, Valencias, &c. The duties on raisins vary according to the quality, from 30 per cent. on the best, to 130 on the worst!

RA'JAH (Sanscrit). A title of dignity in India, equivalent to king, prince, or chieftain.

RAKE. 1. An instrument used in agriculture, containing a series of teeth or prongs affixed at right angles to a cross-head. The tool is made light, and all wood when it is intended for collecting hay, but the cross-head and teeth are usually iron when designed for combing seed-beds in gardens, &c. The harrow is a rake upon a large scale.——2. The *rake of a ship* is that part of the hull which hangs over both ends of the keel.

RA'KING. In *architecture*, a term applied to mouldings whose arrises are inclined to the horizon.

RA'KING TEMPLE. In *architecture*, a member hollowed in the square of a pedestal, &c.

RAM. 1. In *zoology*, the male of the ovine genus, called in some parts a *tup*.——2. In *astronomy*, the English name of the sign Aries.——3. An engine of war. *See* BATTERING-RAM.——4. A hydraulic machine. *See* WATER-RAM.

RAM'ADAN, } The great fast or Lent of
RHAM'ADAN. } the Mohammedans.

RAMAYA'NA. The oldest of the two great Sanscrit epic poems, describing the life and actions of Rama and his wife Sita.

RAM'ENT, Lat. *ramentum*. A species of pubescence of plants, consisting of hairs in form of flat strap-like portions, resembling shavings, seen on the leaves of some species of begonia.

RAM'ISTS OR RAM'EANS. The partisans of Ramus, a professor of rhetoric and philosophy at Paris, in the reign of Henry II.

RAMOLLIS'SEMENT, Fr. from *ramollir*, to soften. A term applied in pathology to any morbid softening of the texture of an organ, as the brain in hydrocephalus.

RAMP. 1. A cavity on the upper side of hand-rails, formed over risers, or over a half or quarter space, made by the sudden rise of the steps above.——2. In *fortification*, ramps are gentle slopes made for the cannon to be drawn up and down by and to facilitate communication, raised either

on the side of an elevated work, or against a salient angle on each side of an entering angle.

Ram'pant, Fr. from *ramper*. In *architecture*, a term applied to an arch whose abutments spring from an inclined plane. In *heraldry*, a term applied almost exclusively to the lion, when in the attitude of attack, being reared on his hinder legs.

Ram'part, Fr. *rampart*. An elevation of earth, &c., raised for the purpose of covering a place from the direct fire of an enemy. It is made of sufficient thickness to resist cannon-shot, and is formed into bastions, curtains, &c. The name is also applied to the space left void between the wall of a city and the houses next to it.

Ramphas'tos. In *ornithology*, the generic name of the *Toucans*, climbing birds (*Scansoriæ*), easily distinguished from all other birds by their enormous beak, which is almost as thick and long as their body: hence the name from ῥαμφος, a beak, by way of pre-eminence. The Toucans are confined to the hot parts of America, where they live in flocks, feeding on fruit, insects, birds' eggs, &c.

Ra'mus. The Latin word for branch: applied in *botany* to the primary division of a stem into lateral stems.

Ra'na. The frog. 1. A genus of Batrachians, having four legs in their perfect state but no tail, although the young (the *tadpole*), is at first furnished with a long fleshy tail. *Rana* is the Latin name, *à sua voce dicta*; βατραχος, the Greek name. The tree-frogs and toads have been separated from the genus as constituted by Linné. *See* Hyla and Buro.——2. In *anatomy*, the name of an artery; the second branch of the external carotid.

Ran'dom Shot. A shot discharged with the axis of the gun above the point blank direction.

Range, Fr. *rangée*. 1. In *gunnery*, the path of a ball, &c., or the line which it describes from the mouth of the piece to the point where it lodges. Also the distance to which such ball or bomb is thrown.——2. In *ships*, the ranges are two pieces of timber, that go across from side to side: the one on the forecastle a little abaft the foremast, and the other in the beak-head before the mouldings of the bowsprit.

Ran'ny. In *England*, the shrew-mouse. In *India*, the wife of a rajah.

Ran'ters. Primitive Methodists, which originated in Staffordshire, 1807, under Hugh Bourne, who also wrote their history. The praying people, in returning home (from camp meetings) were accustomed to sing through the streets of Belper, and this circumstance procured them the name of *Ranters*.

Ranun'culus. Crowfoot. A very extensive genus of herbaceous plants. *Polyandria—Polygynia*. Name from *rana*, a frog, because found in fenny places, where frogs abound. The spearwort, least, small and great, the pilewort, the golden locks, with 12 other species, are indigenous in Britain, and there are about 40 exotic species.

Ranz de Vache. In *music*, a favourite national air among the Swiss shepherds, played upon the bag-pipes.

Rape. 1. A division of a country, meaning sometimes the same as hundred, and at other times signifying a division consisting of several hundreds.——2. A biennial plant of the turnip kind, the *Brassica napus* of botanists. It is indigenous, and is cultivated partly for its seed, from which an oil is expressed, and partly for its leaves as food for sheep.——3. A violent defloration of women.

Rape-cake. The adhering masses of the husks of rape-seed, after the oil has been expressed: commonly used for manure.

Raphа'nia. The Cripple-disease, so named from *raphanus*, the radish or charlock, because it has been thought to be brought on by eating the seeds of a species of raphanus. It forms a genus in Cullen's Nosology: class *Neurosis*: order *Spasmi*.

Raph'anus. The Radish: a genus of plants. *Tetradynamia—Siliquosa*. Name ῥαφανος, borrowed from the Greek. The wild and sea-radish are indigenous; the garden-radish is a native of China, &c.

Ra'phe. Ραφη. A suture. 1. Applied in *anatomy* to parts which appear as if they were sewed together.——2. In *botany*, the vascular cord between the nucleus of an ovule and the placenta, when their bases are separated.

Rapto'rious, from *rapio*, to snatch. An epithet for animals which dart on their prey, and also for certain parts of insects adapted for seizing prey.

Rarefac'tion, from *rare* and *facio*, to make. In *physics*, the diminution of the density of a body, as of a gas by the agency of heat, whereby it occupies more space without accession of new matter.

Ras-ko'lniks, Russian, *raskolo*, division. The largest body of dissenters from the Greek church in Russia.

Rasp. A description of file, on which the cutting prominences are distinct, being raised by punching with a point, instead of cutting with a chisel. *See* File.

Rat, Sax. *raet*. A small quadruped. The rats of this country are the Black Rat, (*Mus rattus*, Lin.), and the Norway, or Brown Rat, (*Mus decumanus*, Pall.) In other countries there are Musk Rats, (*see* Fiber), and Field Rats. *See* Arvicola.

Ratafi'a, } A generic name, in France
Ratifi'a. } and Spain, for liquors com-

pounded with alcohol, sugar, and the odoriferous principles of vegetables, especially of the bruised seeds of cherries, apricots, and peaches.

RATCH. In *mechanics*, a bar containing angular teeth, into which a pall drops to prevent machines from running back.

RATCH'ET (of a watch). A small tooth at the bottom of the fusee, which stops it in winding up.

RATCH'ET-WHEEL. 1. A circular ratch. ——2. The ratchet-wheel of a clock is a sort of wheel which has twelve fangs, that serve to lift the dents every hour, and thereby cause the clock to strike.

RATCH'IL. Among *miners*, fragments of stone.

RATE. 1. A tax assessed for public use, as parish rates.——2. In the *navy*, the order or class of a ship according to its magnitude or force. Ships of the first *rate* mount 100 guns, or upwards; those of the second *rate* carry from 90 to 98 guns; those of the third *rate* from 64 to 80; those of the fourth *rate* from 50 to 60; those of the fifth *rate* from 32 to 44; those of the sixth *rate* from 20 to 30 guns. Those of the latter *rates* are called *frigates*.

RAT'ELUS, } A subgenus of the class
RAT'EL. } *Mammalia:* order *Carnaria:* family *Carnivora:* tribe *Plantigrada*. One species only is known, the *Viverra mellivora*, Sparm., of the Cape of Good Hope. It is about the size of the European badger, and digs up the earth with its long paws, in search of the honey-combs of the wild-bees, on which it feeds.

RA'TIO, Lat. from *ratus*, *reor*, to confirm. The relation which one quantity bears to another in respect of magnitude; the comparison being made by considering how often the one magnitude contains the other. Thus the ratio of 6 to 3 is $\frac{6}{3}$ or 2, and the ratio of 4 to 5 is $\frac{4}{5}$, which may be written 4:5. This is *geometrical ratio*, and is that which is signified when the term is used without any distinctive epithet; but *arithmetical ratio* is the difference between two quantities. Thus the arithmetical ratio of 2 to 5 is 3. Ratio respects magnitudes of the same kind only. Thus one line has a certain ratio to another line, but not to a surface.

RA'TION, Fr. from *ratio*, a proportionate quantity. A fixed allowance of provisions, drink, and forage, assigned to each soldier in any army for his daily subsistence, and for the subsistence of horses.

RA'TIONAL. 1. In *arithmetic* and *algebra*, an expression in finite terms.——2. In *geography*, the *rational horizon* is a plane passing through the centre of the earth, parallel to the *sensible* horizon, at the place of observation.

RA'TIONALE (French). 1. A detail with reasons assigned.——2. An account of a solution of the principles of some opinion, action, hypothesis, phenomenon, &c.

RA'TIONALISTS, from *reason*. Rationalists may be said to comprehend those latitudinarians who consider the supernatural events of the Old and New Testaments as events happening in the ordinary course of nature, but described by writers, without any real ground, as supernatural, and who consider the morality of the Scriptures as subject to the test of human reason.

RAT'LINS, } Small lines traversing the
RAT'LINES. } shrouds of a ship, making the step of a ladder for ascending to the mast head.

RAT MOLE. In *zoology*, a name common to two small quadrupeds, the Zanni, Slepez, or Blind Rat-mole (*Spalax typhus*, Gulden), which is rather larger than our rat, and lives under ground like the mole; and the Maritine Rat-mole (*Bathyergus maritimus*, Illiger), nearly the size of a rabbit, and furnished with a short tail, and visible eyes.

RATO'ON, Sp. *ratoño*. A sprout from the root of the sugar-cane which has been cut.

RAT'TANS. Canes. The long slender shoots of the *Calamus rotang*, a prickly bush, and one of the most useful plants of the Malay peninsula, and Eastern islands. Called by the Malays *rotan*, and by the Javanese *rottang*. They are extensively used for cane-work, and are a considerable article of trade.

RAT-TAIL. In *farriery*, an excrescence growing upon the pastern to the middle of the shank of a horse.

RATTEEN', Sp. *ratina*. A thick woollen stuff, quilted or twilled.

RATTINET'. A woollen stuff, somewhat thinner and lighter than ratteen.

RAT'TLES. In *pathology*, a popular name for the rattle-like noisy breathing often heard in persons who are *in articulo mortis*, and which arises from the accumulation of mucus in the air-passages. In *nosology*, a popular name of croup, or cynanche trachealis.

RAT'TLESNAKES. A genus of venomous snakes (*Crotalus*, Lin.), all distinguished by the rattle which terminates the tail. *See* CROTALUS.

RAT'TLESNAKE-ROOT. A plant; the *Polygala Senega*, the root of which was formerly deemed a specific against the poison of the rattlesnake. It is still used as an antiphlogistic.

RAV'ELIN (French). In *fortification*, a detached work, with two faces, which make a salient angle without any flanks; it is raised before the curtain of the place. In this it differs from a half-moon, which is placed before an angle.

RA'VEN. A bird (the *Corvus corax*, Lin.), noted for its entirely black plumage. It

is the largest of the Passerinæ which inhabit Europe. It is found in most parts of the globe; is easily tamed, and may be taught to speak tolerably well.

Rav'issant, in *heraldry*, expresses the posture of a wolf half raised, as it were, just springing forward on its prey.

Ray, Fr. *raie*. 1. A line of light, proceeding from a radiant point through a translucent medium. It is supposed to be described by a particle of light. A collection of parallel rays constitute a *beam*, and a collection of diverging rays form a *pencil*. The mixed solar beam contains, (1.) *calorific rays*, producing heat and expansion, but not vision or colour; (2.) *colorific rays*, producing vision and colour, but not heat or expansion; (3.) *chemical rays*, producing certain effects on the composition of bodies, but neither heat, expansion, vision, or colour; (4.) *magnetic rays*, inducing magnetism. This last power seems to belong to the violet rays. ——2. In *ichthyology*, *see* Raia.

Ray'ahs. The non-Mohammedan subjects of Turkey.

Ray'onnant, in *heraldry*, signifies darting forth rays, as the sun does when it shines out.

Rays, Lat. *radii*. In *botany*, the spreading marginal florets of a compound radiate flower.

Raze'e (Fr.). Applied to any vessel cut down to an inferior class.

Ra'zor-back. In *ichthyology*, one of the largest species of the whale tribe, being sometimes found above ninety feet long.

Ra'zor-bill. Cut-water. 1. An aquatic fowl, the *Alca tarda*, Lin.——2. The same name has been given also to the Black Skimmer, the *Rhynchops nigra*, Lin. from the Antilles.

Re. In *grammar*, an inseparable particle, used by the Latins, and from them borrowed by us, to denote iteration, or backward action; as in *return* and *reaction*.

Reach. Among *seamen*, the distance between two points on the banks of a river, in which the current flows in a straight course.

Reac'tion. In *physics*, the reciprocation of any impulse or force impressed, made by the body on which impression is made. Thus it is a law that *action* and *reaction* are equal and contrary.

Rea'der. In *ecclesiastical affairs*, one of the five inferior orders in the Romish church. In the English church, a deacon who conducts divine service in churches and chapels, where no one has the cure.

Rea'gents, Tests. A name, in *chemistry*, for those substances which are used to discover the presence of other substances in solution. Thus hydrochlorate of baryta (solution of chloride of barium) is a reagent or test for the presence of sulphuric acid in solutions. *See* Test.

Reaggrava'tion. In *ecclesiastical law*, the last monitory, published after three admonitions, and before the last excommunication.

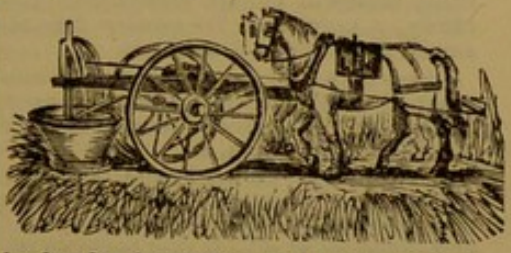
Re'al, Lat. *realis*, from *res*, thing. 1. In *law*, pertaining to things fixed, permanent, or immoveable. Thus lands and tenements are called *real estate*, in contradistinction to *personal* or *moveable property*. A *real action* concerns real estate, and *real assets* consist in real estate.——2. In *Spain*, the name of a silver coin (*real of plate*), varying in value from 6½*d*. to 5*d*., and also of a money of account (a *real vellon*) worth about 2½*d*. to 3*d*.——3. The doctrine of the *real presence*. *See* Transubstantiation.——4. *Real property*, in *law*, consists in lands, tenements, and hereditaments.

Real'gar. Red orpiment. A native sulphuret of arsenic (arsenic 70, sulphur 30), of a red colour, sometimes employed as a pigment. It occurs in primitive mountains.

Re'alists. Scholastic philosophers, who maintained that things, not words, were the objects of dialectics: opposed to the *nominalists*.

Ream (Saxon). A quantity of paper. The ream of writing, &c., paper is 20 quires; but a *printer's ream* is 21½ quires (516 sheets). Two reams make a *bundle*.

Reap'ing-machine. An implement of



husbandry for cutting down corn, instead of reaping it with the sickle.

Rea'son, Sax. *raed*, from *raeswian*. 1. The power or faculty of the mind by which man deduces one proposition from another, or proceeds from premises to consequences, and from facts to causes. ——2. Exercise of reason; reasoning.

Reba'te. 1. In *commerce*, discount or deduction from the stipulated price.——2. In *heraldry*, an abatement of the bearings in a coat of arms.——3. In *architecture*, a groove sunk on the edge of any piece of material.

Rebeck', Ital. *ribeca*. A three-stringed fiddle.

Rebel'lion, from *re*, and *bello*, to war. An open and avowed renunciation of the authority of the government of one's own country; differing from *insurrection*, which may be a rising in opposition to a particular law or acts, without design to renounce wholly all

subjection to the government. The term was first used by the Romans, to denote the open resistance to their government of nations whom they had conquered.

Re'bus, Lat. from *res*. 1. An enigmatical representation of some name, &c., by a picture.——2 A coat of arms which bears some allusion to the name of the person, as three cups for Butler.

Rebut'ter. In *law-pleadings*, the answer of the defendant to a plaintiff's surrejoinder.

Recap'tion. A retaking. A *writ of recaption* is a writ to recover property taken by a second distress, pending a replevin for a former distress, for the same rent or service.

Recei'ver. A chemical vessel, adapted to the neck or beak of a retort, alembic, or other distillatory vessel, to receive and contain the product of distillation.

Re'cent. In *geology*, an epithet for whatever is of a date posterior to the introduction of man. The *recent period* commences with the introduction of man, and all formations within that period are termed *recent*.

Recep'tacle, Lat. *receptaculum*, a receiver. In *botany*, the common base or point, upon which all the parts of the fructification rest.

Rech'abites. A religious order among the ancient Jews, who engaged among other things to abstain from wine. Recently, a branch of *Tee-totallers* has assumed the name of Rechabites.

Recip'iangle. An instrument, somewhat like the bevel, formerly used, chiefly by French engineers, to take angles in fortification, &c.

Recip'rocal. In *arithmetic*, &c., the reciprocal of a quantity is unity divided by the quantity. Thus, $\frac{1}{4}$ is the reciprocal of 4.—*Reciprocal ratio* is that between the reciprocals of two quantities; thus, the reciprocal ratio of 5 to 9 is $\frac{1}{5}$ to $\frac{1}{9}$.—*Reciprocal proportion* is when in four numbers, the fourth number is so much less than the second as the third is greater than the first, and *vice versâ*.—*Reciprocal figures*, in *geometry*, are two figures of the same kind, as triangles, such that two sides of the one form the extremes of a proportion, of which the homologous sides of the other are the means.

Recip'rocating Sys'tem (on railways) denotes the method of working railways by means of stationary engines, instead of locomotive ones. A succession of steam-engines are placed along the line, at intervals of 1½ miles or so apart, with ropes for pulling the trains along the locality of each. This is likely, for various considerations, when the system is properly developed, to be found the most economical method of working railways.

Recitati've, Ital. *recitativo*. A term in *music* for a tuneful kind of pronunciation, more musical than common speech, and less so than song: something between recitation and singing.

Reck'oning. In *navigation*, the place of a ship, calculated from the rate as determined by the log, and the course as determined by the compass, the original starting-point being known.

Reclina'tion. 1. In *surgery*, one of the operations for the cure of cataract, in which the lens is made to turn over into the middle, and towards the bottom, of the vitreous humour.——2. In *dialling*, the angle which the plane of the dial makes with a vertical intersected by it in a horizontal line.

Recog'nisance. In *law*, a bond of record, testifying the *recognisor* to owe to the *recognisee* a certain sum of money acknowledged in some court of record.

Recognisee'. In *law*, he in whose favour a bond of recognisance is drawn.

Recogni'sor. In *law*, he who gives a bond of recognisance in favour of the recognisee.

Re'collets, } Monks of the order of
Re'collects. } St. Francis under a reformed rule.

Reconnoi'tre (Fr.), from *re* and *connoître*, to know. A term, in *military language*, meaning to inform one's self by ocular inspection of the situation of an enemy or of the nature of ground.

Re'cord. An authentic account of any fact, in writing, contained in rolls of any durable substance.

Recorda'ri Fa'cias Loque'lam. In *law*, a writ to remove proceedings out of an inferior court to the King's Bench or Common Pleas.

Recor'der. 1. In *law*, one whose business is to *record* or register events.——2. The keeper of the rolls of a city or corporate town.——3. A musical instrument resembling the flageolet.

Recov'ery. In *law*, the recovering or obtaining lands in fee-simple, by a fictitious action, against the tenant of the freehold, which recovery (usually called *common*) binds all persons, and vests an absolute fee-simple in the recoverer.

Rect'angle, Lat. *rectus angulus*. In *geometry*, a figure whose angles are all right angles. Solids are also *rectangular* with regard to situation, as a cylinder when perpendicular to the plane of the horizon.

Rectifica'tion, from *rectus* and *facio*, to make. 1. In *geometry*, the finding of the length of a curve line, or a right line equal to a given curve.——2. In *chemistry*, second distillation of alcoholic liquors, to free them from impurities which pass over in the first.

Rec'tor (Lat.), from *rego*, *rectum*, to

rule. 1. A clergyman who has the charge and cure of a parish, and has the tithes, &c.: the parson of an unimpropriated parish.——2. The chief elective officer in some universities, and the head-master of a principal school, in Scotland.

Rec'tum (Lat.). The last portion of the large intestines, so named by the *old anatomists* from an absurd notion that it was straight.

Recur'rent, Lat. *recurrens*, returning. A *recurrent crystal* is one whose facets being counted, in annular ranges from one extremity to the other, furnish two different numbers, which succeed each other several times, as 4, 8, 4, 8, &c.

Recur'rent Nerve. A branch of the par vagum, given off on each side, in the upper part of the thorax, is so called because reflected so as to run along the trachea to the larynx.

Recur'ring Se'ries. In *algebra*, a series so constituted that each succeeding term is connected with a certain number of terms preceding it, by some invariable law.

Recur'vate, Lat. *recurvatus*, or *recurvus*, recurved. Bowed or turned backward: applied to leaves, &c.

Recur'viros'tra (Lat.), from *recurvus*, and *rostrum*, a beak. A genus of birds: the *Avosets*, which approximate closely to the Snipes, but are strongly characterised, from these and all other birds, by the strong upward curvature of their beak. Order, *Grallatoriæ*; family, *Longirostres*, Cuv.

Re'cusant, from *recusans*, refusing. In *English history*, the *recusants* are those who refuse to acknowledge the supremacy of the Crown in matters of religion.

Redan'. In *fortification*, a work indented or formed with salient and reentering angles, so that one part may flank and defend another: written sometimes *redent* and *redens*, from Lat. *recedens*, receding.

Red-Bird. The name of several American birds, as the red summer bird, *Tanagra æstiva*; the red tanager, *Tanagra rubra*; the Baltimore oriole or hang-nest.

Red Book of the Exchequer. An ancient English record, containing various treaties relating to the times before the Conquest.

Red Cor'al. *Corallium rubrum*. A branched zoophyte, somewhat resembling, in miniature, a tree deprived of its leaves and twigs. It consists of a bright red stony axis, invested with a fleshy substance of a pale blue colour, studded over with stellular polypi.

Red'dle. Red chalk. A species of argillaceous iron ore, which occurs in opaque masses, having a compact texture and hardness similar to chalk. The best comes from Germany.

Redeem'able. Capable of redemption; that may be re-purchased. Annuities are often, and debts are always redeemable. Some annuities are *self-redeeming*.

Redemp'tion, from *re* and *emo*, to purchase. Re-purchase. In *law*, a conditional contract, whereby the equity of reentering lands, &c., is retained, on repaying the purchase-money and legal charges.

Redemp'tionists. A religious order, founded in Naples in 1732.

Red-lead. Minium. A red oxide of lead, generally regarded by chemists as a sesquioxide. It is prepared by exposing massicot for about 48 hours to the flame of a reverberatory furnace.

Red-liquor. A crude acetate of alumina employed in calico-printing, and prepared from pyrolignous acid.

Red Marl. In *geology*, another name for the new red sandstone.

Redoubt'. In *fortification*, a small fort, mostly square, and defended only in front, used in trenches, lines of circumvallation, &c. Redoubts usually consist of two parts, a rampart and parapet.

Red Saun'ders. *Santalum rubrum*. A wood capable of communicating a red colour to spirituous liquors. The chief of these woods (if not the only one), is that of the *Pterocarpus santalinus*, which is itself of a garnet-red colour and extremely hard. It grows on the Coromandel coast and other parts of India, especially Ceylon. The old wood only is employed as a dye-stuff, and the colouring matter which it yields is known to chemists by the name of *santaline*.

Red-snow. In *botany*, the *uredo nivalis*, a minute fungus of the arctic region which gives the colour to the *red snow*.

Redu'cing Scale. *Surveying scale*. A broad thin slip of box or ivory, with several lines and scales of equal parts upon it; used by surveyors for turning chains and links into roods and acres by inspection, and also for reducing maps and draughts from one dimension to another.

Reduct'. In *building*, a quirk or a little piece taken out of a larger, to make it more regular and uniform.

Reduc'tio ad Absurdum. *See* Absurdum.

Reduc'tion. 1. A reducing: *reduco*, to reduce. In *arithmetic*, the bringing of numbers of different denominations into one denomination, as the *reduction* of 7*l.* 5*s.* 8½*d.* to farthings. This is called *reduction descending:* when the reverse operation is performed, as bringing farthings to pounds sterling, it is called *reduction ascending.*——2. In *algebra*, &c., the reduction of equations is the clearing them of all superfluous quantities and bringing them to their lowest terms. The same applies to surds, fractions, &c.——3. In *metallurgy*, the operation of bringing metallic substances, which have been

changed or divested of their metallic form, into their original state of metals; called also *revivification*.——4. In *surgery*, the returning of a dislocated bone into its proper place.——5. In *practical geometry*, describing figures similar to given figures on a different scale, usually smaller. The pentagraph and the proportional compasses are the most expeditious and accurate methods of effecting a reduction.

Redun'dant, superfluous. (1.) A *redundant chord* is one which contains a greater number of tones, semitones, and lesser intervals, than it does in its natural state, as from *fa* to *sol*, sharp. (2.) A *redundant hyperbola* is a curve of the higher kind, so called because it exceeds the conic section of that name in the number of its hyperbolic legs, it being a triple hyperbola with six hyperbolic legs.

Ree. A Portuguese coin or money of account. The milree is a gold coin, value 3*s*. 2½*d*., nearly.

Reed, Sax. *hreod*, *reod*. 1. The common name of many aquatic plants, most of them large grasses with hollow jointed stems, such as the common reeds of the genus Arundo, the bamboo, &c. The *bur-reed* is a species of Sparganium, the *Indian flowering reed* of the genus Canna.——2. A weaver's implement, resembling a comb, having the teeth inclosed at each of their ends; used for separating the threads of warp. It is so called from the teeth, slips, dents, or splits being originally made of reed, though now made generally, at least in the finer sorts, of brass.

Reef, Ger. *riff*. 1. A range of rocks lying generally near the surface of the water. Also a reef, or *coral reef*, is a chain of rocks occurring in various parts of the ocean, lying near the surface.——2. Dut. *reef*; a certain portion of a sail between the top or bottom, and a row of eyelet holes, which is folded or rolled up, to contract the sail, when the violence of the winds renders it necessary.

Reef'-band. In *nautical language*, a piece of canvas sewed across a sail, to strengthen it in the part where the eyelet-holes are formed.

Reef'-line. In *nautical language*, a small rope, formerly used to reef the courses, by being passed through the holes of the reef spirally.

Reef'-tackle. A tackle on the deck of a ship, communicating with its pendant, and passing through a block at the topmast-head, and through a hole in the topsail-yard-arm, is attached to a cringle below the lowest reef; used to pull the skirts of the topsails close to the extremities of the yards, to lighten the labour of reefing.

Reel, Sax. *rheol*, *reol*. 1. A frame or cylinder turning on an axis, on which lines, thread or yarn, are wound into skeins, or from skeins on spools and quills. There are several analogous applications of the term; for instance, seamen wind their log-line on a reel, and sportsmen have reels for winding their fishing lines on.——2. A rude sort of lively dance common in the lower circles, where *scientific* dancing is little known.

Reem'ing. The opening of the seams between the planks of vessels by caulking irons, for the purpose of re-caulking them.

Re-en'ter. In *engraving*, passing the graver over those parts which the aquafortis has not bitten sufficiently.

Re-en'tering An'gle. In *fortification*, the angle of a work pointing inwards.

Reeve (Sax.). 1. A monosyllable that enters into the composition of some titles still in use; as *sheriff*, i. e. *shire-reeve*, the governor of a shire; *borough-reeve*; *port-reeve*, &c.——2. The sea term for pulling a rope through a hole.

Refec'tory, Lat. *refectorium*. In *architecture*, an eating-apartment.

Ref'erence. In *law*, the process of referring or assigning a cause depending in a court, for a hearing and decision, to persons appointed by the court: these persons are *referees*.

Refi'ning. In *metallurgy*, the separation of the metal from all other matters: particularly applied to the separation of gold and silver from metals with which they are alloyed.

Reflec'tion. A throwing back. thus, in the *reflection* of light, the law is that the *angle of reflection* is equal to the *angle of incidence*.

Reflect'ing Circle. An astronomical instrument for measuring angles. It is a modification of Hadley's Quadrant; one of the objects of the angle is measured by direct vision, and the other by reflection from plane mirrors.

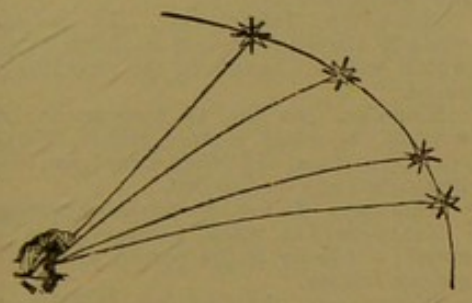
Re'flex, Lat. *reflexus*. Directed back. Applied in *botany* to parts; and sometimes to designate parts of a painting illuminated by reflected light from another part of the same picture.

Reflex'ion. In *mechanics*, the rebound of one body from another with which it comes into collision.

Reforma'tion. In *history*, the name applied by Protestants to designate the change from the Roman Catholic to the Protestant religion, begun in Germany by Luther (1517), and in England by Wickliffe, whose work was completed, from less pure motives, by Henry VIII., who assumed the title of Head of the Church (1531 and 1534).

Reform'ed Church. In general, all those bodies of Christians who have separated from the Church of Rome since the Reformation: more particularly, the Calvinistic Churches on the Continent.

Refrac'tion, a breaking: *re*, and *frango*, to break. The term is technically applied to denote the deviation of bodies in motion (especially rays of light) from their original course, arising from different densities of the several parts of the medium through which they pass. It is in consequence of this, that rays from objects, whether terrestrial or celestial, proceed in curves, which are concave towards the earth,—and that the eye never sees in its true place a distant object, except it be directly in the zenith, but



always more elevated, viz., in the direction of the tangent to the curve of that point. Refraction is therefore an element of the utmost importance in astronomical calculations. *Double refraction* is the separation of a ray of light into two parts, by passing through certain transparent media, as Iceland spar.

Refrangibil'ity. In *optics*, the disposition of the rays of light to be refracted in passing from one medium into another.

Refrig'eratory, from *refrigero*, to cool. A vessel filled with cold water, to condense vapours into liquids in the process of distilling. The common worm-tub is an example.

Regard'. In the *forest laws*, inspection. The *Court of Regard* or *Survey of Dogs*, is a court in England, held every third year, for the lawing or expeditation of mastives, i. e., for cutting off the claws and ball of the fore feet, to prevent them from running after deer.

Regard'ant, 1. In *law*, a *villein regardant* is one annexed to the manor or land.——2. In *heraldry:* a beast, as a lion, *regardant* is when placed in the attitude of looking behind.

Regard'er. In the *forest laws*, an officer of the royal forests, the chief judge of the Court of Regard.

Re'gel, } In *astronomy*, the name of a
Ri'gel. } fixed star of the first magnitude in Orion's left foot.

Regenera'tion. In *theology*, the new birth of man unto righteousness, having been delivered from the original corruption of his nature.

Re'gent, a governor: *rego*, to rule. 1. One who governs a kingdom, in the minority, absence, or disability of the sovereign.——2. In *colleges*, a teacher of the arts and sciences, inferior to the Professors. This title is also given, in the English universities, to Masters of Arts under five years' standing, and to Doctors under two years'. In the United States of America, the corporate bodies invested with the superintendence of the educational establishments of their respective States, are called *regents*. They have power to grant acts of incorporation for colleges, to visit those in operation, and regulate their government.

Reg'imen (Lat.), from *rego*, to govern. 1. In *medicine*, the regulation of diet with a view to the preservation or restoration of health.——2. In *grammar*, government.

Reg'iment: Lat. *rego*, I rule. A body of troops consisting (if infantry) of several battalions, or (if cavalry) of several squadrons, under the command of a colonel.

Reg'ister. 1. Low Lat. *registrum*, from *regero*, to write down. A written account or entry of facts, for transmitting to future times an exact knowledge of transactions; also, the book in which the register or record is kept.——2. Low Lat. *registrarius*. An officer appointed to keep a register, particularly the acts and proceedings of courts and public bodies; as the *Register* of the Court of Probate.——3. In the *arts*, an aperture or valve placed in a chimney, stove, or furnace, furnished with a turning or sliding door for regulating the quantity of air to be admitted to the fire, or to open and shut the communication with the chimney.

Reg'istry. In *commercial navigation*, the registration or enrolment of ships at the Custom-house, so as to entitle them to be classed among, and to enjoy the privileges of, British-built ships, first required by the Navigation Act of 12 Car. II. c. 18.

Re'gium Do'num (Lat.), royal gift. An annual grant of public money in aid of the Presbyterian clergy of Ireland.

Re'gius, the Latin word for royal, from *rex*, a king. In the *universities*, those Professors whose Professorships were instituted and endowed by the Crown are called *Regius Professors*.

Reg'let (Fr.), from *règle*, rule. 1. A flat narrow moulding, used to separate from each other the parts or members of compartments and panels, and to form knots, frets, &c.——2. A slip of metal (originally a ledge of wood exactly planed) used by *printers* to separate lines, and make the work more open: slips of this kind are now generally called leads; and printing where they are used is said to be *leaded*.

Regra'ting: Fr. *regratter*, to scratch again. 1. In *old law*, purchasing provisions and selling them in the same

market, which used to be a punishable offence, as it tended to raise the price. It differed from *engrossing*, which signified the buying the whole of certain articles, with a view to raising the price; and from *forestalling*, which signified the purchasing of the provisions before they reached the market.——2. Among *masons*, the process of taking off the outer surface of an old hewn stone, for the purpose of whitening it and making it look fresh again.

Regres'sion: Lat. *regressus*, going backwards. In *astronomy*, the *regression of the moon's nodes* is the motion of the line of intersection of the orbit of the moon with the ecliptic, which is retrograde.

Reg'ular, Lat. *regularis*, from *regula*, a rule. 1. In *geometry:* a figure is said to be regular when it is equilateral and equiangular; and a body is regular when it is bounded by regular and equal planes, and has all its solid angles equal. There are five such regular bodies, viz., the Tetraedron, the Hexaedron or Cube, the Octaedron, the Dodecaedron, and the Icosaedron: called the Five Platonic Bodies. *Regular curves* are such as are the perimeters of the conic sections, which are always curved after the same geometrical way.——2. In the *Roman Catholic Church*, those that profess and follow a certain rule of life, and observe the three vows of poverty, chastity, and obedience, are called *Regulars*.

Regula'tor, Fr. *regulier*. In *mechanics*, that part of a machine (whatever is its nature), which makes the motion equable. In a watch it is a small spring; in a steam-engine, windmill, &c. it is usually named the governor. *See* Governor.

Reg'ulus, Lat. dim. of *rex*, a king. 1. A name given by the old chemists to metallic matters, when separated from other substances by fusion. It arose out of the alchemical notion of finding gold, *the king of the metals*, collected at the bottom of the crucible after fusion. The term came subsequently to be applied distinctively in those cases where the metal and one of its ores happened to be called by the same name. Thus the sulphuret of antimony was known by the name of *antimony* long before it was suspected to contain a peculiar metal; hence, when this discovery was made, the metal was called *regulus of antimony*, to distinguish it from the ore from which it was procured.——2. In *astronomy*, a star of the first magnitude in the constellation Leo, named also, from its situation, the lion's heart (*cor leonis*).——3. In *ornithology*, the wren.

Rehabilita'tion, in *law*, is the reinstatement of a criminal in his personal rights, lost by a judicial sentence.

Rein-deer. A quadruped; the *Cervus tarandus*, Lin., of the northern regions. It is about the size of the stag, but has shorter and stouter legs. Rein-deer constitute the wealth of the Laplanders, &c.

Reinfo'rce. In *artillery*, that part of a gun nearest the breech, made stronger to resist the explosive force of the powder.

Reis-effen'di. One of the principal Turkish officers of state.

Rejoin'der. In *law-pleadings*, the defendant's answer to the plaintiff's replication.

Re'lais. In *fortification*, a narrow walk, four or five feet wide, left without the ramparts.

Rela'tion, Inharmonic. In *music*, when a dissonant sound is introduced, which was not heard in the preceding chord.

Relea'se. In *law*, an instrument in writing, by which estates, rights, titles, entries, actions, and other things, are extinguished and discharged.

Relessee', Reles'sor. In *law*, a *relessee* is a person to whom a release is executed; a *relessor* is the person who executes a release.

Rel'evancy. In *Scots law*, sufficiency to infer the conclusion.

Reli'ef Synod. A body of Presbyterian dissenters in Scotland, whose ground of separation from the established church was the violent exercise of lay-patronage.

Reliev'ing-tackle. In *mechanics*, two strong tackles, used to prevent a ship's overturning on the careen, and afterwards to assist in uprighting her.

Relie'vo (Italian), Relief' (Fr. & Eng.). In *sculpture*, the projecture or prominence of figures beyond or above the plane or ground on which it is formed. It is of three kinds, *alto-relievo* (high relief), *basso-relievo* (low-relief), and *demi-relievo* (half-relief)—(q.v.).

Re'liquary. A receptacle for the relics venerated in Roman Catholic churches

Remain'der. 1. In *arithmetic*, that which arises by subtracting one quantity from another.——2. In *law*, an estate limited in lands, tenements, or rents, to be enjoyed after the expiration of another particular estate. A grants land to B for 20 years, *remainder* to C in fee.

Remem'brancers. Officers of the Court of Exchequer, whose chief function is to remind the judges of things to be done for the benefit of the king.

Remon'strants. In *church history*, those Arminians who remonstrated against the decisions of the Synod of Dort, in 1618.

Ren'dering. In *building*, *see* Pagetting.

Ren'iform. Kidney-shaped; *ren*, and *forma*, likeness.

Reni'tence, Reni'tency. Lat. *renitens*. In *mechanics*, that resistance in

solid bodies when they press upon, and are impelled against, one another.

Ren'net, } From *rinnen, runnen*, to co-
Run'net. } agulate. 1. The gastric juice and contents of the stomach of calves, much employed, in preparing cheese, for curdling the milk.——2. A variety of apple.

Rent, Fr. *rente*, from *rendre*. At *common law*, rents are of three kinds: *rent-service*, *rent-charge*, and *rent-seck*. The *rent-service* is where some corporeal service is incident to it, as by fealty and a sum of money; *rent-charge* is when the owner of the rent has no future interest in the land, but the rent is reserved in the deed, by a clause of distress for rent in arrear; *rent-seck* (dry-rent) is rent reserved by deed, but without any clause of distress. There are also *rents of assize*, certain established rents of freeholders and copyholders of manors, which cannot be varied; called also *quit-rents*, and when paid in silver, *white-rents*; but if in baser coin, *black-rents*. A *fee-farm rent* is a rent-charge issuing out of an estate in fee, of at least one-fourth the value of the lands at the time of reservation. *Rack-rent* is the full value of the lands, &c

Renverse'. In *heraldry*, inverted. Contrary to the natural position.

Repeat'. In *music*, a character or mark directing a part to be repeated in performance.

Repeat'ing Circle. An invention, by Borda, for diminishing the effects of errors of graduation in astronomical instruments.

Repel'ling Power. In *physics*, that power inherent in the minute particles of matter, by which, under certain circumstances, they recede from one another: the reverse of the *attractive power*. *See* Repulsion.

Re'pent, Lat. *repo*, I creep, in *geology*, is used to signify creeping, and is applied to animals which move close to the ground.

Rep'etend. In *arithmetic*, that part of an indeterminate or infinite decimal which is continually repeated *ad infinitum*.

Reple'vin, Low Lat. *replegio*. In *law*, an action granted on a distress, by which a person, whose cattle or goods are distrained, has them returned to his own possession, upon giving security to try in a suit at law the right of taking; and if that should be determined against him, to return the cattle or goods into the possession of the distrainor.

Replica'tion. In *law*, the plaintiff's answer to the defendant's plea.

Report'. In *commercial navigation*, a paper delivered by the masters of ships arriving from ports beyond seas to the Custom-house, and attested upon oath, containing an account of the cargo on board, &c.

Repo'se, Lat. *repono*, I lie down. In the *fine arts*, the absence of that agitation which is induced by the subdivision of a work into too many unconnected parts.

Repri'sals, Fr. *reprisailles*. When the people of one nation have unlawfully seized and detained property belonging to another state, the subjects of the latter are authorised by the law of nations to indemnify themselves, by seizing the property of the subjects of the state aggressing. This is termed making *reprisals*, and commissions to this effect are issued by the admiralty.

Repri'ses. In *law*, deductions from the value of lands, such as rent-charges.

Reproduc'tion, Lat. *reproduco*. In *physiology*, strictly, it signifies the power possessed by an organised being of forming anew parts of the body which have been cut off. Vegetables are well known to possess this faculty. Worms reproduce many segments of the body: lobsters and spiders regain a claw or a leg; and so on.

Repta'tion. A mode of progression by successive advances of the trunk, as in serpents; applied also to that of animals whose bodies touch the ground, their legs being very short.

Reptil'ia. Reptiles, from Lat. *reptilis*, from *repo*, to creep; a creeping animal. The third class of vertebrated animals, comprehending Chelonians (*tortoises*); Saurians (*lizards*); Ophidians (*serpents*); and Batrachians (*frogs*). All reptiles are cold-blooded (a comparative term), owing to the disposition of the heart, which transmits only a portion of the blood to the lungs, (the remainder returning to the other parts of the body, without passing through the pulmonary organs), and the consequent deficient action of the oxygen upon the blood, and diminished respiration. In temperate and cold climates they almost all pass the winter in a state of torpor.

Repub'lic, Lat. *respublica*. That form of government in which the people exercise the supreme power.

Repul'sion, from *repello*. A term in *physics*, for that property of bodies which is opposed to attraction, and which, like that force, appears, as far as has been ascertained, to follow the same law, viz., increasing inversely as the square of the distance. Consequently at the point of contact it is infinite. It is as essential as attraction itself to the constitution of the material forms of created nature.

Request', Court of. A Court of Equity, in England, for the relief of such persons as addressed the Crown by supplication: abolished by Stat. 16 & 17 Car. I.

Re'quiem. In the *Romish church*, a hymn or mass sung for the *requiem* or rest of the dead.

Re'script, Lat. *rescriptum*. The answer of an emperor when consulted on some difficult question: the rescript serves as a decision of the question, and is therefore equivalent to an edict or decree.

Res'cue, Norm. *rescous*, relieved. In *law*, the forcible retaking of a lawful distress from the distrainor, or from the custody of the law; also the forcible liberation of a defendant from the custody of the officer, in which cases the remedy is a *writ of rescue*.

Reserva'tion, from *reservo*. In *law*, a clause or part of an instrument, by which something is reserved, not conceded or granted; also a proviso.

Reset'. In *Scots law*, the receiving of stolen goods, harbouring an outlaw, &c.

Resid'ual. In *mathematics*, from *residuus*, remainder. 1. *Residual analysis*, the same with what is otherwise called the method of exhaustions. All problems to which residual analysis has been applied are more conveniently solved by means of the doctrine of fluxions.——2. A *residual quantity* is a binomial connected by the *residual sign*, —, as $a-x$. A remainder.

Resid'uum (Latin). 1. Residue.——2. In *law*, what remains after payment of debts, &c.

Re'sin, Fr. *résine*; Lat., Ital., Sp., *resina*, from ῥέω, to flow. The name *resin* is given to a very important class of vegetable substances, of which there is a great variety of species, differing from each other in consistence, colour, smell, and in some degree, in chemical composition; but have a common vegetable origin, many of them exuding spontaneously, and others extracted by incisions made in the bark of certain resinous trees, and procurable from almost all plants by chemical processes. The chemical properties, which are usually understood to characterise a resin, are these: it is first softened, and then melted by heat, and, when kindled, it burns readily, with a strong and generally fragrant smell, with copious flame and smoke, and leaves scarcely any residue behind; it is insoluble in water, but is readily dissolved by alcohol; it is not easily acted upon by acids, except the nitric, by which it is converted into artificial tar; and it is readily saponified by alkalies, when those are concentrated. Most resins are translucent, and have a brown (sometimes a red, or green,) colour, and a vitreous fracture; being often so brittle as to be readily pulverised in the cold. There are some, however, which are soft: these are usually termed *balsams* (q. v.), and contain a certain portion of volatile oil, (some benzoic acid). The chief solid resins are amber, elemi, animé, benzoin, copal, rosin, mastich, sandrich, dammora, lac, dragon's blood, guaiacum, Highgate resin, resin of Jalap, labdanum, tacamahac, storax.

Resin'cine. A light-coloured oil, destitute of taste and smell, obtained by distilling resin *per se*. Formula $C_{20}H_{15}O_1$.

Resin'eon. A product obtained from resin by M. Fremy. It is less volatile than resinone, and has a less burning taste. Formula $C_{23}H_{18}O_1$.

Res'inone. A product obtained by M. Fremy from resin. It somewhat resembles alcohol, and differs from oil of turpentine in containing an additional atom of water. Formula $C_{10}H_9O_1$.

Re'sinous Electricity. This is the electricity eliminated by rubbing a cylinder of resin with a rubber of wool: named also *negative electricity*. *See* Electricity.

Resist'ance. In *mechanics*, that power which acts in opposition to another, so as to diminish or destroy its effect: *re*, against, and *sisto*, to stand.

Resolu'tion, from *resolve*. 1. In *chemistry*, analysis: the process of separating the component parts of bodies.——2. In *medicine*, the disappearance of a local inflammation with suppuration, mortification, &c.——3. In *music*, the resolution of a dissonance is the carrying of it according to rule into a consonance in the subsequent chord.——4. In *algebra*, the resolution of an equation implies the solution of it.——5. In *mechanics*, the resolution of forces or motion is the act of dividing any single force or motion into two or more others, in different directions; or of finding the quantity of two or more forces or motions, which taken together shall produce the same quantity of force or motion, with the given one in the same direction. This is the reverse of *composition of forces* or *motion*.

Res'onance. In *music*, prolonged and reflected sound: *resonans*, resounding.

Respira'tion, from *re* and *spiro*, to breathe. The act of breathing, which comprehends *inspiration* and *expiration*. Respiration appears to be essential to the life of all living bodies, plants as well as animals; and moreover, the blood of animals is warm or cold according as they respire more or less air.

Respira'tor. An instrument fitted to cover the mouth, and retained by bandages; its object being to heat the inspired air before entering the lungs, by retaining that of the *expired* air, and giving it off to the succeeding *inspiration*.

Responden'tia. In *commercial navigation*, a loan upon a cargo, differing from *bottomry*, which is a loan upon the ship.

Response'. 1. In the *Romish church*, a kind of anthem sung after the morning lesson.——2. In *music*, a repetition of the given subject by another part.

Ressault' (French). A term used to denote the effect in a building of a body which projects over or falls back from the line or range of the other members.

Rest. In *music*, a pause or interval of silence.

Restitu'tion, Writ of, in *law*, lies where judgment has been reversed, to restore to the defendant what he lost.

Result'ant. In *mechanics*, a force which is the combined effect of two or more forces acting in different directions.

Resu'pinate, Lat. *resupinatus*, reversed. Applied to leaves when the upper surface is turned downwards.

Retain'er. Among *lawyers*, a fee paid to engage a lawyer or counsellor to maintain a cause, called also a *retaining-fee*.

Retain'ing Wall. A wall built for the support and maintenance of a body of earth, where it is inexpedient to slope the same gradually down.

Re'te (Latin). A net. A term very often applied in *anatomy* and *natural history* to cellular membrane, nerves, vessels, and other parts which have a retiform appearance. The *rete mirabile* is a net-work of blood-vessels at the base of the brain of quadrupeds. The *rete mucosum* is a mucous substance, situated between the cuticle and true skin.

Retic'ular, Lat. *reticularis*, } Inter-
Retic'ulate, Lat. *reticulatus*. } woven like a web or net: *rete*, a net. *Reticulated work* in *architecture*, is that in which the stones are square and laid lozenge-wise, resembling the meshes of a net.

Ret'icule, from *reticulum*, a little net or web. 1. A name given to the second stomach of ruminant animals.——2. In a *telescope*, a network of fine fibres dividing the field into equal small squares.——3. A little bag used by females as a pocket.

Re'tina, Lat. from *rete*, a net. The net-like expansion of the optic nerve placed at the back of the eye, and which has been called the fourth membrane of the eye. It is the true organ of vision.

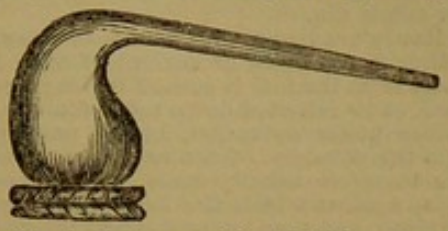
Retinasphal'tum, } Fossil copal. Pitch-
Ret'inite. } stone. A bituminous substance, found chiefly in Devonshire, accompanying the Bovey coal. It consists of (55) resin (ρητινη) and (41) asphaltum, with some earthy matter.

Re'tirade, Fr. from *retirer*. In *fortification*, a kind of retrenchment in the body of the bastion or other work, which is to be disputed with the enemy after the defences are dismantled.

Retired Flank. In *fortification*, a flank having an arc of a circle convex towards the place.

Retrac'tor. In *anatomy*, a muscle, the office of which is to retract the part into which it is inserted.

Re'tort, Lat. *retortus*. In *chemistry*, a globular or pear-shaped vessel, with a long neck, bent nearly at right angles



with the body: used in distilling, preparing gases, &c.

Retrax'it, Lat. *retraho*, *retraxi*. In *law*, the open renunciation of a suit in court, by which the plaintiff loses his action.

Retrench'ment, Fr. *retranchement*. In *fortification*, any work raised to cover a post and fortify it against an enemy.

Re'tro. A Latin prefix, meaning *backwards*.

Retro-grada'tion. In *astronomy*, an apparent (*not real*) motion of the planets, in which they seem to go backwards in the ecliptic, and to move contrary (*in antecedentia*) to the order and succession of the signs.

Ret'to (Italian). A term in *music*, meaning straightforward.

Return. 1. In *law*, the rendering back of a writ, precept, or execution, to the proper officer of the court, or the certificate of the officer executing it, indorsed. —— 2. In *architecture*, the continuation of a moulding, projection, &c., in the opposite direction: a side or part which falls away from the front or straight work. ——3. In *fortification*, the returns of a trench are its several windings and lines.

Return'-bead. A bead appearing both on the face and edge of a work.

Return'-day. In *law*, the day on which the defendant is to appear in court, and the sheriff is to return the writ of his proceedings.

Return'ing-officer. In *law*, an officer whose duty is to make returns of writs, precepts, &c.

Reve, Sax. *gerefa*. The bailiff of a franchise or manor.

Revei'lle, Fr. from *réveiller*, to awake. In *military affairs*, the beat of drum, about day-break, to arouse the soldiers, and to notify to the sentinels to cease challenging.

Rev'els, from *revello*. In *architecture*, two vertical sides of an aperture between the front of the wall and the window or door-frame.

Reven'dication. In *civil law*, a claim legally made to recover property, by one claiming as owner.

Reven'ue, Fr. *revenu*, from *revenir*, to return. The annual produce of taxes,

excise, customs, duties, rents, &c., which a nation or state collects into the treasury for public use.

Reverb'eratory. A furnace or oven, wherein the flame or current of heated gases from the fuel is caused to reverberate, or be reflected down upon the substance under operation, before passing into the chimney. Such reverberatories are therefore usually made with dome-tops, against which the flames, &c. first impinge, and then curve downwards upon the bed of the furnace.

Reverse', Fr. *revers*. In *numismatics*, the side of a coin or medal on which the head or principal figure is *not* stamped.

Rever'sion. In *law*, the residue of an estate left in the grantor, to commence in possession after the determination of some particular estate granted by him. In *annuities*, a payment or benefit which is deferred till the happening of some event, as the death of a person now living.

Revet'ment, Fr. *revêtement*, from *revêtir*. In *fortification*, a strong wall on the outside of a rampart, intended to support the earth: a retaining-wall.

Revise', from *revisus*. In *printing*, a second proof of a sheet, taken after the corrections in the first.

Revoca'tion (Power of). In *law*, a power by which the grantor of a voluntary deed of conveyance to uses, retains the liberty of revoking these uses.

Rev'olute, Lat. *revolutus*, rolled back. In *botany*, applied to leaves, when the margins are rolled backwards towards the under surface.

Rhabar'barine. The bitter principle of rhubarb, called also *caphopicrite*.

Rhab'domancy, ῥαβδος, rod, and μαντεια, prophecy. Divination by a wand.

Rhachi'tis. English disease: the rickets, so called from *rachis*, the spine; because with the other deformities characteristic of this disease, the spine is often distorted.

Rham'nus. The Buck Thorn. An extensive genus of trees and shrubs. *Pentandria — Monogynia*. Name ῥαμνος, borrowed from the Greeks. The purging buckthorn, and berry-bearing or black alder, are the British types of the genus. The jujube-tree is now separated from the genus.

Rhapon'ticine. A substance extracted from rhubarb (the root of the *Rheum rhaponticum*), otherwise called *rheine* (q.v.).

Rhat'any. In *pharmacy*, the root of a tree, the *Krameria*, imported from Peru.

Rhe'ine. A substance obtained from rhubarb (*rheum*), by treating it with ether: otherwise called rhaponticine. It is obtained in minute crystalline grains, having an intense yellow colour, but no taste or smell. Its solution in alcohol reddens litmus paper, and, indeed, behaves with bases like other acids. It is remarkable as a solvent of iron.

Rhe'um. 1. Rhubarb. A genus of perennial plants. *Enneandria — Trigynia*. Name said to be from Rha, a river in Russia (the Wolga), on the banks of which the species grows plentifully. The roots of several species are used in pharmacy under the name of *rhubarb*, especially the roots of the *Rh. palmatum* and the *Rh. rhaponticum*. Of the first there also appears to be varieties; the Turkey rhubarb, the Russian or Tartarian rhubarb, and the Chinese or East Indian rhubarb.——2. Ῥευμα, Defluxion. A thin watery matter, arising through the glands, chiefly about the mouth.

Rheu'matism, ῥευματισμος, from ῥευματιζω, to have defluxion. A disease; an affection of the extremities and external coverings of the human body, occupying the muscular, tendinous, and fibrous textures, and characterised by pain, stiffness, and swelling of a joint, with or without fever.

Rhinoc'eros. A genus of large mammalia. Order *Pachydermata*; family *Ordinaria*. Name from ῥιν, a nose, and κερας, a horn. There are several species found in India, Java, Africa, and Sumatra; and fossil remains of the animal are found in several parts of Europe. The Indian species has only one horn on the snout, that of Africa has two. But it would appear, from the account of Burchell and Campbell, that the one-horned rhinoceros is also found in Africa.

Rhinot'ragus. A genus of coleopterous insects, belonging to the tribe of Cerambycini, characterised by the head being narrow, and prolonged anteriorly, in the manner of a snout: whence also the name.

Rhipip'tera. An order of insects, established by Mr. Kirby, under the name of *Strepsiptera* (twisted wings), on certain species remarkable for their anomalous form and irregular habits: called *Rhipiptera* by Latreille, from ῥιζα, a root, and πτερον, a wing, on account of the peculiarly radiating nervures which characterise the wings.

Rhizan'theæ, ῥιζα, root, and ανθος, flower. A class of plants which appear to be intermediate between Endogens and the lower orders of vegetation.

Rhizoph'ora. The Mangrove-tree: a genus. *Dodecandria—Monogynia*. Name from ῥιζα, a root, and φερω, to bear. The juice of the root is applied in India to the bite of serpents.

Rhiz'opodes, from ῥιζα, a root, and πους, a foot. A name proposed by M. Dujar-

din to a new class of animals of the lower degree than the radiata, possessing a power of locomotion by means of minute tentacular filaments. This class would comprise the animals which construct the miliola and some microscopic foraminiferous shells.

Rho'dium. A metal discovered by Dr. Wollaston in crude platinum, and so named from ῥοδον, a rose, on account of the rose colour of some of its compounds.

Rhododen'dron. Rose-bay: a genus of permanent plants. *Decandria—Monogynia.* Name from ῥοδον, a rose, and δενδρον, a tree. There are 20 species, natives of temperate climates.

Rhomb, Lat. *rhombus;* Gr. ῥομβος, from ῥεμβω, to turn round. A quadrilateral plane figure, whose sides are equal and parallel, two and two, and whose adjacent angles are unequal. The opposite angles are necessarily equal, and, taken pair and pair, are greater and less than two right angles. When all the angles are equal, the figure becomes a *square.*

Rhom'boid, from ῥομβος, a rhomb, and ειδος, likeness. A quadrilateral figure,

whose opposite sides only are equal and parallel. The adjacent sides and angles are therefore unequal. The figure is otherwise called a *parallelogram;* and the straight line which joins obliquely the two opposite angles is named a *diagonal.* When the adjacent angles are equal, and therefore right angles, the figure is called a *rectangle,* and popularly an *oblong.*

Rhomb-spar. A crystallised magnesian carbonate of lime, so named from the form of the crystal, of which the faces are rhombs.

Rhon'chus. Ρογχος. A rattling or wheezing sound. The term is applied in *auscultation* to any preternatural sound accompanying respiration, occasioned either by the passage of the air through fluids obstructing the bronchia or air-cells, or by the constriction of the bronchial tubes. It is also called *rattle,* and *r le* by the French writers.

Rhu'barb. *See* Rhe'um.

Rhumb, from *rhomb.* In *navigation,* a vertical circle of any given place, or the intersection of a part of such circle with the horizon: in this last sense rhumbs coincide with the points of the compass, and are named accordingly.

Rhus. Sumach. A genus of trees and shrubs of many species. *Pentandria—Trigynia.* Name from ῥεω, to flow, because it stops fluxes. All the species are poisonous except the *R. coriaria* of the south of Europe.

Rhynchoph'ora. A family of Coleopterous insects, distinguished by the entire prolongation of the head, which forms a sort of proboscis: whence the name from ῥυγχος, a beak, and φερω, to carry. The genera live chiefly on plants; several of them exclusively within their fruits and seeds, and do much injury.

Rhynch'ops. A genus of birds; the *Skimmers:* order *Palmipedes:* family *Longipennes.* Name from ῥυγχος, rostrum. One species only is known, the Black Skimmer of the Antilles.

Rhyth'm, Lat. *rhythmus;* Gr. ῥυθμος, metre. In *music,* variety in the movement, as to quickness or slowness, or length and shortness, of the notes. In *poetry,* it is the relative duration of the moments employed in pronouncing the syllables of a verse.

Rib (Saxon). 1. A bone of animal bodies, forming a part of the frame of the thorax.——2. In *ship-building,* a piece of timber, forming part of the frame-work of the side of a ship. The *ribs of a parrel* are short pieces, having holes through which are reeved the two parts of the parrel rope.——3. In *architecture* and *engineering,* a term used generally to denote a girder, but more particularly an arched beam, sustaining the superior work of a vault, bridge, &c.——4. In *botany,* the continuation of the petiole along the middle of a leaf, and from which the veins take their rise.

Rib'bet, dim. of *rib.* In *architecture,* the recess of a wall to receive a door or window-shutter, as it folds back when opened.

Rib'bon, } Wel. *rhibin.* A fillet of silk.
Ribb'and, } In *naval architecture,* a long, narrow flexible piece of timber, nailed upon the outside of the ribs, from stem to stern, so as to encompass the ship lengthwise: the principal are the floor-ribband and breadth-ribband.

Ri'bes. The Currant tree. A very extensive genus of arborescent shrubs. *Pentandria—Monogynia.* The name is Arabic, and properly belongs to an acid-leaved species of Rheum; but which botanists, for 200 years past, have, by mistake, applied to the currant and gooseberry family, and with these it now remains. The red, rock, alpine, black, and spiked currants, and the rough and smooth gooseberry, are indigenous species.

Rice, Fr. *riz.* The seed of the *Oryza sativa.* It is the principal food of the

inhabitants of all parts of the East, where it is boiled and eaten either alone or with meat. It is the cheapest of all food, but is rendered costly in this country by the import duty upon it.

Rice Paper. An absurd name of a description of paper, made in China and India, for painting flowers, &c. upon, from a membrane of the bread-fruit tree, *Artocarpus incisifolia*.

Ricin'ic Acid. A product obtained by distilling castor oil at a high temperature.

Rici'nus. The Palma Christi, or Castor-oil Tree: a genus of plants. *Monœcia—Monadelphia*. Said to be named from the resemblance of its seeds to the tick, called *ricinus* by the Latins. The *R. communis*, the seeds of which yield the castor oil (*oleum ricini*), is an annual plant, found in both Indies. It is the Κικι or Κροτων of Dioscorides, who administered the seeds as a cathartic. The plant is now annually reared in gardens in the neighbourhood of London.

Ricochet', Fr. for *duck and drake*. In *gunnery*, a method of firing cannon, loaded with a small charge and elevated from three to six degrees, so that the ball may bound and roll along inside of the enemy's rampart: this is called *ricochet-firing*, and the batteries are termed *ricochet-batteries*.

Ri'der. In *botany*, a small leaf inserted in or attached to other leaves. In *gunnery*, a piece of wood equal in length to the body of the axle-tree of the gun-carriage. In *law*, *see* Rider-roll.

Ri'der-roll. A small piece of parchment, containing an additional clause of a record, statute, &c., added to the principal document: called also a *rider*.

Ri'ders. In *ship-building*, interior ribs, to strengthen and bind the parts of a ship together, being fayed upon the inner staff and bolted through all.

Ridge. In *architecture*, the upper horizontal timber in a roof, against which the raft rs pitch.

R.'ding. In England, one of three portions into which the county of York is divided: anciently under the government of a reeve. The term is corrupted from *trithing*, third.

Ridot'to (It.). A favourite public Italian entertainment, consisting of music and dancing.

Ri'fle, Sax. *rifle*, a groove: hence *reifeln*, to groove or rifle. A gun about the same length and size as the musket, but having the inside of the barrel *rifled* or cut into a number of spiral channels, making little more than one turn in the whole length of the piece.

Rig. The peculiar manner of fitting the masts and rigging to a vessel.

Rig'ger. In *mechanics*, a cylindrical pulley called also a *drum*.

Rig'ging or a Ship. A term comprehending all ropes employed to support the masts, and to extend or reduce the sails or arrange them to the disposition of the wind. *Rigging loft*, the room in which the rigging is prepared.

Right, Sax, *riht* (*rectus*). In *geometry*, straight, as a *right* line. Also opposed to *oblique*, as a *right angle*, that is, an angle neither obtuse not acute, but formed by one line or surface meeting another perpendicularly.

Rigid'ity, Lat. *rigiditas*, from ῥιγος, stiff. In *physics*, a term which implies the opposite qualities of flexibility, pliability, ductility, malleability, &c., and is usually defined to be the degree of hardness which arises from the mutual indentation of the component particles within one another.

Rigole', } A sort of musical instrument,
Ri'gals, } consisting of several sticks bound together and separated by beads. It is struck with a ball at the end of a stick, and makes *tolerable* harmony.

Rimo'se, Lat. *rima*, cleft. In *zoology*, when any surface possesses numerous minute narrow excavations, running into each other.

Rinforzan'do (It.), *strengthening*, in *music*, denotes that the sound is to be increased, which is symbolised by <.

Ring'-bolt. A bolt of iron, with an eye, in which a ring of iron is fitted

Ring'bone. In *farriery*, a hard callous substance, growing in the hollow circle of the little pastern of a horse: so named from its sometimes growing quite round like a ring.

Ring'-sail. A small and light sail set on a mast on the taffrail; also, a studding-sail set upon the gaff of a fore and aft sail.

Ring'tail, 1. In *ornithology*, the *Falco pygargus*, Lin.——2. A small quadrangular sail set on a small mast on a ship's taffrail.

Ri'ot. In *law*, a riotous assembling of twelve persons or more, and who do not disperse on proclamation. An Act prohibiting such assemblies is known by the name of the *Riot Act*, and being read by a magistrate or peace officer to a mob, constitutes that mob *rioters*, if it does not immediately disperse.

Ripia'no. An Italian term, meaning *full*, used in *music* in opposition to *solo*.

Ritornel'lo (It.), from *ritorno*, return. In *music*, a repeat played while the principal voices pause.

Riv'et. A pin of iron, or other metal, used for the purpose of joining two plates of metal together; these being made to overlap, and a hole drilled through both, the pin is inserted and firmly clinched by hammering, so that a head is now formed on both ends, and it cannot be withdrawn.

Rix'-dollar, Germ. *reichsthaler*. Dutch *ryks-daalder*, Swed. *riks-daler*, the dollar

of the realm. A silver coin of Germany, Denmark, Sweden, &c., of different values in different places. In Brunswick and Baden, it is worth 4*s.* 2*d.*; and the rix-dollar of the kingdom of Hungary is worth a farthing more. In Denmark, it is worth 4*s.* 6½*d.*; at Hamburgh, 4*s.* 7½*d.* nearly, and the constitutional rix-dollar of Hanover is very nearly of the same value (4*s.* 7·9*d.*). In Hesse Cassel, it is worth 4*s.* 1½*d.* nearly; in Holland, about 4*s.* 5*d.* (but the 50-stiver piece is worth only 4*s.* 3½*d.*); at Lubec, 4*s.* 6¾*d.*; in Poland, 2*s.* 11½*d.*; in Prussia, currency 2*s.* 11½*d.*, convention 4*s.* 2½*d.*; in Saxony, the same nearly; in Sweden, 4*s.* 6½*d.* (late coinage); at Wurtemberg, 4*s.* 2½*d.*

Road'stead. A place where ships may *ride* at anchor at some distance from the shore.

Roan, Fr. *rouan*. A bay, sorrel, or black, with grey or white spots interspersed very closely; descriptive of the colour of some horses.

Roast'ing. In *metallurgy*, a process by which the volatile parts of ores are separated by the application of heat.

Robin'ia. An extensive genus of trees and shrubs. *Diadelphia—Decandria*. The Locust-tree, Rose acacia, Pea-tree, Salt-tree, and Goat's-horn, are the best known species. Temperate and warm climates.

Rocel'lic Acid. An acid discovered by Dr. Heeren in the *Rocella tinctoria*. It is a solid fatty-looking matter. When heated, it melts and congeals again, at 251° F., into a crystalline mass.

Roche'-alum. An alum brought from the Levant in small pieces of a pale rose colour: called also *rock-alum* (Fr. *roche*, a rock).

Rochelle' Salt. Potassio-tartarate of soda. A triple salt consisting of tartaric acid, soda, and potash. It is administered in medicine, in doses from one drachm to an ounce, as a cathartic.

Roch'et (French). 1. A surplice; the white upper garment of an officiating priest.——2. A fish, the *roach*.

Rock, Fr. *roc* or *roche*. In *geology*, a term comprehending all the materials forming the crust of the globe; clay, sand, coal, and chalk, as well as limestone, granite, slate, and basalt, and other hard and solid masses, to which the use of the term in common language is generally restricted. There are, (1.) *Alluvial rocks*, formations of recent date; (2.) *Secondary rocks* (sometimes named *floetz rocks*, because they are often disposed horizontally); these consist partly of chemical, and partly of mechanical deposits, resting upon the (3) *Transition rocks*. These rest on the primary rocks, and contain the first indications of life, and mark the *transition* of the world from an uninhabitable to an inhabited condition; (4.) *Primary rocks* (q. v.).

Rock-but'ter. Native alum which occurs in cavities and fissures of argillaceous slate in soft masses, of a yellowish-white colour. It is mingled with clay and oxide of iron.

Rock-cork. Mountain-cork. A greyish-white variety of asbestos, found in France and Germany.

Rock-crys'tal. The most perfect variety of quartz. It occurs crystallised in chasms and clefts of the older rock in all countries; but is found in greatest perfection in Dauphiné, in the Alps, Madagascar, &c. The name has been extended to all crystallised and diaphanous varieties.

Rock-fish. The *gobius niger*, Cuv. and Yarr., is so named from its inhabiting rocky situations, but it is more commonly known as the *black goby*. British coasts.

Rocking-stones. Immense masses of rock, which appear to have been loosened by some convulsion of nature, and, with a slightly rounded base resting on a flat surface of rock below, are easily moved *or rocked:* called also *loggan* or *laggan-stones*.

Rock-ruby. A name sometimes given to the garnet when it has a shade of blue.

Rock-salt. Mineral salt (native crystallised chloride of sodium). In *America*, the name is sometimes given to salt obtained in large crystals. *See* Salt.

Rock-sam'phire. A plant, the sea-fennel (*Crithmum maritimum*), used as a condiment when pickled with vinegar and spice.

Rock-shells. The common name of certain univalves having their shells terminated by long straight canals.

Rock-wood. Ligniform asbestos. A variety of asbestos which closely resembles fossil wood in appearance.

Rock-work. 1. In *architecture*, masonry wrought in imitation of rough stone, chiefly used in basements.——2. In *gardening*, a pile of stones, &c., forming a nidus for the growth of Alpine plants.

Rod, *perch*, *pole*. A long measure of 16½ feet; also a square measure of 272¼ square feet.

Roden'tia. An order of mammalia characterised by two large incisor teeth in each jaw, separated from the molars by an empty space; they cannot seize living prey nor tear flesh, nor even cut food, but they serve to file, and by continued labour to reduce it into separate particles—in a word to *gnaw* it; hence the term *rodentia* or *gnawers*, which is applied to animals of this order. The squirrels, marmots, dormice, rats, gerbils, hares, rat-moles, beavers, porcupines, rat-hares, guinea-pigs, mocos, agoutis, and pacas, all belong to this order.

Roe, Ger. *rogen*. The spawn of fishes. The *soft roe* or *milt* denotes the male

the *hard roe*, or that to which the name *spawn* is usually given, denotes the female.——2. Sax. *raa*, the female of the hart.

Roe-stone. Oolite or Portland-stone. *See* Oolite.

Roga'tion, from *rogo*, to ask. The demand by the Roman consuls, or tribunes, of a law to be passed by the people.

Rogation-week. The second week before Whit-Sunday; thus called from the three fasts observed therein; viz., Monday, Tuesday, and Wednesday, called *rogation-days*, because of the extraordinary prayers then made for the fruits of the earth, as a preparation for the devotion of the Holy Thursday.

Rogue's Yarn. A yarn of different twist and colour from the rest, and inserted in the royal cordage, to identify it if stolen.

Roll. In *antiquity*, a volume: a book consisting of leaf, bark, paper, skin, or other material, on which the ancients wrote, and which being kept *rolled*, was called by the Latins *volumen*, from *volvo*, to roll.

Rollers. The sea term for unusually heavy waves.

Rolls. 1. In *gothic architecture*, mouldings representing bent cylinders.——2. Rolls of court, of parliament, or of any other public body, are the parchments on which are engrossed, by the proper officer, the acts and proceedings of that body, and which being kept in rolls, constitute the records of such public body.

Rolling-mill. The name commonly applied to the machinery by which metals are laminated or compressed (while red hot), by rollers or cylinders.

Rolling-press. 1. A machine consisting essentially of two cylinders, by which cloth is calendered, waved, and tabbied. Also a machine, of similar construction, for taking impressions from copper-plates: a copper-plate printing-press.——2. A *rolling-mill* (q. v.).

Rolling-tackle. The object of this tackle is to keep the yards constantly to leewards when the ship rolls, thereby doing away with friction.

Roman Cath'olics. A name for those Christians who believe in the doctrines and submit to the discipline of the Church of Rome: called also *Papists*, from *Papa*, Pope.

Roman Cement. An excellent water cement, in very general use for building purposes.

Romance', Sp. *romance*, the vulgar language of Spain. The Welsh has also *romance*, rising nobly: hence *romantic: rhamanta*, to soar, and *rhamantu*, to use figurative language. A tale of extraordinary adventures, soaring beyond the limits of fact and real life. The first romances were a monstrous assemblage of histories, in which truth and fiction were blended without probability. They were for the most part made up of amorous adventures and the extravagant nonsense of chivalry.

Roman Order. Another name for the composite order of architecture.

Romanesque. In *painting*, appertaining to fable or romance. In *literature*, the common dialect of Languedoc, and other parts in the south of France. *Romaic* is the language of modern Greece.

Roman School of Painting. This school, like the Florentine, addressed itself to the mind, and is formed upon antique models. Its style was poetical; its touch easy and graceful; its composition elegant; its colouring negligent; and its draperies eminently successful.

Roman Vaulting. A term applied by some to a vault built in the following manner; each vault being built exactly as if it were single, the two vaults meet in an edge or groin of a regular elliptical form, lying diagonally across the compartment, and the lines running along the top of each vault will be horizontal lines.

Rome'penny, } A tax of a penny for each
Rome Scot. } house, formerly paid by the people of England to the see of Rome, at the feast of St. Peter ad vincula (1st of August), granted, according to some, by Offa; according to others, by Ina, king of the West Saxons, who being on a pilgrimage, and at Rome, A.D. 725, gave it as an alms. It was much complained of by the people, but was only finally abolished by Queen Elizabeth.

Rom'pee'. In *heraldry*, an ordinary which is broken, or a chevron bend, or the like, whose upper parts are cut off.

Rondeau', Fr. from *rond*, round. 1. A kind of poetry, commonly consisting of thirteen verses of which eight have one rhyme, and five another. It is divided into three couplets, and at the beginning of the second and third the beginning of the rondeau is repeated in an equivocal sense.——2. In *music*, the rondeau generally consists of three strains, the first of which closes in the original key, while each of the others is so constructed in modulation as to reconduct the ear easily and naturally to the first strain.——3. A kind of jig or lively tune which ends with the first strain repeated.

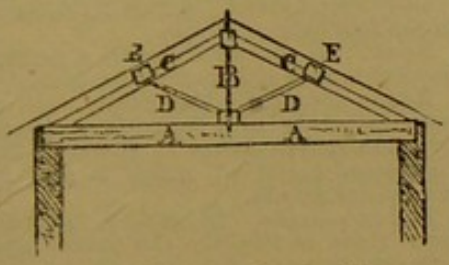
Rood. 1. A different orthography of *rod*. The fourth part of an acre; forty square rods.——2. Sax. *rode*, a cross.

Rood'loft, Sax. *rode*, a cross. A gallery between the nave and choir in churches, in front of which, towards the nave, stood the rood or cross, and images of saints; now generally occupied by organs.

Rood-tower or Steeple. The building

at the intersection of the nave and transept of a church, which covered the rood-loft.

Roof, Sax. *wrof*. The top covering of a house or other building, in which sense it comprises the timber-work, slate, tile, lead, with whatever else is necessary to form and complete the whole. The parts



are AA, the tie-beam: B, the king-post; CC, the principal rafters or principals; DD, the struts; EE, the purlines; and without are the common rafters.

Rook. 1. Sax *rhoc*. A bird, the *Corvus frugilegus*, Lin.——2. Ital. *rocco*, a bishop's staff; a common man at chess.

Root. 1. In *arithmetic* and *algebra*, a quantity which being multiplied into itself a certain number of times, produces another quantity called a *power*, and of which power the original quantity is the root. Thus $2a$ is the *square root* of $4aa$, or $2\ ^{*}a^{*}$; the *cube root* of $8\ aaa$, or $2\ ^{*}a^{*}$; the *fourth root* of $16\ aaaa$, or $2\ ^{*}a^{*}$, &c.——2. In *botany*, the descending fibres of a plant, whose function is to attract liquid food from the soil in which it is imbedded.

Rope, Sax. *rap*. Ropes are made of hemp, hair, &c. spun into a thick yarn, of which several strings are twisted together by means of a wheel. Very small ropes are termed *cords*, and very thick ones *cables*. *See* Cable.

Rope-roll. A hollow cylinder fixed on an axle, around which either single or endless ropes or bands are passed, for the purpose of communicating motion to other parts of the machine. *See* Drum.

Rope-yarn. Yarn for ropes, consisting of a single thread; the threads are twisted into strands, and the strands into ropes.

Rosa. Rose. A very extensive genus of trees and shrubs. *Icosandria—Polygynia*. Rosa is the Latin name, derived from the Celtic *rhós*, allied to *rhuz*, red. Don enumerates 29 British species, and about as many varieties of the rose, and in all 89 species, all of which, with a very few exceptions, are natives of temperate climates.

Rosa'cic Acid. A peculiar acid deposited from the urine of persons labouring under gout and inflammatory fevers. It is of a rose colour, and sometimes forms reddish crystals.

Rosary, Lat. *rosarium*, a rose-bed. A Roman Catholic devotional practice, consisting in reciting a number of times the Lord's Prayer and the Ave Maria. As the computation is aided by means of beads, the string of beads has acquired also the name of a rosary.

Rose-engine. In *mechanics*, an appendix to the turning-lathe, by which a surface of wood or metal is engraved with a variety of curve lines.

Rose-noble. An ancient English gold coin, stamped with the figure of a rose: first struck in the reign of Edward III., and current at 6*s*. 8*d*. (according to Johnson 16*s*.).

Roses, Festival of. An annual rural festival of some parts of France, in which the best-behaved maiden of the town or village is crowned with roses in the church, to which she is conducted with great pomp by the villagers.

Roset'ta Stone. A celebrated stone, found at Rosetta in Egypt, the subject of much hieroglyphic research.

Rose-window. A circular window, with compartments of mullions or tracery, branching from a centre; sometimes called a *Catharine-wheel*, or *marigold-window*.

Rose-wood. A beautiful wood, produced in Brazil, the Canary Islands, Siam, and some other places. It is the produce of a large tree, not, however, well known to botanists: Don calls it the *Polysocalymnia floribunda*. It takes its name from its irregular knotty grain, as if studded over with small roses, together with its fragrant smell, and purple red ground. It is highly valued for cabinet work, in which, from its great price, it can only be used for veneering; price in bond from 120*l*. to 125*l*. per ton; duty 10*l*. per ton (formerly 20*l*.).

Rosicru'cians. A sect or cabal of hermetical philosophers, (rather fanatics), who sprung up in Germany, in the 14th century, and made great pretensions to a knowledge of science. Among other things they pretended to be masters of the secret of the philosopher's stone. They took their name from *ros*, dew, and *crux*, cross: *dew* being the most powerful dissolvent of gold, according to their notions, and *cross* an emblem of light.

Ro'sin. This is the name given to the resin which the different species of turpentines leave when they are deprived of their volatile oil by distillation. After this process it is melted with about $\frac{1}{8}$ of its weight of galipot, placed upon a straw filter, and a little water sprinkled on the melted mass. Thus prepared, it is common rosin: when it has a golden-yellow colour, it is called *Burgundy-pitch*. It has a deep brownish-yellow colour, is translucent and brittle, and is liquified by a temperature of 275° F.

Rosmari'nus. Rosemary. A genus of permanent plants. *Diandria—Monogynia.* Two species, one a native of the south of Europe, the other of South America.

Rostel'lum, Lat. *rostrum.* 1. An elevated portion of the stigma of orchidaceous plants.——2. The word denotes the mouth of the louse and other apterous insects.——3. The uncinated proboscis of the tape-worms.

Ros'ter. In *military affairs*, the plan or table by which all military duty is regulated.

Ros'trate, Lat. *rostratus*, beaked: from *rostrum*, a beak. Applied to parts of plants and to shells, &c., which have a beak-like process.

Rosy-drop. Acne rosea. A disease, which exhibits itself in suppurating tubercles, especially about the nose and cheeks, the surrounding skin being inflamed, and of a shining rosy redness; often induced by intemperance.

Rot. In *nosology*, a disease incident to sheep, and other domestic animals, in which the liver and lungs are affected, frequently accompanied by a tendency to dropsy.

Rota'tion, from *roto*, to turn. Motion round an axis, as distinguished from the progressive motion of a body revolving round another body, or a distant point, as a centre. Thus, the daily turning of the earth on its axis is a *rotation*; its annual motion round the sun is a *revolution*.

Rota'tion of Crops. In *agriculture*, the succession of crops which are sown on the same soil, year by year. A variety of crops is found to preserve the soil more fertile than if crops of the same kind were to be continually raised upon it.

Ro'tary, or Rotatory Engine (called also a *Concentric engine*, and a *Steam-wheel*). An engine worked by the elastic force of the steam acting upon pistons fixed to an axis, whereby the latter is put in motion, instead of being turned by means of pistons worked in hollow cylinders, and communicated by the crank motion. Such are Avery's Rotary Engine, the Patent Rotative Disc-engine, and Bunnett and Corpe's Concentric Engine.

Rota'tor, Lat. from *roto*, to turn. A muscle, the office of which is to turn round the part upon which it acts.

Rotif'era, Lat. from *rota*, a wheel, and *fero*, to bear. The name of an order of infusory animals. The body is oval, and gelatinous, and most commonly terminates posteriorly in a tail that is variously constructed, and anteriorly it bears a singular organ variously lobate, and denticulated edges, and of which the denticulations vibrate successively in such a manner as to give the organ itself the appearance of one or more dentated and revolving wheels.

Rot, or Rot'ten Stone. A name which has been applied indiscriminately to all the species of Tripoli; but ought, according to some, to be confined to those varieties which are most light and friable, and have a fine grain. It occurs in Derbyshire.

Rotun'da, } Ital. from Lat. *rotundus*,
Rotun'do, } round. A round building, as the Pantheon at Rome.

Roué'. In the *beau monde*, a person devoted to a life of pleasure and sensuality.

Rouge (French). Red paint: applied more especially to a cosmetic prepared from the saffron flower or flower of the *Carthamus tinctorius*, which is also in use for dyeing silk.

Rough-casting. In *building*, the ordinary mode of finishing the plaster and lath outside work of cottages and inferior buildings. A pricking-up coat of hair-mortar is first put on, upon which, when tolerably dry, a smooth coat of the same mixture is laid, and a second workman follows with a vessel full of thinner mixture, which he throws over the work as fast as it is finished: this last operation produces an uniformity of colour.

Rough Stucco. Stucco floated and brushed in a small degree with water.

Roundel. In *heraldry*, a circular spot.

Round'heads. A name given to the Puritans, in contempt for the practice which prevailed among them of cropping the hair round.

Round'house. 1. A constable's prison.——2. In *ships*, an apartment in the after part of the quarter-deck, having the poop for its roof: sometimes called the coach.

Round Number. A number which ends with a cipher.

Round-robin, Fr. *rond* and *ruban*. A written petition, memorial, or remonstrance, signed by names in a circle, so as not to shew who signed it first.

Round Table, Knights of the. The famous English order of knights in the time of King Arthur.

Roup. A Scotticism for auction.

Row'el, Fr. *rouelle*, dim. of *roue*. 1. In *horsemanship*, the little wheel of a spur.——2. In *farriery*, a roll of hair or silk used as an issue on horses, answering to a seton in surgery.——3. A little flat ring or wheel of plate or iron on a horse's bit.

Row lock. The part of a boat's gunwale on which the oars rest in rowing.

Row-port. A little square hole in the side of small vessels of war, near the surface of the water, for the use of an oar in rowing in a calm.

Roy'al. A term which as an adjective means kingly; as a noun (1.) A large size of paper; (2.) In *ships*, a small sail spread immediately above the top-gallant-sail; sometimes termed the top-gallant-royal; (3.) In *artillery*, a small

mortar; (4.) A gold coin worth 10*s.*, formerly current in England.

Royal Oak. In *astronomy*, a constellation in the southern hemisphere.

Royal Stitch. An old operation for the cure of inguinal hernia, consisting in putting a ligature round the neck of the sac till adhesive inflammation is excited.

Royals. A distinctive name given to the *first* regiment of foot in the British service.

Rub'ble, or Rubble-stone. 1. The name given by Kirwan to Greywacke. ——2. Water-worn stones.

Rub'ble-work. A rough description of masonry, wherein the stones are merely axed on the face, and laid in as regular courses as suits the convenience of the mason.

Ru'bia. Madder. A genus of plants. *Tetrandria — Monogynia.* Name from *ruber*, red. The dyer's madder (*R. tinctorum*) is a native of the south of Europe; the wild madder (*R. peregrina*) is a native of Britain. There are four other exotic species.

Ru'bican (colour of a horse) is a bay, sorrel, or black, with a light grey or white upon the flanks, but the white or grey not predominant there.

Rubin'ic Acid. An acid composed of C18 H6 O8. It is obtained only in combination and by a laborious process upon catechuic acid. It is thus named from the red colour of its salts: *rubinus* from *ruber*, red.

Ru'ble. A silver coin of Russia, value 3*s.* 7½*d.* when first struck by Peter; but that of the coinage of 1805 is only worth 3*s.* 2½*d.* Name from *rublyer*, to cut, it being the fourth part of the grivna.

Ru'bric, Lat. *rubrica*, from *ruber*, red. 1. In the *canon law*, a title or article in certain ancient law-books, so called because written in red letters.——2. Directions printed in prayer-books.

Ru'bus. Bramble. A very extensive genus of plants. *Icosandria—Polygynia.* Name from *ruber*, red, in allusion to the colour of the fruit of some of the species. The raspberry, dewberry, and cloudberry, with 13 other species, are natives of Britain, among the best known of which are the common bramble. Don enumerates 56 species in all.

Ru'by, from *ruber*, red. A transparent red variety of rhombohedral corundum, found in the alluvial soil in Ceylon, and some other oriental countries, especially Birmah. The name *ruby* has, however, almost ceased to be technical, as under it are sold minerals which differ very essentially in their characters, and only agree in colour so far as that is characterised by the unqualified term *red*. Thus the *oriental ruby* is a variety of sapphire generally of a crimson red, but passing to many other shades. When 10 carats and upwards it is highly valued, and even under that weight, when fine, it has been valued higher than diamonds of equal weight. The *spinelle* and *balais* are also regarded as rubies, and are highly prized, but want the richness of the oriental rubies. The ruby contains about 90 per cent. of alumina. *See* Corundum.

Rud'der, Ger. *ruder*, an oar. The instrument by which a ship is steered: that part of the helm which enters the water, and is attached to the stern-post by hinges, on which it turns.

Rudder Coat. A covering of tarred canvass put round the rudder-head, to keep out the water by the rudder pole.

Rudder Pendants. Strong pieces of rope by which the rudder, if unshipped, is held to the ship's quarter.

Rudder Perch. A small fish said to follow the rudders of ships in the warm parts of the Atlantic.

Rudder Shock. A piece of wood fitting between the head of the rudder and the rudder hole, to hold fast the rudder in case of the tiller being removed.

Ru'denture, from *rudens*, a rope. The figure of a rope or staff, carved or plain, with which a third part of the flutings of columns is sometimes filled.

Ru'diment, Lat. *rudimentum*. 1. A first principle or element: that which is to be first learned of a science or art.——2. The origin of anything in its first form.

Rudol'phine Tables. A celebrated set of astronomical tables, published by Kepler, and thus entitled in honour of the Emperor Rodolph.

Rue. In *botany*, the common Rue is the *Ruta graveolens*, a small shrubby plant, common in gardens. The Goat's-rue is a species of *Galega*; and the Wall-rue belongs to the genus *Asplenium*.

Ruff. 1. In *ornithology*, the *Tringa pugnax*, Lin., which forms the sub-genus *Machetes*, Cuv. It is about the size of a snipe, and takes its popular name from the neck being surrounded with a thick collar or *ruff* of feathers, so variously arranged and coloured, and projecting in such fantastic positions, that no two individuals can be found alike. It takes its name from the pugnacious disposition of the males, so highly manifested during the nuptial season that vast numbers of them are destroyed in mutual combat. The female is called *reeve*.——2. In *ichthyology*, a species of the Perch, described by Walton.

Rugo'se, Lat. *rugosus*, wrinkled: applied to a leaf when the veins are higher than the surfaces between them, causing the latter to swell into inequalities.

Rule, Celtic *riedl*. 1. In *literature*, a governing cause, or precept, to be observed

in any art or science: a determinate mode prescribed for performing an operation, producing a certain result, &c. Every science has its rules.——2 An instrument with lines, divisions, and numerals marked upon it, of the greatest utility in mensuration. Of this instrument there are numerous varieties, adapted to particular objects. The most extensively used is the *carpenter's rule*, divided into feet and inches, and various parts and scales of proportion, for taking lineal measurements. There are various *sliding rules*, for performing computation; others furnished with tables adapted to the use of various trades and manufactures, and also for professional purposes.

Rum. A spirit distilled, in the West Indies, from fermented refuse of the cane-juice and skimmings of the sugar-cauldrons. It derives its peculiar flavour and taste from the essential oils carried over during the distillation. The *pine-apple rum* is simply common rum in which a few slices of pine-apple have been macerated, to give it the peculiar flavour of the pine-apple.

Ru'men. In *comparative anatomy*, the first stomach of such animals as chew the cud, or which are endowed with the faculty of *rumination*.

Ru'mex. Dock. An extensive genus of herbaceous plants. *Hexandria—Trigynia*. So named because the leaves of some species are somewhat shaped like a *rumex* or spear. There are ten species natives of Britain, among which are the Common Sorrel, or Sour-dock, and the Sheep's-Sorrel. One species, found in the Canary Islands, and another in Africa, are called trees.

Ruminan'tia. Ruminants. Animals which chew the cud: they form the eighth order of the Mammalia (*see* Rumen *and* Rumination). The Camels, Musks, Stags, Giraffe, Antelopes, Goats, Sheep, and Ox, are all ruminants.

Rumina'tion. A faculty characteristic of an order of animals: the *Ruminantia*. It consists in a power of laying past the food for a time, in a receptacle adapted for it, and afterwards bringing it back into the mouth and masticating it a second time. It depends upon the structure of the stomach, which is divided into four compartments, the three first being so disposed that the food may enter into either of them.

Ru'cinate, Lat. *rucinatus*, notched. Applied to leaves which are cut into several acute transverse segments, pointing backwards.

Runes, Germ. *Runen*. The ancient alphabetical letters peculiar to the northern nations.

Ru'nic. An epithet applied to the letters and language of the ancient Goths: from *runa*, anything mysterious.

Run'ner. 1. One of the stones of a flour-mill.——2. A sarment or shooting twig.——3. A thick rope, used to increase the mechanical power of a tackle.——4. One of the timbers on which a sleigh slides.

Run'ning-rigging denotes all that portion of a ship's rigging which passes through the blocks, to dilate, contract, or traverse the sails: in distinction from *standing-rigging*.

Run'ning Frush or Thrush. An imposthume, or ulcer, that gathers on a horse's frog, and sometimes causes it to fall off.

Run'ning Title. In *printing*, the title of a book continued from page to page, on the upper margin.

Rupee'. A silver coin of the East Indies, value from 2*s*. 4*d*. to 2*s*. 6*d*. sterling. The name is the Sanscrit word for silver.

Ru'pert's Drops, *Lachrymæ Batavicæ*. Glass drops, with long slender tails, which burst to pieces on breaking off any part. They are made by dropping glass while in a state of fusion into cold water.

Rup'ture. In *surgery*, *see* Hernia.

Rus'cus. Butcher's-Broom. A genus of trees and shrubs. *Diœcia—Monadelphia*. Name, *à russo colore*, from the carnation-colour of the berries. The Prickly Butcher's-Broom (*R. aculeatus*) is the British type. The Alexandrian Laurel is a native of the Continent.

Rus'sia Ashes. Impure potash, imported from Russia.

Rus'sia Company. A regulated company for conducting the trade with Russia, incorporated by charter of Philip and Mary, and sanctioned by Act of Parliament in 1566.

Rus'sia Leather. The tanned hides of oxen and other bovine animals, denominated *youfts* or *juffs* by the Russians, on account of their being manufactured in pairs. It is soft, has a strong prominent grain, a great deal of lustre, and a powerful and peculiar odour. Its colours are red and black; the former is best, and is largely used in this and other countries for bookbinding, for which it is superior to every other material.

Rust, Sax. *rust*. The orange-red coating of peroxide which forms on the surface of iron, when exposed to air and moisture. This is rust properly so called, but the oxides of some other metals, as copper, are occasionally denominated *rusts*.

Rus'tic. In *architecture*, a mode of building in imitation of nature; the stones being only smoothed on the sides where they are intended to join, and the outer surface left entirely rough. The faces of the stones, in *rustic work*, are now, however, generally hatched or picked with the point of a hammer; and

building of this sort forms the *rustic order*. When the margins of the stones are reduced to a plane parallel to the plane of the wall, the intermediate parts being an irregular surface, it is denominated *frosted rustic work*; and when the intermediate parts are so worked as to have the appearance of being worm-eaten, it is *vermiculated rustic work*. When the faces of the stones are smoothed, and made parallel to the surface of the wall, and have the margins cut away to an angle of 135° with the face of the stone, it constitutes *rustic chamfered work*.

Ru'tile, } A brownish or yellowish
Rutili'te. } red (sometimes nearly black) ore of titanium. It occurs regularly crystallised, massive, disseminated, in grains, and in flakes, in Scotland, in the granite of Cairngorum. Lustre often metallic, scratches glass, and is infusible before the blowpipe. Sp. gr. 4·2 to 4·4. It takes its name from its red colour.

Ry'der. In *law*, for *rider*. A new clause to be added to a bill on its third reading. It is done by tacking a separate piece of parchment on the bill, which piece is the *ryder*.

Rye. The bread-corn of Germany and Russia, being more easily cultivated, and a more certain crop than wheat. The common rye is the *Secale cereale*, and the spurred rye, the *Secale cornutum* of botany. Neither are much grown in England.

Rye-grass. The *Lolium perenne*, of which there are about fifteen varieties cultivated in Britain, all of which are perennial.

Ry'ot. A peasant of Hindostan. The ryots rent the land by a lease, which is considered as perpetual, and at a rate fixed by ancient surveys and valuations.

S.

S, the nineteenth letter of the English alphabet. It stands as an abbreviation for *societas*, society, or *socius*, fellow, as in F.R.S., Fellow of the Royal Society; and for *south*, on compass cards, &c. In *Italian music*, S signifies *solo*. In *medical prescriptions*, S. A. means *secundum artem*, according to the rules of art; and s or *ss* immediately following any quantity, imports *semis* or half.

Saba'oth (Heb.) signifies hosts or armies.

Sabbata'rians. A sect of Christians, who maintain that the Jewish sabbath was not abrogated, and ought to be observed.

Sab'bath Day's Journey. About two-thirds of an English mile.

Sabbat'ical Year was every seventh year in the Jewish economy. Observed with the same respect as the seventh day or sabbath.

Sabel'lians. Followers of Sabellius, a philosopher of Egypt, in the third century, who openly taught that there is one person only in the Godhead, and that the Word and Holy Spirit are merely virtues, emanations, or functions of the Deity.

Sa'bianism. That species of idolatry which consists in worshipping the sun and stars, called emphatically the *hosts of heaven*: hence the term, from the Chaldaic word for *host* or *army*. Sabianism is the oldest idolatry on record, and it exists to the present day in Persia (Chaldea), whence it was imported into Europe.

Sa'bians. A Christian sect; called also Christians of Saint John.

Sa'ble. 1. An animal of the weasel tribe, the *mustella*, or *Viverra zibellina*, Lin., found in the northern latitudes of America and Asia, and much hunted for the sake of its fur. Its colour is usually of a deep glossy brown, sometimes black, rarely yellow, and more rarely white. It resembles the martin, and burrows in the ground.——2. In *heraldry*, the tincture black, represented in engraving by perpendicular and horizontal lines crossing each other.

Sa'bine. A species of juniper (the *Juniperus sabina*), so named after the Sabines, whose priests used it in their religious ceremonies. It yields the oil known as *oil of sabine*.

Sac. In *English law*, the privilege enjoyed by the lord of a manor, of holding courts, trying causes, and imposing fines.

Sac'cade (French), a jerk. In *horsemanship*, a sudden and violent check of a horse, by drawing or twitching the reins on a sudden, and with one pull; a correction when the horse bears heavy on the hand.

Saccharic Acid, Lat. *saccharum*, sugar. An acid product formed during the action of nitric acid on sugar.

Saccharoid, from σάκχαρ, sugar, and εἶδος, form; like sugar. A term applied to rocks which have a texture resembling that of loaf sugar.

Saccharom'eter, from σακχαρ, sugar, and μέτρον, measure. An instrument used by the excise officers for ascertaining the strength of wort, or the quantity of sugar it contains.

Sac'charum, the Latin word for sugar. Σακχάρον, the oriental name *sakar*, from Arab. In *botany*, the sugar-cane: a genus of perennial plants of five species. *Triandria—Digynia*. Natural order *Gramina*. The species from which sugar is obtained is the *S. officinarum*: it is common to the warm parts of America and Asia.

Saccholactic Acid. A name formerly given to the *mucic acid* (q. v.), from *saccharum*, sugar, and *lac*, milk: acid obtained from the sugar of milk.

Sac'copha'rynx. The generic name of a fish, discovered by Mitchell, in the Atlantic Ocean, floating on the surface, by the dilatation of its throat: hence the name from *sacco*, to strain, and *pharynx* (q. v.).

Sa'cer Mor'bus (Lat). Sacred disease. An old term for epilepsy and other disorders.

Sack. 1. Sax. *saec*, sack. A large bag made of coarse hempen cloth (sacking), used for conveying corn, wool, hops, &c., in. A *sack of wool* in England is 308 lbs.; in Scotland it is 384 lbs. A *sack* (more commonly a *bag*) *of cotton*, varies from 150 lbs. to 400 lbs.——2. Fr. *sec*, *sèche*, dry. The name of a wine used by our ancestors, called by Howell in his French and English Dictionary (1650) Vin d'Espagne, *vin sec*, and was probably the wine called *dry mountain*. By some, however, it is taken to be Rhenish, and by others to be Canary wine.——3. Wel. *segan*, a cloak of a square form, worn by our ancestors. It was originally made of skin, afterwards of wool.

Sack'but. A musical instrument of the wind kind. It is a sort of trumpet, which is so contrived that it can be lengthened or shortened according to the tone required; hence called *schuif-trompet* by the Dutch. The name is compounded of *sacco*, to strain, and *buxus*, a box.

Sa'crament. 1. The military oath taken by Roman soldiers to obey their commanders.——2. In *theology*, the name of the distinctive ceremonies of the Christian faith, baptism, and the Lord's supper.

Sacramenta'lia. Certain sacramental offerings formerly paid to the parish priest at Easter, &c.

Sac'risty, Lat. *sacer*, sacred. In *architecture*, an apartment attached to the church, in which the services, &c., are deposited.

Sac'ro. A prefix for *sacrum*, used in anatomy

Sa'crum, Lat., from *sacer*, sacred. In *anatomy*, the *os sacrum* is that bone which forms the basis of the vertebral column, and derives its name from its being offered in sacrifice by the ancients.

Sad'da. A work in the Persian tongue, being a summary of the Zendavesta or sacred books.

Sad'dle, Sax. *sadel*. 1. The seat adapted to a horse's back.——2. In *ships*, a cleat or block of wood, nailed on the lower yard-arms, to retain the studding-sail booms in their place. The name is also given to other circular pieces of wood.

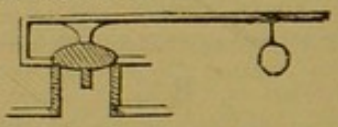
Sad'dle-shaped. In *geology*, an epithet applied to strata when bent on each side of a mountain, without being broken at the top.

Sad'ducees. A sect of Deists among the ancient Jews, who denied the resurrection, a future state, and the existence of angels.

Safe Conduct. A special pass or warrant of security, under the Great Seal, to protect a person in an enemy's country, or in a foreign country.

Safe'ty Lamp. The miner's lamp, invented by Sir H. Davy, to prevent the fatal explosions which have arisen from use of the common lamp in coal mines. It transmits its light through a cylinder of iron or copper wire-gauze, the apertures of which are about a thousand in the square inch. It is based upon the fact, that carburetted hydrogen is not ignited through wire-gauze; but, according to the old construction, the safety-lamp was no protection against a mixture of pure hydrogen and atmospheric air. This has led to certain improvements, as the covering of the cage with glass; and Messrs. Upton and Roberts's new patent safety-lamp is perhaps the most complete of the kind. The figure shows the original Davy-lamp, of which all the others are merely modifications. Its principal parts are a brass cistern containing the oil, the rim on which the wire-gauze cover is fixed, an aperture for supplying the oil, a central aperture for the wick, and the wire-gauze cylinder.

Safe'ty-valve. The valve usually employed in the boilers of steam-engines to prevent explosions. It is constructed in



such a manner that the power of the steam opens it, before it is of a higher pressure than the boiler is calculated to bear, whereby the surplus power escapes, and the valve again closes.

Saf'flower. Bastard Saffron. Called also *Spanish Red*, and *China Lake*. The red fecula separated from the flowers of the *Carthamus tinctorius*, an annual plant, common in warm climates. Used in dyeing, but is fugitive. The *vegetable rouge* is extracted from safflower, by dissolving it in carbonate of soda, and precipitating the rouge by citric acid.

Saf'fron, Fr. and Ger. *saffran*. 1. A filamentous cake, prepared from the stigmata, with a portion of the style, of the flowers of the *Crocus sativus*, a perennial bulbous plant, cultivated in England, and other parts of Europe. It has a rich, deep orange-red colour, an agreeable smell,

with a bitter pungent taste. It is used by painters and dyers, and also in medicine, and often to colour cheese and butter.——2. In *botany*, *see* CROCUS, CARTHAMUS, and COLCHICUM.

SA'GA. The general name of the accounts of the ancient history and mythology of the northern European races.

SAGAPE'NUM. A concrete gummi-resinous juice, the produce of an unknown umbelliferous plant, which grows in Persia, where it is named *Sugabenage*. Its virtues are similar to those of assafœtida, but weaker.

SAG'GER. A clay used in making the pots in which earthenware is baked.

SAG'GING TO LEEWARD. When a ship makes a considerable lee-way.

SAGIT'TAL, Lat. *sagittalis*. Arrow-shaped: *sagitta*, an arrow. That suture which unites the two parietal bones is named the *sagittal suture*.

SAGITTA'RIUS. The Archer. In *astronomy*, one of the signs of the zodiac, the ninth in order, marked ♐

SAGIT'TATE, Lat. *sagittatus*. Arrow-shaped: applied to leaves, &c., which are triangular, and hollowed out much at the base.

SA'GO, Malay and Javanese, *saju*. A species of meal or granulated paste, imported from the Eastern Islands, where it supplies the principal part of the farinaceous food of the inhabitants. It is the pith or medullary part of the *Metroxylon sagu*, a tree which attains to a height of 30 feet, and from 18 to 22 inches diameter.

SAGOU'INS. Monkeys of America, which have slender tails, not prehensile, and of which the teeth do not project. They constitute the genus *Callithrix*, Geoff. The masked monkey, *C. personata*, Geoff., is a well-known example.

SA'GUM. The military dress of the Roman magistrates and dignitaries: a cloak fastened at the breast with a clasp.

SA'GUS. The Sago-palm. A genus of palms of the East Indies, and Eastern Islands. *Monœcia—Hexandria*.

SA'IC. A Turkish or Grecian vessel, very common in the Levant. It is a sort of ketch, which has no top-gallant-sail, nor mizzen-topsail.

SAIL. 1. A sheet of canvas extended on a stay, yard, &c., for the purpose of receiving the pressure of the wind, and thereby communicating the motion of the wind to the vessel, machinery, &c., to which it is attached. The sails of a ship derive particular names from the mast, yard, or stay, upon which they are extended.——2. *Sail* is also applied to a vessel seen at a distance under sail, as a *sail* N.E., *i. e.*, a ship on the N. E. point of the compass.

SAIL'ING, in *navigation*, is distinguished by different names, according to the principles upon which the computations are founded, as *plane* sailing, *middle latitude* sailing, *Mercator's* sailing, *globular* sailing, &c.; the last named properly comprehends *parallel*, *Mercator*, *middle latitude*, and *great circle* sailing.

SAJOUS. A division of American monkeys, generally called the *weeping monkeys*, from the plaintiveness of their voice. Their dispositions are gentle and mild; their motions quick and light; and they are easily tamed.

SAL. The Latin word for salt, from ἅλς, salt.

SALAMAN'DRA. Salamanders. A genus of Batrachians, divided into two subgenera; the *Salamandra*, Laurent, comprehending the terrestrial salamanders; and the *Triton*, Laurent, comprising the aquatic salamanders. The salamanders have nearly the form of the lizard, and were hence placed in the genus *Lacerta* by Linné. The vulgar story of their being able to endure fire was propagated by Aristotle and Pliny; but there does issue from the skin a quantity of milky fluid, when the animal is irritated, and it sometimes happens that this is sufficient to extinguish a weak fire, and allow the animal to escape. Skeletons of a salamander, three feet in length, have been discovered among the schist of Œningen: one of them is the pretended *fossil man* of Scheucher.

SAL AMMO'NIAC. Muriate of ammonia. The *Secret sal ammoniac* is sulphate of ammonia.

SAL'AM-STONE. A variety of sapphire, which consists of small transparent crystals, generally six-sided prisms, of pale-reddish and bluish colours. *Salam* is an oriental word for peace or safety.

SAL'EP, said to be a Turkish word, written also *salop*, *saloop*, and *saleb*. A powder prepared from the dried roots of the *Orchis mascula*, a plant which grows in Persia, Asia Minor, &c., and is said to thrive in England, but is not cultivated to any extent. Salep is used as an article of diet: it is light, bland, and nutritious, but little known.

SAL'ICINE. A bitter febrifuge substance, obtained in white pearly crystals from the bark of some species of the willow, especially from the bark of the white willow (*Salix alba*), and aspen tree (*Salix helix*).

SAL'IC LAW, Sax. *salica*. A fundamental law in France, by virtue of which males only can inherit the throne. The origin of the word *salic* is not ascertained.

SA'LIENT, Lat. *saliens*. 1. Leaping: moving by leaps.——2. In *fortification*, &c., projecting. Thus, a *salient angle* points outwards, and is opposed to a *re-entering*, which points inward.——3. In *heraldry*, an epithet applied to a beast of

prey, as a lion, when its fore-legs are raised in a leaping posture.

SAL'IFIABLE, from *sal* and *facio*, to make. Capable of becoming a salt, or of combining with an acid to form a salt.

SA'LII. The Roman flamens.

SAL'IVA. So called *à salino sapore* from its salt taste, or from σιαλος, spittle. The fluid which is secreted by the salivary glands into the cavity of the mouth.

SAL'IVARY GLANDS. Those glands which secrete the saliva. They consist of three pairs: the *parotid glands*, the *submaxillary glands*, and the *sublingual glands*.

SA'LIX. The Willow: a genus of trees, comprising about 200 species. *Diœcia—Diandria*. Name from Hebrew, *sala*? Don enumerates 73 British species. Almost all the species are hardy.

SAL'LY, Fr. *saillie*. In *carpentry*, the end of a piece of timber, when cut across the fibres with an interior angle formed by two planes.

SAL'LY-PORT. 1. In *fortification*, a postern gate, or passage, under ground, from the inner to the outer works, such as from the higher flank to the lower, or to the tenailles, or to the communication from the middle of the curtain to the ravelin.——2. A large port on each quarter of a fire-ship, for the escape of the men into boats when the train is fired.

SAL'MO. Salmon. A genus of fish, comprehending the salmon and trout. Dr. Parnel describes 11 species in his prize essay on the Natural History of the Fishes of the Firth of Forth. *See* SALMON.

SALM'ON. A well-known and highly-valued fish, the *Salmo Salax*, Lin., Cuv., Yarr., &c. It inhabits the seas around Great Britain, and extends to the North of Europe and Asia. It is said to grow sometimes to the weight of 80 lbs., but 20 lbs. appears to be nearly the average weight.

SALMON'IDÆ, } A family of abdominal
SALMON'IDES. } fishes, of which the salmon is the type.

SALM'ON-TROUT. The Salmo Trutta, Yarr.; called also *Salmon-bull trout*, and at Berwick it is occasionally named *Whitling*.

SALO'ON, It. *salone*, from *sala*, a hall. A lofty spacious hall, usually vaulted above, with two stages of windows. It is common in the palaces of Italy, whence it came to France, and from France to England.

SALPRUNEL'LA. Fused nitrate of potash cast into cakes, balls, or cylinders.

SALSO'LA. Saltwort. A genus of plants. *Pentandria—Digynia*. Named from the saline properties of some of the species, as the *S. kali*, which affords the mineral alkali soda; as do also the *S. soda*, the *S. sativa*, and some others.

SALT, from *sal*. 1. In *chemistry*, a compound, in definite proportions, of an acid with an alkali, earth, or metallic oxide. When the proportions of the constituents are so adjusted that the resulting substance does not affect the colour of infusion of red cabbage, it is called a *neutral* salt. When the predominance of acid is evinced by the reddening of the infusion the salt is said to be *acidulous*, and the prefix *super* or *bi* is used to indicate this excess of acid. If, on the contrary, the infusion be turned to green, the salt is *alkaline*, and takes the prefix *sub*. The discoveries of Sir H. Davy have, however, rendered it impossible to include all salts under one category: there are a vast number of salts, formed by the combination of acids with salifiable bases, but the chlorides, bromides, cyanides, fluorides, iodides, carburets, phosphurets, sulphurets, &c., compose a distinctly different order of salts, as containing neither an acid nor an alkali; *e. g.* crystallised culinary salt is a chloride of sodium, consisting of chlorine and the metal sodium. A solution of a chloride becomes, however, a real salt in the old sense of the term, namely, a hydrochlorate; a portion of the water being decomposed, the hydrogen unites with the chlorine, forming hydrochloric acid, and the oxygen unites with the base, forming an oxide.——2. The name *salt* is applied particularly, and with qualitative names. *Culinary*, *Rock*, or *Sea salt* is chloride of sodium: *Bitter*, *Purging*, or *Epsom salt* is sulphate of magnesia: *Glauber's salt* is sulphate of soda: *Salt of hartshorn*, or *sal volatile* is carbonate of ammonia: *Sedative salt* is boracic acid: *Rochelle salt* is tartrate of potash and soda: *Salt of silvius* is acetate of potash: *Salt of sorrel* is oxalate of potash: *Microcosmic salt* is a triple phosphate of soda and ammonia: *Spirit of salt* is an old name for hydrochloric acid: *Salt of tartar* is carbonate of potash: *Salt of lemons* is citric acid: *Salt of saturn* is acetate of lead: *Salt of amber* is succinic acid: *Salt of vitriol* is sulphate of zinc: *Wonderful salt* is sulphate of soda: *Perlate salt* is phosphate of soda: *Salt of wisdom* is a triple muriate of mercury and ammonia.

SALTATO'RIA. A family of orthopterous insects, remarkable for the largeness of their thighs, and for their spinous tibiæ, which are adapted for *saltation*. The family is composed of the genus *Gryllus*, Lin., comprising *Grasshoppers*, *Crickets*, *Katy-dids*, &c.

SAL'TIER, Fr. *sautoir*, from *sauter*, to leap. In *heraldry*, one of the eight great ordinaries; a St. Andrew's cross.

SALTPE'TRE. Nitre, or nitrate of potash: salt and πετρος, a stone. It is found native in India, Spain, Naples, and other parts.

Salu'te. In *military affairs*, a discharge of fire-arms (great or small guns) in honour of some person of distinction. A salute is also sometimes given by lowering the colours, beating drums, &c.

Sal'vage, Fr. from Lat. *salvus*. In *commerce*, a reward or recompense allowed by law for the saving of a ship, goods, &c., from loss at sea by shipwreck, enemies, pirates, &c.

Salvatel'la, Lat., from *salus*, health. In *anatomy*, a vein which runs along the little finger, unites upon the back of the hand with the cephalic of the thumb, and empties its blood into the external and internal cubital veins.

Sal'via. Sage. A genus of plants comprising upwards of 100 species. *Diandria—Monogynia*. The Meadow-sage and Vervain are the only British types.

Sal Volatile. Volatile salt. Sesquicarbonate of ammonia.

Sambu'cus. The Elder: a genus of trees. *Pentandria—Trigynia* Name from Heb. *Sabuc'ca*, a musical instrument formerly made of elder-wood. The Dane-wort or Dwarf Elder and the Black Elder (of which last there are several varieties), are the only British types. All the species are hardy.

Sa'mian Earth. A marl found in the Isle of Samos, and formerly used in medicine as an astringent.

Sa'mian Stone. A sort of polishing-stone, brought from the Isle of Samos. Used by goldsmiths.

Sa'miel, } A hot and destructive wind,
Simoo'm. } peculiar to the deserts of Arabia. It is common in the months of July and August. The term is Arabic, from a root signifying to poison, and has now come to signify the *destroyer*.

Sam'phire. In *botany*, *see* Crithmum.

Sam'son's Post. A strong pillar resting on the keelson, and supporting a beam of the deck over the hold.

San-benito. 1. A sort of linen gown, painted with hideous figures, and worn by persons condemned by the Inquisition. ——2. A coat of sackcloth worn by penitents on reconciliation to the church.

Sanctifica'tion. In *theology*, the state of holiness of mind which succeeds justification.

Sand (Saxon). The name given to flint or quartz finely divided by the action of water, but not reduced to powder: small particles of siliceous matter not cohering together.

San'dal or Red Saun'ders Wood, Fr. *santal*. 1. The wood of the *Pterocarpus santalinus*, a tree which grows in Ceylon, and on the coast of Coromandel. It is a dye-wood, the colouring matter of which is named *santaline*, and is of a resinous nature.——2. A kind of slipper worn by the ancients

San'daliform. Sandal, or slipper-like. Applied to the nectary of some plants.

San'darach, Lat. *sandaracha*, from Arab. *saghad narak*. 1. A resinous substance, the produce of the *Thuja articulata*, a small tree which grows in the northern part of Africa. Used as pounce-powder for strewing over erasures in writing, and in varnishes, &c.——2. A name of realgar or sulphuret of arsenic.

San'dever, } Glass-gall. The whitish
San'diver. } scum from the materials of glass while in fusion. A similar substance is thrown out in eruptions of volcanoes.

Sand-prey, } The mud-lamprey or
Sand-pride. } pride, *Ammocœtes branchialis*, Cuv., Yarr. It rarely exceeds three inches, and is considered peculiar to the rivers of England and Scotland.

Sand-smelt. A fish, the *Atherina presbyter*, Cuv. and Yarr., called also atherine.

Sand'stone. Free-stone. A name common to all stones composed of grains of sand agglutinated together. The grains are sometimes very fine, at other times very coarse, forming conglomerates, pudding-stones, breccias, &c.

San'giac. A Turkish governor of a province.

Sanguifica'tion, from *sanguis*, blood, and *facio*, to make. The natural function of the body, by which the chyle is changed into blood.

Sanguin'arine. An alkaline substance of a bitter taste, obtained from the root of the *Sanguinaria canadensis*, or Canadian blood-wort.

Sanguisor'ba. Great Burnet. A genus of perennial plants. *Tetrandria—Monogynia*. Named from the blood-red colour of its flowers. The Italian *pimpinella* is the British type.

Sanguisu'ga. The leech (*sanguis*, blood, and *sugo*, to suck). The common or medicinal leech has been separated from the genus *Hirudo*, Lin., and thus generically named by Savigny.

San'hedrim, L. Lat. *synedrium*, Gr. *συνέδριον*, from *συν* and *ἕδρα*, a seat. The great council of seventy elders among the Jews. This council heard appeals from inferior courts and had the power of life and death.

Sa'nies (Latin). A thin unhealthy discharge, with or without admixture of blood or pus, from fistulæ or ill-conditioned sores.

San'scrit. The ancient language of Hindostan, from which are formed all the modern languages or dialects of the great peninsula of India. It is from the same stock as the ancient Persic, Greek, and Latin, but is, like these, a dead language. According to H. T. Colebrooke, *Sanscrit* signifies the polished dialect.

Sans-culo'ttes, Fr., from *sans*, without, and *culotte*, breeches. The name given in derision to the popular party, by the aristocratical, in the beginning of the French revolution of 1789. As the fierce principles of democracy prevailed, the name became honourable, and *sans-culottism* became synonymous with genuine republicanism.

Sant'aline. The colouring matter of the red Saunders-wood, discovered and so named by Pelletier in 1814. *See* Sandal.

Sant'alum. The generic name of the white and yellow Saunders: *S. album* of the East Indies. Class *Tetrandria*: order *Monogynia*. Name corrupted from the Arabic *zándál*. It is aromatic.

San'tonine, Santon'ic Acid. } A crystallisable substance possessing acid properties, discovered by Köhler and Alms in the seeds of the *Artemisia santonica*, or southernwood.

Sap. 1. Sax. *saep*. The sap of vegetables is a watery mucilaginous liquid, often strongly saccharine, so as even to yield a large quantity of sugar, and to furnish a very strong fermented liquor. It varies considerably in its composition. Also the alburnum of a tree.——2. Fr. *saper*, to dig. In *sieges*, a trench for undermining, or an approach made to a fortified place by digging, or under cover. The single sap has only one parapet, the double has one on each side, and the flying is made with gabions, &c. In all saps traverses are left to cover the men.

Sapajo', Sapajou'. } In *zoology*, the sapajous form a division of Linnæus' great genus Simia, comprehending such of the American monkeys as have prehensile tails. They have the head and the projection of the muzzle very moderate. Facial angle 60°.

Sapan'-wood. A dyewood obtained from a species of the same tree which yields the Brazil-wood (the *Cæsalpinia sapan*, Lin.). It is a native of Siam, Pegu, the Philippine Islands, and some other parts. The name is corrupted by the French from Japan, whence they procured the wood in old times (?)

Sap Green. The juice of the berries of the buckthorn, used as a pigment by water painters.

Saphe'na, σαφης, visible. The large vein of the leg which ascends over the external ancle.

Sapien'tiæ Den'tes. Wisdom teeth. The two inmost of the *dentes molares* of the upper jaw, one on each side: so named because they do not appear till the individual has attained the "years of discretion."

Sapin'dus. The soap-berry nut, or tree. A genus of trees and shrubs. *Octandria—Trigynia*. Name contracted from *Sapo Indus*, Indian soap, the rind of the fruit serving, instead of soap, to cleanse linen. India and warm parts of America.

Sapona'ria. The soapwort. A genus of herbaceous plants. *Decandria—Digynia*. Named from *sapo*, soap, because its sap, like soap, cleans linen. The common soap or bruisewort is a native of Britain.

Sap'onule, Lat. *saponulus* from *sapo*, soap. A combination of a volatile or essential oil with a base, as saponule of ammonia, &c.

Sappers and Miners, Royal. The non-commissioned officers and privates of the body of Royal Engineers.

Sap'phire, Lat. *sapphirus*, Gr. σάπφειρος, from Arab. *safara*, to shine. A precious stone, next in hardness to the diamond, consisting of alumina coloured with oxide of iron. Its colours are blue and red, sometimes white, green, and yellow. It varies from transparent to translucent, and occurs in blunt-edged pieces, in roundish pebbles, and crystallised. Found in Bohemia, Saxony, France, &c.; but the red sapphire (called oriental ruby), is only found in quantity in Ava. It is highly valued.

Sap Wood. The external part of the wood of exogens.

Sar'aband, Fr. *sarabande*, Sp. *zarabanda*. A dance and tune in vogue in Spain, and said to be derived from the Saracens.

Sar'cenet, from *sarcen*, silk. A sort of thin light silk fabric.

Sar'cocarp, from σαρξ, flesh, and καρπος, fruit. The fleshy part of certain fruits placed between the epicarp and endocarp. The sarcocarp is that part which is usually eaten.

Sarcoce'le, from σαρξ, flesh, and κηλη, a tumour. A disease of the body of the testicle, in which it is converted into a fleshy-like substance. There are many varieties.

Sarcocol'la, from σαρξ, flesh, and κολλα, glue. A sub-viscid, sweetish, and somewhat nauseous gum-resin, the produce of the *Penæa mucronata*, which grows in Persia and Arabia.

Sarcol'ogy, from σαρξ, flesh, and λογος, discourse. The branch of anatomy which relates to the softer parts of the body.

Sarco'ma, from σαρκοω, *carneum reddo*. A fleshy tumour or excrescence.

Sarcoph'agus, from σαρξ, flesh, and φαγω, to eat. A tomb or coffin made of one stone. According to Pliny, it was originally the name of a stone (a variety of limestone), found in the Troad, and which, from its powerful caustic qualities, was selected for the construction of tombs. It is said to have perfectly consumed the flesh of human bodies, which were buried in it, in the space of forty days. From its

frequent use for this purpose the name became applied to the tomb itself.

SARD, SARDE, SARDOIN. } A mineral: a variety of carnelian which displays on its surface a rich reddish brown, but when held between the eye and the light appears of a deep blood-red colour. So named from its being found in Sardinia.

SAR'DEL, SAR'DINE. } 1. A precious stone, named from Sardis in Asia Minor. 2. In *ichthyology* (*see* SARDINE).

SAR'DINE. A fish of the herring tribe, but smaller. The French often cure sardines with red brine, and then name them *anchovied sardines* (anchovies).

SARDON'IC LAUGH. A convulsive involuntary laughter or grin, which gives a peculiarly horrible aspect to the countenance. So named because it is said to be produced by eating a species of ranunculus, which grew around certain fountains of Sardinia. It is chiefly observed in cases of tetanus.

SAR'DONYX, σαρδόνυξ. A variety of calcedony differing from carnelian only in its colour, which is reddish-yellow approaching to orange. It was much used by the ancients, for engraving upon, on account of its combining hardness and tenacity.

SAR'MENT, Lat. *sarmentum*. A twig, runner, or training stalk.

SARMENTA'CEOUS, having sarments. Used also synonymously with sarmentose.

SARMEN'TOSE, Lat. *sarmentosus*, trailing. Applied to creeping stems. *See* SARMENT.

SAR'PLAR. A sarplar of wool is a sack containing 80 tods: a tod containing 2 stones of 14 lbs. each.

SAR'RASINE. In *fortification*, a sort of portcullis, called also a *herse*. It is hung by a cord over the gate of a town, fortress, &c., and let down in case of surprise.

SARSAPARIL'LA. In *pharmacy*, the root of the *smilax sarsaparilla*, a plant which grows in South America, and some of the West India Islands. The name is Spanish, *zarza*, a briar, and *parilla*, a little vine: the thorny little vine.

SARTO'RIUS, Lat. from *sartor*, a tailor. In *anatomy*, the Tailor's muscle: a flat, slender muscle, which is situated immediately under the teguments, and extends obliquely from the upper and anterior part of the thigh to the upper, anterior, and inner part of the tibia. It is the longest muscle of the human body.

SAS'SAFRAS. A species of laurel, the *Laurus sassafras*, so named from the river Sassefras in America, on the banks of which it grows abundantly. The wood, root, and bark have an aromatic taste and a fragrant odour. It is used only in the materia medica.

SAS'SEPARINE. A vegetable principle obtained from the root of the *smilax sarsaparilla*, or sarsaparilla of the apothecaries. It is thus named by Thubeuf, but Batka made some experiments upon it and gave it the name of *parillinic acid*. Pallota called it *parigline*, and Folchi named it *smilacine*.

SAS'SOLINE. Native boracic acid, so named from its being found incrusted near the warm spring of Sasso, in Tuscany.

SAS'TRA. A Hindoo book containing sacred ordinances.

SA'TAN (Heb.). An enemy or adversary. The equivalent term in Greek is διάβολος, whence the word *devil*.

SAT'ELLITE, Fr. and It., from Lat. *satelles*. A secondary planet, or moon: a small planet revolving about another. Eighteen satellites have been discovered in the solar system, of which the earth has *one* (the moon), Jupiter *four*, Saturn *seven*, and Uranus *six*.

SAT'IN, from an oriental root. The name of a silk stuff first imported from China. It is woven with five-leaved heddles, and a corresponding number of treddles, and is distinguished by one side of it having a fine glossy surface, four-fifths of the warp being always shown on that side.

SAT'IN-SPAR. A fibrous variety of calcareous spar, which when polished has a lustre resembling satin. Found in Cumberland.

SA'TRAP. The Greek name of the governors of provinces, under the Persian kings, before the conquests of Alexander.

SATURA'TION, from *satur*, full. A term employed in chemistry to express that state of a body when it has taken its full dose, or chemical proportion, of any other with which it can combine. Thus water is saturated with a salt when it has dissolved its full quantity; an acid is saturated by an alkali in the state of a neutral salt.

SATUR'EIA, SATUR'EJA. } The *Savory*: a genus of plants. *Didynamia—Gymnospermia*. Name from σατυροι, the satyrs, because it is said to make those who eat of it lascivious. The summer savory is cultivated in our gardens for culinary purposes.

SA'TURN. 1. In *mythology*, one of the oldest and principal deities: the son of Cœlus and Terra (heaven and earth), and the father of Jupiter. He answers to the Greek Χρονος, Time.——2. In *astronomy*, the sixth, and, excepting Uranus, the most distant primary planet. Diameter 79,042 miles; revolution on its axis 10 hours, 16 minutes, and round the sun 10,746 days; diameter of orbit 900,000,000 miles. Saturn has 7 satellites, and is encompassed besides by an opaque ring.——3. The old chemical name of lead.

SATURNA'LIA. In *antiquity*, feasts cele-

brated by the Romans, in honour of Saturn, during which solemnity the slaves were reputed masters.

SA'TURN'S RING. In *astronomy*, a thin, broad, opaque ring, 204,883 miles in diameter, encompassing the body of the planet Saturn, like the horizon of an artificial globe. It appears double when examined through a good telescope.

SA'TYR. In *mythology*, a sylvan deity, represented as half man and half goat, with horns on his head, hairy body, and the feet and tail of a goat. The Satyrs (Σατυροι) were chiefly distinguished for lasciviousness, raillery, and riot.

SAUCIS'SE, Fr. for sausage. In *military affairs*, a long pipe made of cloth well pitched, or of leather filled with powder, and extending from the chamber of a mine to the entrance of the gallery: serving to communicate fire to mines, caissons, bomb-chests, &c.

SAUCIS'SON (French). In *fortification*, saucissons are faggots made of thick branches of trees, bound together, to cover the men while exposed to the enemy's fire, and also to repair breaches, stop passages, make traverses over wet ditches, &c.

SAUN'DERS, *see* SANTALUM and PTEROCARPUS.

SAU'RIA, from σαῦρος, a lizard. The second order of the class Reptilia, comprising the six families, Crocodilida, Lacertinida, Iguanida, Geckotida, Chamæleonida, and Scincoidea.

SAU'RIAN. An animal belonging to the order Sauria. Many fossil skeletons of Saurians have been found, some of enormous length, the oldest in the lower part of the secondary strata, but peculiarly abundant between the eras of red sandstones and green sands. Some of these ancient saurians appear to have been marine; others amphibious; others terrestrial; and some were capable of flying.

SAUR-KRAUT. Cabbage preserved in brine: an article of food common in Germany, like our pickled cabbage.

SAU'ROID, from σαῦρος, a lizard, and εἶδος, likeness: lizard-like. An epithet used to distinguish a group of fishes of the carboniferous and secondary formations.

SAUS'SURITE. A crystallised compound of serpentine and jade or felspar, so named after Saussure, who first described it. Its usual colours are greyish white, and green. It is sometimes included under nephrite.

SAVAN'NAHS. Those vast plains watered by the Missouri and the Mississippi.

SA'VINE, } In *botany*, the *Juniperus sa-*
SA'VIN. } *bina*, common in the south of Europe. The red cedar of America is also sometimes called savin, from its resemblance to the European plant.

SAW, Sax. *saga*. A cutting instrument. The saws for cutting wood, ivory, &c., have one edge, formed into regular teeth, which act on the principle of the wedge in cutting; those for cutting marble are of soft iron, not serrated. Saws are made of a great variety of forms and sizes, to adapt them to the materials on which they are designed to operate. The most common are those used by carpenters, who require in ordinary no less than 10 different saws: a *cross-cut saw*, for cutting a log or other heavy piece of timber transversely, by means of two workmen, one at each end; the *pit-saw*, for ripping logs into planks and scantlings (now in a great measure superseded by the sawmill); the *frame-saw*, a finer kind of pit-saw; the *ripping-saw* is a hand-saw with coarse teeth, used for dividing boards coarsely and quickly; the *hand-saw* (properly so called), is a convenient saw, of 26 inches or so of blade, with angular teeth, of 5 to the inch; the *pannel-saw*, is the same as the hand-saw, but the teeth are finer (7 or 8 to the inch); the *dovetail*, *sash*, *carcase*, and *tenon-saws*, have very fine teeth, and very thin blades, stiffened with stout pieces of iron or brass, rivetted on the back edge. There are also several very narrow saws, indifferently called lock, compass, key-hole, and turning-saws, for cutting out small pieces, and rounded work. The best saws are of highly tempered steel.

SAW'MILL. A machine wherein several or many saws are actuated by a central power, communicated by wind, water, or steam, and now brought to such a degree of perfection, that wood may be cut to the thickness of writing paper. The sawmills in present use are of two sorts: the *circular*, cutting by a continuous rotatory motion; and the *reciprocating*, which operate as the common pit or frame-saw. Sawmills are as old as the beginning of the 14th century.

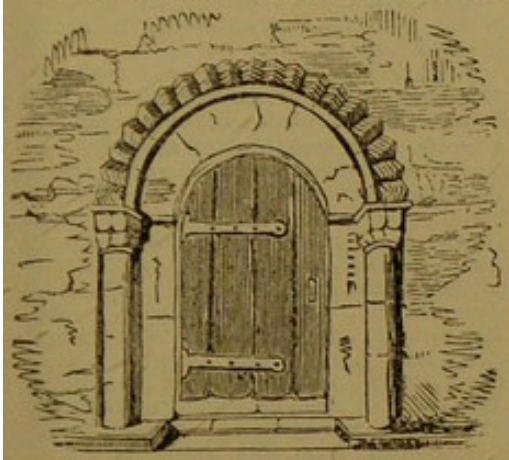
SAW'PIT. A place where wood is sawn by means of the frame-saw, one of the sawyers standing above and the other below. It is so called because the ground is usually dug away two, three, or four feet in depth.

SAXIF'RAGA, } A very extensive genus
SAX'IFRAGE. } of perennial plants. *Decandria—Digynia*. Name from *saxum*, a stone, and *frango*, to break, because it was supposed to be good against the stone in the bladder. There are 31 species, natives of Britain, among which are the London-pride, Geum, and Alpine-brook saxifrage.

SAX'ON BLUE. The sulpho-indigotate of alumina, precipitated from a solution

of indigo in sulphuric acid by a solution of alum, has received the name of *Saxon blue*, because the process was discovered by Barth at Grossenhain in Saxony (1810). The peculiar shade of this blue is also described by the name of Saxon blue.

Sax'on Arch. A semicircular arch,



characteristic of the Saxon style of architecture.

Scab. In *surgery*, a hard substance covering superficial ulcerations, and formed by concretion of the fluid discharged from them.

Sca'bies, Lat., from *scabo*, to scratch. The itch; a disease characterised by an eruption of pustules, or of small vesicles terminating in pustules, accompanied by incessant itching. There are several varieties, all of which are contagious.

Scabio'sa, Sca'bious. } The name of an extensive genus of plants. *Tetrandria—Monogynia.* Name from *scaber*, rough, on account of its hairy surface. There are three British species; the devil's-bit, the corn, and the fine-leaved scabious.

Scab'rous, Lat. *scabrosus*, rough. Applied in natural history very generally.

Scag'lia. The Italian name for *chalk*, used by geologists.

Scagli'ola (Italian). A species of stucco or plaster, invented by Guido del Conte in 1584. It is composed of calcined selenite mixed with water into a paste. The name is now applied to ornamental plaster-work, produced by applying a fine ground of stucco made up with Flanders glue, and bestudding the surface, while soft, with splinters (*scagliola*) of marble, spar, and other matters, and laying in with the ochres various shades of colour; the whole when dry is polished, and has a good effect, but is not durable.

Scale. 1. In *natural history*, the small laminæ which cover the surfaces of some fish, serpents, &c., are called *scales.*——2. A mathematical instrument consisting of various lines drawn on wood, ivory, brass, &c., and variously divided, according to the purposes they are intended to serve. They are denominated according to their kinds and uses, as the plain scale, diagonal scale, plotting scale, Gunter's scale, &c. Scales of equal parts are often marked upon plans and drawings, to explain the real dimensions of the objects delineated. ——3. In *music*, a denomination given to the arrangement of the six syllables invented by Guido Aretino, *ut*, *re*, *mi*, *fa*, *so*, *la:* the same as *gamut* (q. v.).——4. In *arithmetic*, *scale* signifies the order of progression on which any system of notation is founded, as the *binary* scale, the *decenary* scale.

Scale'ne, from *scalenus*, unequal. 1. In *geometry*, a triangle whose sides and angles are all unequal.——2. The name of a muscle of the neck. There are two, one on each side. When both act together they bend the head forward; when only one acts, it turns the head to that side.

Scale-stone, Ger. *schaalstein*. Tabular spar. A mineral, usually of a pearly-white colour, and composed of thin laminæ collected into prismatic concretions.

Scal'lion, Ital. *scaliogna*. An onion which never forms a proper bulb at the root, but is usually green in spring: a species of allium.

Scal'lop. In *conchology*, a bivalve pectinated shell, the *Ostrea maxima*, Lin., inhabited by a tethys. The scallop was formerly worn on the hat or coat by pilgrims, as a mark that they had crossed the sea for the purpose of paying their devotions in the Holy Land.

Scal'ops. A genus of insectivorous mammalia. The only species known is the *S. aquaticus*, Cuv., which inhabits the greater part of North America. It closely resembles the European mole, and supplies its place in America.

Scal'pel, Lat. *scalpellum*. A surgical knife.

Scal'per. Scalping-iron. A surgical instrument for cleaning bones when foul and carious, a raspatory.

Scam'mony, Lat. *scammonium*, corrupted from Arab. *chamozah*. 1. In *botany*, a creeping species of bind-weed, the *Convolvulus scammonia*, which grows abundantly in Syria and the Levant.——2. In *pharmacy*, a gum-resin, the inspissated juice of the root of the scammony plant, imported chiefly from Aleppo.

Scan'dalum Magna'tum. Great scandal. In *law*, a defamatory speech, writing, or false report, to the injury of a peer or dignified person, for which a writ thus named is granted.

Scan'dent, Lat. *scandens*, climbing. Applied to plants which climb either by spiral tendrils, as the pea, or by adhesive fibres, as the common bryony.

Scan'dix. The cicely or great chervil. A genus of herbaceous plants. *Pentandria—Digynia.* Name σκανδιξ, from a Hebrew word meaning small and sharp, according to Pliny, who used the term to denote the *S. cerefolium*, or chervil of Europe. There are three British, namely the sweet-scented and the rough-seeded, cicely and Venus' comb.

Scan'ning. In *grammar*, from *scando*, to climb, is the critical examination of a verse, by counting the feet and syllables, to see that the quantities are right.

Scanso'riæ. Climbers. The name of the third order of birds in the arrangement of Cuvier, comprising such as have the external toe directed backwards like the thumb, by which conformation they are better enabled to support the weight of their bodies, and of which some of the genera take advantage in clinging to and climbing trees. The scansoriæ usually nestle in the hollows of old trees, and live chiefly on insects. The wood-peckers, jacamars, barbets, and parrots, are examples.

Scant. In *naval language*, applied to the wind when barely fair.

Scantling, Fr. *échantillon*, from Lat. *scandula*. 1. A term used in reference to timber, in the same sense as size, but with respect to breadth and thickness only: thus a piece of timber 12 inches wide and 6 inches thick, is said to have a *scantling* of 12″ × 6″.——2. The name of a piece of timber when under 5 inches square, or the rafter, purlin, or pole-plate of a roof.——3. In *masonry*, scantling is the dimensions of stone in length, breadth, and thickness.

Scape. Lat. *scapus*, a column. In *botany*, an herbaceous stalk, bearing the fructification, without leaves. The hyacinth and narcissus are examples.

Scape'ment. In *horology*, a part of the construction of a watch or clock, to regulate its motion by means of a balance or pendulum. The general contrivance by which the pressure of the wheels, which move always in one direction, and the reciprocating motion of the pendulum or balance, are so accommodated to one another, that when a tooth of a wheel has given the balance or pendulum a motion in one direction, it must quit it that it may get an impulsion in the opposite direction; and it is this *escaping* of the tooth of the wheel from the balance or pendulum, or of the latter from the former, that has given rise to the term *escapement*, now commonly written *scapement*.

Scaph'oid, from σκαφος, a boat, and ειδος, like. Boat-like. Applied, in *natural history*, to denote form.

Scap'ula (Lat.) from Heb. *schipha*. The shoulder-blade.

Scap'ular, } Lat. *scapularis*, appertaining to the scapula.
Scap'ulary, } 1. In *surgery*, a bandage for the shoulder-blade or scapula.——2. Lat. *scapularia*, a scapulary.——3. In *ornithology*, a feather which springs from the shoulder of the wing, and lies along the side of the back.

Scapus (Lat.). A stalk. 1. The base, or hollow part of a feather.——2. The shaft of a column.

Scarabæ'us. In *entomology*, a genus of pentamerous coleoptera, belonging to the family of Lamellicornes. Name σκαραβος, a beetle. The scarabacides are now variously subdivided. Cuvier enumerates the following tribes: *Coprophagi*, comprehending the genera Ateuchus, Sisyphus, Coprobius, Oniticellus, Copris proper, Aphodius, &c., &c.; the *Xylophili*, comprising Geotrupes, Phileurus, Rutela, Oryctes, &c., &c.; the *Arenicoli*; the *Phyllophagi*; the *Anthobii*, comprising Glaphyrus, Amphicoma, Anthipna, &c.; the *Melitophili*, comprehending the genera *Trichius*, Fab., *Goliath*, Lam., and *Cetonia*, Fab., which are again variously divided.

Scarf'ing, from Sax. *scearf*, a piece. The jointing and bolting of two pieces of timber together transversely, so that the two may appear as one, and serve the same purpose. Scarfing is resorted to when timber is required of longer lengths than can be procured in single pieces.

Scarifica'tion, from *scar*, and *facio*, to make. In *surgery*, a superficial incision made with a lancet, or other chirurgical instrument (*see* Scarificator), for the purpose of taking away blood, letting out fluids, &c.

Scarifica'tor. In *surgery*, an instrument in form of a box, with ten or more lancets fitted in it exactly in the same plane. The lancets are all connected with a spring, and being, as it were, cocked, and the box applied to the part to be scarified, they are discharged by means of a trigger, and are all driven equally deep into the part at the same instant.

Scarlati'na, from *scarlatto*, the Italian word for deep red. The scarlet fever, a disease characterised by contagious fever, the face swelling, and a scarlet eruption appearing on the skin in patches, which after three or four days ends in desquamation of the cuticle.

Scarlet Oak. The *Quercus coccifera*, or kermes oak, producing small granular excrescences called *kermes* or *scarlet grain*.

Scarp, Fr. *escarpe*, a slope. 1. In *fortification*, the inner talus, or slope of the ditch, next to the place at the foot of the rampart.——2. In *heraldry*, the scarf which military commanders wear for ornament, borne somewhat like a baton-sinister, but broader, and continued to the edges of the field.

Sca'rus. Scar. A genus of thoracic

fish. The *S. labrus*, Lin., was asserted by the ancients to feed on herbs, and chew the cud, and by Gessner to sleep.

Scelotyrbe (Lat.), from σκέλος leg, τυρβή, disturbance. 1. A disease described by Galen as a species of atony, or paralysis.——2. Sauvages makes *scelotyrbe* an order of diseases, including chorea, shaking palsy, and three other species.

Scene, Lat. *scena*, from σκηνη. In the *drama*, a division of an act. A play is divided into acts, and acts into *scenes:* the scene including all that passes between the same persons in the same place.

Scenog'raphy, from σκηνη, a scene, and γραφω, to describe. The art of painting on several planes, so that all the different surfaces shall only represent one design, and have the same effect on the eye as if delineated upon one plane.

Scep'tics, Gr. σκεπτικοι, doubters. In *philosophy*, another name for the Pyrrhonists. In *theology*, disbelievers in the divine origin of Christianity; doubters of the truth of revelation.

Sched'ule, Lat. *schedula*, from *scheda*, a leaf of paper. In *law*, a scroll of paper or parchment, containing some writing, as an inventory of goods, &c., annexed to a document, as a will, lease, or other deed, and more especially to a statement of bankrupts' effects.

Scheele's Green. Arsenite of copper, used as a pigment, and applied by double decomposition to cloth, &c. It is highly poisonous.

Schelling, The Philosophy of, teaches the identity or *indifference* of the ideal and real.

Schene, Lat. *schœnos*, Gr. σχοινος. An Egyptian measure of length, equal to 60 stadia, or about 7½ miles.

Sche'sis, Gr. from σχεω, to hold. Habitude: general state or disposition of the body or mind, or of one thing with regard to other things.

Schil'ler-spar, Ger. *schillern*, glistening. A genus of spars comprising four varieties: common schiller-spar, hemiprismatic schiller-spar (brownite), prismatoidal schiller-spar (hypersthene), and prismatic schiller-spar (anthophyllite). Lustre, metallic, pearly.

Schi'nus, σχινος, the Greek name of the mastich tree (*Pistacia lentiscus*). A genus of trees and shrubs. *Diœcia—Decandria.* South America. The *S. mulli* yields the Peruvian mastich, and a sort of wine is made of its berries.

Schis'ma, Gr. σχισμα. In *music*, an interval equal to half a comma.

Schist, Lat. *schistus*, from σχιζειν, to split. Slate: a rock of a fissile character.

Schis'tose. Of the nature of schist: slaty; fissile.

Schis'tose Mica. Mica slate.

Schneide'rian Membrane. The lining membrane of the nose, first described by Schneider.

Schœ'nus. The Bog-rush: a genus of perennial plants. *Triandria—Monogynia.* Name from σχοινος, a rush. The species are peculiar to Europe: three are British plants.

Scho'liasts. The old critics who wrote annotations on the margin of the manuscripts of classical authors.

Scho'lium (Lat.). In *geometry*, an explanatory observation.

School, Lat. *schola*, from σχολη, leisure. 1. A place of education, as a university, college, academy, &c.——2. A system of doctrine taught by particular teachers. Thus we say the Socratic *school*, the Platonic *school*, the Peripatetic or Ionic *school*, &c., by which we understand all those who adopt and adhere to a particular system of opinions. There are also many *schools* of painting, meaning thereby the styles practised by particular masters, and imitated by succeeding painters.

Schoo'ner, Ger. *schoner*. A vessel with two masts, whose main-sail and fore-sail are suspended by gaffs, like a sloop's main-sail, and stretched below the booms.

Schorl. A dark-coloured variety of tourmaline, named from *Schorlaw*, a town in Saxony, near which it was first found. It occurs imbedded in granite, gneiss, &c., in Scotland and Cornwall. It is harder than hornblende, but less hard than quartz.

Schor'lite. A mineral, the schorlous beryll of Jameson. It is of a straw colour: occurs in quartz and mica at Alenburg in Saxony.

Schwein'furth Green. A beautiful and velvety green pigment, which may be procured (not however of the best quality), by digesting Scheele's green in acetic acid. It is poisonous, and takes its name from its having been discovered, in 1814, by MM. Rusz and Sattler, at Schweinfurth.

Sciæna. A genus of acanthopterygious fishes, type of the family *Scienides*, Cuv. The absence of palatine teeth distinguishes the sciænæ from the perches.

Sciag'raphy, from σκια, a shadow, and γραφη, description. 1. In *astronomy*, the art of finding the hour by the shadows of objects caused by the sun or moon: the art of dialling.——2. A section of a building, exhibiting its internal structure.

Sciat'ic. Appertaining to the ischium.

Sciat'ica. Two very different diseases have been confounded under this name—rheumatic gout of the hip-joint, and neuralgia of the sacro-sciatic nerve.

Sci'ence, Lat. *scientia*, from *scio*, to know. Knowledge reduced to system.

Abstract science is the knowledge of reasons and their conclusions; *natural science* is the knowledge of causes and their effects, as regards the laws of nature. Mathematics is *pure* science; chemistry is *experimental* science.

SCIENO'IDES. A family of acanthopterygious fishes, closely related to the Percoides. Type, the genus *Sciæna*. The king-fisher of the American seas is an example.

SCIL'LA. Squill. A genus of perennial plants. *Hexandria — Monogynia*. Name from σκιλλω, to dry, on account of its property of drying up the humours of the body when used medicinally. There are two British species: the officinal squill (*S. maritima*) is a native of the South of Europe. It is of great use in the materia medica: its active principle is a white transparent acrid alkaline substance, called *scillitine* or *scillitite*.

SCINCOI'DEA. A family of Saurians, founded on the genus *scincus*, Daudin. The Scincoideans are known by their short feet, non-extensible tongue, and equal scales, which cover the body and tail like tiles.

SCIN'CUS. A genus of Saurians resembling serpents, and forming the type of the family *Scincoidea*, Cuv. Several species are found in the French Antilles, in the Moluccas, and in New Holland.

SCINTILLA'TION, Lat. *scintilla*, a spark. In *astronomy*, the twinkling or tremulous motion of the light of the larger fixed stars.

SCIOG'RAPHY, σκια, a shadow, and γραφω, I describe. In *painting*, &c., the art of casting shadows with truth and mathematical accuracy.

SCIOL'TO, It. *free*. In *music*, a term applied to notes that are not tied together.

SCIOP'TIC, from σκια, a shadow, and οπτομαι, to see. 1. Pertaining to the camera-obscura, or the art of exhibiting images through a hole in a darkened chamber.——2. A sphere or globe with a lens made to turn like the eye: used in experiments with the camera-obscura.

SCI'RE FA'CIAS (Lat.). In *law*, a judicial writ, summoning a person to show cause to the court why something should not be done; as, to require sureties, to show cause why the plaintiff should not have execution against them for debt and damages, or to require a third person to show cause why goods in his hands by replevin, should not be delivered to satisfy the execution, &c.

SCIROC', } (Ital.). In *Italy*, a south-
SCIROC'CO, } east wind, very hot and suffocating, blowing from the burning deserts of Africa. The name is also given in the north-east of Italy to a cold bleak wind from the Alps.

SCIRR'HUS, } from σκιρρος, to harden.
SCIRR'HOSIS, } These terms have been applied to any very hard glandular tumour, but they are now commonly restricted to the early or occult stage of cancer.

SCIS'SEL. The clippings of various metals produced in several mechanical operations.

SCITAMIN'EÆ. The name of an order of plants in Linnæus' Natural Method, consisting of those which have an herbaceous stalk, broad leaves, and the germen obtusely angled under the irregular corolla, as Amomum, Cauna, &c. Name from *scitamincus*, dainty, cordial, aromatic, in allusion to their seasoning qualities.

SCIU'RUS. The squirrel: a genus of Mammalia: order *Rodentia*. Name from σκια, a shadow, and ουρα, a tail. There are many species, all light and active creatures, living on trees, and feeding on fruits. The common squirrel (*S. vulgaris*, Buff.), is of a lively red on the back, has a white belly, and ears terminated by a tuft of hair. Those of the north in winter become of a beautiful ash colour, producing the fur called *minever*, when taken from the back, and *vair* by the French, when it consists of the whole skin. The cat squirrel (*S. cinereus*, Lin.), and the grey squirrel (*S. carolinensis*, Lin.), appear to be peculiar to America. The ground squirrel (*S. striatus*, Lin.), is found throughout all Asia and America, particularly in pine forests. The flying squirrels have been separated from the genus *Sciurus*, Lin., by Cuvier. *See* PTEROMYS.

SCLAVO'NIAN. Pertaining to the Sclavi, a people who inhabited the country between the rivers Save and Drave, or to their language. Hence the word came to denote the language which is now spoken in Poland, Russia, Hungary, Bohemia, &c.

SCLERI'ASIS, } from σκληρος, hard. A
SCLERO'SIS, } hard tumour: a scirrhus. Written also *scleroma*.

SCLERODER'MI. A family of fishes of the order *Plectognathi*, Cuv., easily recognised by their pyramidal snout, prolonged from the eyes and terminated by a small mouth. Name from σκληρος, hard, and δερμα, skin; the skin being usually rough, and invested with hard scales. The Mediterranean file-fish (*Balistes cariscus*, Lin.), is an example.

SCLER'OPHTHALMY, from σκληρος, hard, and οφθαλμος, the eye. A dry painful state of the eyes and eyelids, accompanied with swelling and hardness.

SCLEROT'IC, from σκληρος, hard, from σκληροω, to harden. Applied to a membrane of the eye.

SCLEROT'IC COAT. *Tunica Sclerotica. Sclerotis.* A membrane of the eye, situated

immediately under the conjunctiva. It is thus named from its hardness.

SCOL'OPAX. A genus of birds. Order *Grallatoriæ*, family *Longirostres*. Name σκολοπαξ, a snipe or a woodcock. These are the only birds included by Cuvier in the genus Scolopax, but, according to Linné, the genus comprehends besides the Ibis, the Curlews (*Numenius*, Cuv.), the Godwits (*Limosa*, Bech.), the Sandpipers (*Calidris*, Cuv.), the Sanderlings (*Arenaria*, Bech.), the Ruffs (*Machetes*, Cuv.), the Turn-stones (*Strepsilas*), and a great number of birds foreign to Europe, as *Rhynchæa*, Cuv., *Pelidna*, Cuv., *Eurinorhynchus*, Nilson, *Phalaropus*, Brisson, *Himantopus*, Brisson, and *Totanus*, Cuv., the species of which are found throughout almost the whole globe.

SCOLOPEN'DRIUM. The hart's-tongue or spleenwort: a genus of ferns. Name from σκολοπενδρα, the earwig, which its leaves resemble. One species found on most shady banks, walls, &c. Britain.

SCOM'BER. A genus of acanthopterygious fishes, forming the type of the family *Scomberoides*, Cuv. Name Σκομβρος, common to the mackerel and tunny. The *Scomber*, Lin., is now subdivided into *Scomber*, Cuv., comprising the mackerels, and *Thynus*, Cuv., which receives the tunny.

SCOM'BEROIDES. A family of acanthopterygious fishes: type, the genus *Scomber*. This family is composed of a multitude of fishes with small scales, a smooth body, and whose tail and caudal fin in particular are extremely powerful. The family is of the greatest utility to man, on account of the size and flavour of its species, and their inexhaustible reproduction, which brings them periodically into the same latitudes, where they constitute the object of the most extensive fisheries.

SCON'CES. In *fortification*, an obsolete name for small forts, for the defence of a pass, &c.

SCOOP-WHEEL. A certain description of wheel, which is formed of cast-iron, and employed in conveying a stream of water from one pond to another situated above it. Scoop-wheels are therefore employed in a contrary way to water-wheels, since, instead of being acted upon by the impulse of the water, they operate upon it, being turned by the aid of a steam-engine.

SCO'PIPEDES, Lat. *scopæa*, broom, and *pes*, foot. A tribe of melliferous insects, having the tarsi of the hind feet furnished with a brush of hairs.

SCOPUS. In *ornithology*, the generic name given by Brisson to the *Umbre*, an African bird, about the size of our crow, and of an umber-colour. Order *Grallatoriæ*: family *Cultrirostres*. Name from σκοπος, a sentinel.

SCORBIC'ULATE. Pitted: *scorbiculus*, a depression or cavity. Applied in *natural history* to denote that a surface is closely marked with little depressions.

SCORE. In *music*, the original and entire draught of a composition, or its transcript.

SCO'RIA, Lat. from σκωρια, rejected matter. 1. Dross: the oxide formed on the surface of metals, when kept for a length of time in a state of fusion.——2. *Scoriæ*, plural of *scoria*, is commonly used to denote the cinders of volcanic eruptions, and the vitrified earthy materials, which are produced in the smelting of ores.

SCORPÆ'NA. A genus of acanthoptergyious fishes, belonging to the family *Buccæ Loricatæ*, Cuv. Head mailed and roughened, but compressed on the sides; body covered with scales; several rays in the branchiæ, and but a single dorsal fin.

SCOR'PIO, SCOR'PION. 1. In *entomology*, a genus of arachnides: order *Pulmonariæ*: family *Pedipalpi*. Body elongated, and suddenly terminated by a long slender tail, formed of six joints, the last of which terminates in an arcuated and excessively acute point or sting, which affords issue to a venomous fluid, contained in an internal reservoir. The scorpions inhabit the hot countries of both hemispheres, live on the ground, conceal themselves under stones and other bodies, most commonly in ruins, dark and cool places, and even in houses. They use their tail for the purposes both of attack and defence, and the wound occasioned by the sting of some of the species, the *occitanus* for instance, is not without danger. The remedy employed is the volatile alkali, used externally and internally.——2. In *astronomy*, the eighth sign of the zodiac, and the second of the southern signs, containing 44 stars, of which one, *Antares*, is of the first magnitude, marked ♏.

SCORZONE'RA. Viper's-grass. A genus of plants, mostly perennials. *Syngenesia—Poly. æqualis*. Name from *scurzo*, the old Spanish word for viper, because it is said to be a specific for the bite of all venomous animals. Most of the species are esculent.

SCOT, Sax. *sceat*, a part. 1. In *law* and *English history*, a customary tax or tribute, laid on subjects according to their ability; also a tax or custom paid for the use of a sheriff or bailiff.——2. *Scot and lot* are parish payments. When persons were taxed unequally, they were said to pay *scot and lot*.

SCO'TIA, Gr. from σκοτιος, shady. In *architecture*, the hollow moulding in the bases of Ionic columns; also the groove

or channel cut in the projecting angles of the Doric corona. The Greeks called the *scotia* of the base, trochilon (τροχιλον).

Sco'tists. An old scholastic sect, the followers of Duns Scotus.

Scotodi'ne, Gr. σκοτοδινος, from σκοτος, darkness, and δινος, giddiness. Giddiness with impaired sight: commonly symptomatic of disorder of the digestive organs.

Scower'ing Power. In *engineering*, the stream of water employed to carry away the shingle from the mouth of a harbour, river, &c.

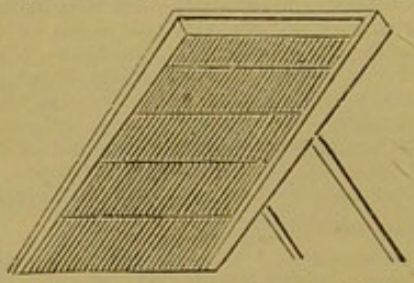
Scratch'es. In *farriery*, a disease in horses, consisting of dry chaps, rifts, or scabs, generated between the heel and pastern joint.

Scratch-work. A kind of fresco, with a black ground, covered with a coat of white, which is afterwards *scratched* with some pointed instrument, so that the black appears through the scratches.

Screech-owl. A name which has been applied to several species of the owl (*strix*), on account of the harsh, disagreeable cry which these birds utter at night.

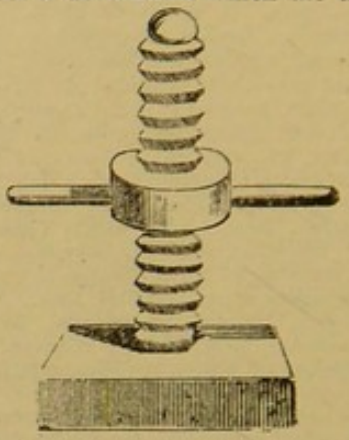
Screeds. A term used, in *architecture*, for wooden rules used in running mouldings.

Screen, Fr. *écran* for *escran*. 1. In *architecture*, a partition, usually wrought with rich tracery, &c., placed before small chapels and tombs, or behind the high altar. In old parish churches, oaken screens, richly carved, often divide the nave from the chancel.——2. An instrument, consisting of three wooden ledges,



joined in a rectangular frame at the bottom, the upper part of which is filled with wire-work: used for sifting sand, clearing corn of dust and dross-grain, &c.

Screw, Dan. *skruve*, *skrue*. A cylinder with a spiral channel, cut in such a manner that it is equally inclined to the base of the cylinder throughout the whole length. The screw is either *male* or *female*, according as the spiral channel is cut upon the external surface of a solid cylinder, or within a cylindrical hole. The female screw is adapted to admit a male screw. When a female screw is very short, and made to screw upon a male screw, it is called a *nut*. The spiral projection appearing as if wound round the cylinder is called the *thread*, and the number of revolutions which the thread



makes in a given length determines the fineness, and, in conjunction with the diameter of the cylinder, the *power* of the screw. The screw is usually regarded as one of the simple or mechanical powers, but it is in reality nothing more than a beautiful modification of the inclined plane.

Screw-nails. The name given in Scotland to what are in England termed *wood-screws*. They are a description of screws, used by carpenters and other mechanics, for fastening wood, or wood and metal together Immense quantities of the smaller sorts are made of wire.

Scri'bes. The copyists and interpreters of the law, in *Jewish history*.

Scri'bing. In *joinery*, fitting the edge of a board to any surface, as of the skirting of a room to the floor; Also the fitting of one piece of wood to another, so that their fibres may be perpendicular to each other, the two edges being cut to the angle to join.

Scrip, Lat. *scriptum*, from *scribo*, to write. A certificate in evidence of some property or interest possessed, as in Bank-stock. The term is much used in America. Stockbrokers sell Bank-scrip, railway-scrip, land-scrip, &c., &c., the *scrip*, duly subscribed, being the evidence on which the parties holding the scrip claim interest in the property.

Scriv'eners, Lat., from *scribo*, I write. Anciently, a respectable class of men in London, who acted as money-brokers.

Scrof'ula. A disease named by the Greeks χοιρας, of which Scrofula, a little sow, is a Latin translation, implying *swine-evil*, or *swellings*, from a notion that pigs were liable to the disease. It is vul-

ly known in this country by the name of *King's-evil*, and *crewels* or *cruels*, and is characterised by hard, scirrhous, and often indolent, tumours in the glands of the neck, under the chin, in the arm-pits, &c., which after a time suppurate and degenerate into ulcers from which, instead of pus, a white crudled matter like the coagulum of milk is discharged. The disease is most common in climates which are moist and coldish, and very changeable, as England and Holland; in warm and very cold countries, where the air is dry, it is very rare. The word is sometimes written *scrophula*.

SCROLL, from the same root as *roll*. 1. A roll of paper or parchment.——2. In *heraldry*, the ornament placed under the escutcheon, containing a motto, or short sentence, alluding to the bearings, the bearer's name, or some deed, saying, &c., attributed to the bearer or ancestor. ——3. In *architecture*, *see* VOLUTE.

SCROPHULA'RIA. The Figwort. An extensive genus of plants, mostly perennial. *Didynamia—Angiospermia*. Name from *scrofula*, the king's-evil, because of the unequal tubercles upon its roots, like scrofulous tumours. The water figwort or betony, common figwort, balm-leaved figwort, and yellow figwort, are the British types of the genus.

SCRO'TAL HERNIA. Protrusion of any of the contents of the abdomen into the scrotum.

SCRO'TUM, Lat. *quasi scroteum* a leather coat. *Bursa testium*, the bag containing the testes.

SCRUB'STONE. A provincial name for a species of calcareous sandstone, much used in some parts for *scrubbing* the surfaces of hewn stones, flag-floors, flights of steps leading to a front door, &c.

SCRU'PLE, Lat. *scrupulus*, dim. of *scrupus*, a draught man. An apothecary-weight equal to the third part of a drachm. It is 20 grains Troy.

SCUD. In *meteorology*, clouds of a blackish colour moving quickly through the atmosphere; thus named by mariners. *To scud*, is to keep directly before the wind in a gale.

SCULL. A short kind of oar, two of which are used by one rower, one on each side of the boat.

SCULP'TURE, from *sculpo*, to carve. The art of carving stone, wood, or other solid substances, into statues and other ornamental designs. Figures so cut are called *sculptures*, and casts taken from them are named *models*.

SCUP'PERS, SCUP'PER-HOLES. Channels made through the waterways and sides of a ship, close to the upper surface of the deck, to allow the water to run off. The leather pipe attached by *scupper-nails* to the mouth of the scuppers of the lower deck, to prevent the water from entering, is called the *scupper hose*, and the mouths of the scuppers are occasionally stopped by *scupper-plugs*. The *scupper-nails* are simply broad-headed nails, and cover a large part of the surface of the hose.

SCURF (Saxon). Small dry exfoliations of the cuticle, which form naturally on the scalp, and often take place after an eruption on the skin, a new cuticle being formed beneath during the exfoliation.

SCUR'VY, from *scurf*; *scurvy* for *scurfy*. *Scorbutus*. A disease characterised by extreme debility, complexion pale and bloated, spongy gums, livid spots on the skin, breath offensive, œdematous swellings in the legs, hæmorrhages, foul ulcers, fœtid urine, and extremely offensive stools. Scurvy is found to prevail most commonly among sailors, and persons deprived of due exercise, nourishing food, and excitement; and exposed to a cold and moist atmosphere. Whatever depresses the nervous energy predisposes to scurvy. Fruits containing a native acid, as oranges, lemons, &c., are the best preventatives, after cleanliness, generous diet, and proper exercise of the body and mind.

SCU'TAGE, Lat. *scutagium*, from *scutum*, a shield. In *English history*, a contribution levied upon those who held lands by knight-service. It was originally a composition for personal service, which the tenant owed to his lord, but afterwards had levied as an assessment.

SCU'TATE, Lat. *scutum*, a shield. In *zoology*, when a surface is protected by large scales.

SCUTELLA'RIA. Scull-cap. A genus of plants. *Didynamia—Gymnospermia*. Name from *scutella*, a cap, in allusion to the little concave appendage which crowns the calyx. Of 22 species all are perennial except one, and all are hardy plants. Two species are indigenous to Britain, the small and the common scull-cap, which last is very common in our hedges and ditches, and is used in medicine against a species of ague.

SCUTIBRANCH'IATA. An order of mollusca: class *Gasteropoda*. Name from *scutum* and *branchus*; the shells being open, without any operculum and most of them without the slightest turbination, so that they cover the animal, and particularly the *branchiæ*, in the manner of a *shield*. There are two genera, *Haliotis*, Lin., and *Fissurella*, Lamouroux.

SCU'TIFORM, Lat. *scutiformis*, shield-like: *scutum*, a shield, and *forma*, likeness.

SCUT'TLE. 1. Sax. *scutel*, *scuttel*, a dish. A broad shallow basket; also a receptacle for coals.——2. Sax. *scyttel*, a bolt or bar; a small hatchway or opening in the deck of a ship, large enough to admit a man,

and with a lid to cover it; also a like hole in the side of a ship, and through the coverings of her hatchways, &c.——3. To *scuttle a ship* is to sink it by cutting scuttles or holes in the bottom to admit the water.

Scut'tle-butt, } A butt or cask having
Scut'tle-cask. } a square piece cut out of its bilge, and lashed upon the deck of a ship: its use is to hold fresh water.

Scu'tum Sobies'ki. Sobieski's shield. A constellation formed by Hevelius; 7 stars.

Scyl'la. A rock opposite to the whirlpool Charybdis. It was reckoned very formidable among the ancient mariners, but has few terrors for modern sailors.

Scyph'iform, Lat. *scyphiformis*, goblet-shaped. Applied to the fructification of some lichens.

Scy'phus, σκυφος, a cup. The cup of a narcissus; in *lichens*, a dilatation of the podetium.

Scythe. In *agriculture*, an instrument for mowing. It consists of a thin bent steel blade, of about 3½ feet in length, joined nearly at right angles to a *sned*, 6 or 8 feet long, on which are two handles by which the mower wields the instrument.

Scytodep'sic, Gr. σκυτοδεψικος, from σκυτοδεψεω, to tan; σκυτος, a hide, and δεψεω, to soften. Appertaining to the business of a tanner. *S. principle*, tannin; *S. acid*, gallic acid.

Sea, Sax. *sæ*. 1. In *geography*, a large body of water, nearly inclosed by land, as the Mediterranean. Seas are properly branches of the ocean, and upon the level of the ocean; *lakes* are large bodies of water inland, situated above the level of the ocean; (2.) The term *sea* in the plural, *seas*, is often used as a general name for the ocean, as "*on the high seas*," meaning—in the open ocean, the highway of nations; (3.) *Sea* among *seamen* is often employed to denote a billow, as, "the vessel shipped a *sea*," and also the swell of the ocean in a tempest, or the direction of the waves, as, "the ship was logged with a strong *sea* a-head."

Sea-Adder. A fish, the fifteen-spined stickleback (*Gasterosteus spinachia*, Cuv.)

Sea-Anem'ony. The animal flower.

Sea-belts. The sweet fucus (*Fucus saccharinus*), which grows upon stones and rocks by the sea-shore, is so called from the resemblance of its leaves to a belt or girdle.

Sea-boat. A term applied (with the epithet *good* or *bad*) to a vessel, as respects her qualities in bad weather.

Sea-bream. Red Gilthead. A fish; the *Ragellus centrodontus*, Cuv. Yarr. Its length about 15 inches. Found plentifully in the Mediterranean.

Sea-cabbage, } An indigenous peren-
Sea-colewort. } nial plant, the *Crambe maritima*.

Sea-calf. The common seal. The *Phoca vitulina*, Lin.

Sea-chart. A marine map, on which the line of the shore, isles, shoals, harbours, &c., are delineated. The term is unnecessary, as we now use the word *chart* for a representation of the sea-coast, soundings, &c., and *map* for a representation of the land.

Sea-cow. 1. A mammiferous animal, the *Trichecus rosmarus*, Lin., which inhabits the Arctic seas and attains a length of 20 feet. It is sought after for its oil and tusks.——2. A name common to the *dugong*, called also siren, maid of the sea, &c.; and the *manati* (the *lamantins* of the French), called also mermaids, tritons, &c. *See* Manatus and Halicore.

Sea-cor'morant. The great black-backed gull: (*Larus marinus*, Lin.). The name is also applied to the common gull (*L. cyanorhynchus*, Meyer), and the sea-crow (*L. glaucus*, Lin.).

Sea-devil. Devil-fish or fishing-frog. The *Lophius piscatorius*, Lin. Cuv. Yarr., called also toad fish, wide-gape, mirring, and angler, by Pennant. This fish attains a length of 5 feet, but it is rarely caught of that size: average length 2½ to 3 feet. It bears a close resemblance to a frog in the tadpole state; and the long filaments on the upper and anterior part of the head, with which it seizes its prey, have procured it some of the names which it bears: while its ugliness and voracity have procured it some others. It is found in all the seas of Europe, and is particularly common round the British coasts. Its flesh is reckoned good.——2 The name *sea-devil* is also given in the West Indies to a colossal ray or skate, 15 feet in length exclusive of the tail.

Sea-eel. The conger-eel.

Sea-grass. An aquatic species of ruppia, which grows chiefly on the sea-shores.

Sea-gull. A name common to several species of the gull. *See* Larus.

Sea-hare. A name common to the species of the gasteropods of the genus *Aplysia*, Lin., but denotes particularly the *A. fasciata*, Lin., and *A. punctata*, Cuv., common in the European seas. *See* Aplysia.

Sea-horse. 1. A fish, the *Syngnathus hippocampus*, Lin.——2. A name sometimes given to the *Hippopotamus*, or *River-horse*, and the *Walrus*, or *Morse*.

Seal. 1. In *zoology*, the common name, or the species of the genus *Phoca*, Lin., all of which are amphibious animals. The best known are the common Seal, or *Phoca vitulina*, Lin., very common in Europe; the Monk, or *Ph. monachus*, Gm.

from 10 to 12 feet in length, found among the Grecian and Adriatic Islands; the Elephant Seal, or *Ph. leonina*, Lin., from 20 to 25 feet in length, common in the southern latitudes of the Pacific Ocean, where it constitutes an important object of the fisheries; the Sea-lion, or *Ph. jubata*, Gm., from 15 to 20 feet in length, common also in the Pacific Ocean. There are other species. *See* PHOCA.——2. In *Gem sculpture*, a stamp cut on stone, capable of impressing any soft substance.

SEALED EARTH. *Sigillata terra.* An old name for medicinal earths, which were made up into cakes, and stamped or sealed.

SEAL'ING-WAX, Ger. *siegellack.* The wax used to seal letters, legal documents, &c. It is composed of gum-lac, and resin, coloured with some pigment, as vermilion, verditer, ivory-black, &c.

SEA-LION. A name given by Steller, Pernetty, and others, to a large species of seal, the *Phoca jubata*, Gm. *See* SEAL and OYTAR.

SEAMS. The spaces between the edges of planks. In *geology*, thin layers which separate thicker strata.

SEA-MAID. Another name of the Dugong. *See* HALICORE.

SEA-MOSS. A name common to the *Conferva rupestris* and the *Corallina officinalis.*

SEA-NEED'LE. Another name of the Gar-fish, or Gar. *See* ESOX.

SEA-NET'TLE. Another name of the Sea-anemone.

SEA-OAK. The *Fucus vesiculosus*; called also Sea-wrack, and Bladder-wrack. When burned in the air it yields the black powder known as *vegetable ethiops.*

SEA-ON'ION. The *Scilla maritima.*

SEA-OT'TER. The *Mustela lutris*, Lin., a species of otter, nearly double the size of the European species; its blackish velvet fur is highly valued, and, to obtain it, the English and Russians hunt the animal throughout the northern parts of the Pacific Ocean.

SEA-PERCH. Another name of the Bass (*Labrax lupus*, Cuv. and Yarr.), but placed by Linné in the genus *Perca.*

SEA-PIKE. Another name of the Gar-fish.

SEARCH WAR'RANT. In *law*, a grant made by a justice of the peace to search for stolen goods, on the oath of a credible witness.

SEA-ROC'KET. In *botany*, a name common to the *Cakile maritima*, an indigenous annual plant, and the several species of the genus *malcomia* (q. v.).

SEA-SALT. Chloride of sodium obtained by evaporation of sea-water.

SEA-SER'PENT. An enormous marine serpent, said to have been seen frequently on the coasts of America. Its existence, however, is at present doubtful; though there is certainly no physical impossibility standing in the way of that existence.

SEA-SICK'NESS. An intense nausea, with violent retching, which varies in respect to duration in different persons upon their first going to sea, and which seems to arise from a depressing effect upon the brain, produced by the motion of the vessel. The only remedy for it is to lie perfectly still with the head low.

SEA-SWAL'LOW. A name common to the Terns, (*see* STERNA), derived from their long and pointed wings, and their forked tail, which render their flight and carriage analogous to those of the swallows.

SEA-U'NICORN. The *Narwhal.*

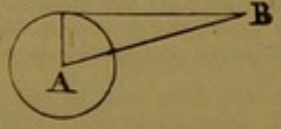
SEA-UR'CHIN. *See* ECHINUS.

SEBA'CEOUS, from *sebum*, suet; suety. Applied to glands which secrete a suety humour; and also to the matter secreted.

SEBAC'IC ACID. Acid of suet (*sebum*) obtained by distilling tallow, and agitating the product in boiling water. It crystallises, from its boiling aqueous solutions, in white needles having a pearly lustre. It is destitute of taste and smell.

SECA'LE. Rye. A genus of gramineous plants. *Triandria—Digynia.* Name according to De Theis, from Celtic *segal*, from *sega*, a sickle, whence *seges*, the Latin appellation of all grain that is reaped with sickles. There are two species, the *S. cereale*, an annual, which affords the rye-corn, so valuable as a bread-corn in some parts; and the *S. cornutum*, a biennial, which affords the medicinal poison called *ergot of rye.*

SE'CANT, Lat. *secans*, from *seco*, to cut. In *geometry*, a term sometimes used to denote a line which cuts any other whatever; in a more restricted sense, it may be defined a right line cutting a curve, but in its most common received sense, it is a right line cutting a circle. In *trigonometry*, a secant implies a right line A B drawn from the centre of a circle, which, cutting the circumference, proceeds till it meets another right line, which is a tangent to the same circle.



SECE'DERS. In *Scotland*, a numerous body of presbyterians, who seceded from the established church, about 1733.

SEC'OND. The sixtieth part of a minute of time or of a degree: an hour is divided into 60 minutes, and each minute into 60 seconds; a degree is in like manner divided into 60 minutes, and each minute into 60 seconds.——2. In *music*, an interval of a conjoint degree, being the difference between any sound and the next sound, above or below it.

Sec'ondary. 1. In *geology*, an epithet for those strata, rocks, or formations, beginning with the chalk, and ending with the graywacke; at the former the tertiary strata begin, and at the latter the primary formations terminate.——2. In *astronomy*, the *secondary circles* or *secondaries* are those circles which pass through the poles of any of the great circles of the sphere, perpendicular to the planes of these circles.——3. *Secondary qualities* of bodies are those which are inseparable from them, but which proceed from casual circumstances, such as colour, taste, odour, &c.——4. *Secondary planets.* *See* Satellites. —— 5. *Secondary quills*, in birds, are the large feathers of the wing, which arise from the bones of the forearm.

Sec'retary, Fr. *sécretaire*, from Lat. *secretus*, secret. A person employed by a public body, a company, or an individual, to write orders, letters, dispatches, records, &c., &c. Thus legislative bodies have secretaries, ambassadors have secretaries. The *Secretary of State* in Britain is a high officer of the crown, who conducts the affairs of a particular department of the government. There are three principal secretaries of state: the Secretary for Home Affairs, the Secretary for Foreign Affairs, and the Colonial Secretary.

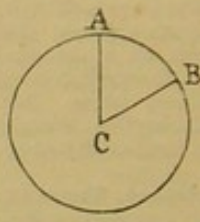
Secre'tion, Lat. *secretio*, from *secretus*. A function in a living body, arranged by physiologists under the head of natural actions. It is by this function that a part of the blood escapes from the organs of circulation, and diffuses itself without or within; either preserving its chemical properties or dispersing, after its elements have undergone another order of combinations.

Sec'tile, Lat. *sectilis*, that may be easily cut. A term used in mineralogy, to denote a character standing midway between malleable and brittle: the mineral being cut with a knife, the particles do not fly off in splinters. Soapstone is a sectile mineral.

Sec'tion, Lat. *sectio*, from *seco*, to cut; a part cut off. 1. Thus in *writings* and *books*, a distinct part or portion, often called a paragraph, or article.——2. In *geometry*, a side or surface appearing, of a body or figure cut by another; also the place where lines or surfaces cut each other.——3. A section of a building, machine, or engine, is a view as if cut down the middle, showing the construction or disposition of the interior. This kind of drawing is called *sciagraphy*.

Sec'tio Planog'raphy. A method of laying down the section of engineering works upon the plan recently introduced by Mr. Macneil, and required by the standing orders of the House of Commons, for all proposed railways, &c. It is performed by using the line of direction laid down on the plan as a datum-line, the cuttings being plotted on the upper part, and the embankments upon the lower part of the line.

Sec'tor, Lat. from *seco*, to cut. 1. In *geometry*, the space between two radii and the part of the circumference which they include: it is a mixed triangle, formed by two radii *ac* and *bc*, and an arc *ab*, of the circle of which they are radii.——2. A mathematical instrument so marked with lines of sines, tangents, secants, chords, &c., as to fit all radii and scales. It is used for finding the proportions between quantities of the same kind. It is founded on the fourth proposition of the sixth book of Euclid, which proves that similar triangles have their homologous sides proportional.——3. An instrument for determining the zenith distances of stars passing within a few degrees of the zenith.



Sec'ular Games were festivals celebrated at Rome, every hundredth year; but frequently much oftener.

Secularizā'tion (Lat.). The appropriation of church property to secular uses.

Sec'ular Refrigera'tion. The periodical cooling and consequent consolidation of the crust of the globe.

Secun'dine. 1. In *botany*, the outermost but one of the enclosing sacs of the ovulum, immediately resting upon the primine.——2. In *zoology*, the fœtal membranes are so called.

Secun'dum Ar'tem. According to art, or the rules of art. A term used in medical prescription, and denoted by the letters S. A., which are usually affixed when the making up of the recipe requires great care or skill.

Securif'era, Lat. from *securis*, a hatchet, and *fero*, to bear. Hatchet-bearers: a family of Hymenopterous insects composed of two tribes, the *Tenthredineæ* or saw-flies, and the *Urocerata*, Lat., form of the genus *Sirex*, Lin. They take the family name from the females being provided with a peculiarly formed and serrated ovipositor, which they use in preparing a place to deposit their eggs in.

Secu'riform, Lat. *securiformis*, hatchet-shaped: *securis*, a hatchet, and *forma*. Applied to leaves, &c.

Sed'ative, from *sedo*, to assuage. A term applied, adjectively and substantively, to medicines or other means which diminish the animal energy, without destroying life.

Se Defenden'do. In defending himself.

The plea of a person charged with murder, who alleges that he committed the act in his own defence.

Sedge. 1. An aquatic plant, the *Iris pseudacorus*.——2. The *sedge bird* or *reed bunting* (*Sylvia phragmitis*), a species of warbler which builds its nest on the sedgy banks of rivers.

Sed'litz Pow'ders. These consist of two different kinds of powders, one of which is wrapped in blue paper, and the other in white, in order to distinguish them: one consists of a mixture of tartarate of soda ℥ij, and bi-carbonate of soda, vij; the other consists of tartaric acid, xxxv grs., these are dissolved in water, the former in about a pint, and the latter in a wine-glassful, and the solutions are then mixed, and the draught taken during effervescence. These powders take their name from a supposed resemblance of ingredients to the celebrated saline mineral waters of Sedlitz, Seidlitz, or Seydschutz, a village of Bohemia, in the circle of Saatz. The Sedlitz water is, however, a solution of sulphate of magnesia (Epsom salt), sulphate of soda (Glauber's salt), and sulphate of lime, with some carbonates of lime and magnesia and resinous matter. This water is reckoned highly medicinal.

Se'dum. Stone-crop. An extensive genus of plants. *Decandria—Pentagynia*. Name from *sedo*, to assuage, because it allays inflammation. There are eleven species indigenous to Britain, among which are the wall-pepper, English stone-crop, and common orpine. They are all perennial plants.

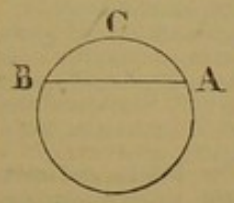
Seed, Sax. *saed*. The substance, animal or vegetable, which nature prepares for the reproduction and conservation of the species. The seeds of plants are a deciduous part, containing the rudiments of a new vegetable, and in some cases constitute the fruit or valuable part of the plant, as in the case of esculent grain; sometimes also the seeds are inclosed in the fruit, as in apples, melons, &c. The *seed-bud* of a plant is called the *germen* (q. v.); the *seed-coats* are the arilli (*see* Aril, Arillus); the *seed-lobes* are cotyledons (*see* Cotyledon), and the *seed-vessels* are termed pericarps (*see* Pericarp).

See'ling, from Fr. *sceller*, to seal. In *falconry*, the running of a thread through the eyelids of a hawk, when first taken, to prevent her seeing well, and thereby to prepare her to endure the hood.

Seg'gar (written also *saggar*). The cylindrical case of fire-clay, in which fine stone-ware is inclosed while being baked in the kiln.

Seg'hol. A Hebrew vowel-point, marked thus ◌ֶ and indicating the sound of *e* in *men*.

Seg'ment, Lat, *segmentum*, from *seco*, to cut. 1. A part cut off.——2. In *geometry*, that part of a circle contained between a chord A B and an arc ACB of the circle, or so much of the circle as is cut off by the chord.——3. The *segment of a sphere* is a part of a sphere, terminated by a portion of its surface, and a plane which cuts it off, passing somewhere out of the centre; being more properly called the section of a sphere.



Segrega'ta, Lat. from *segrego*, to set apart. 1. In *malacology*, the name of a family of molluscs: order *Acephala nuda*, The family comprises those genera in which the individuals which compose them are *insulated*, and without any mutual organic connection (*Cuvier*).——2. In *botany*, applied as an adjective to the last order of the class Syngenesia, order *Polygamia segregata*, in which the flowers are doubly compound, each floret or assemblage of florets having a partial calyx. There is no British type.

Segue, It., it follows. In *music*, prefixed to a movement which is immediately to follow the last note of the preceding movement.

Seig'niorage. 1. An old prerogative by which the English kings claimed a portion of the gold and silver brought in the mass to the mint to be exchanged for coin.——2. The term is sometimes used to denote the right or authority of a *seigneur* or lord of a manor, but this is now usually written *seigniory*.

Seig'niory. In *Lower Canada*, the right of feudal superiority in real estate.

Seismom'eter, Gr., from σεισμος, an earthquake, an instrument for measuring the shock of earthquakes and other concussions.

Sei'zin, Fr. *saisine*. In *law*, possession. This is of two sorts: seizin in *fact* implying actual possession, and seizin in *law*, implying that something is done which the law accounts possession or seizin, as enrolment, or when the lands descend to an heir, but he has not yet entered upon them. In this case the law regards the heir as *seized* of the estate, and should any other take possession he is a *disseisor*.

Se'jant. In *heraldry*, applied to a beast in a sitting posture. *Sejant rampant*, sitting with the fore-feet lifted up.

Selen'ic Acid. An acid discovered in 1827 by Mitcherlich. It has not yet been isolated. Its aqueous solution may be

concentrated by evaporation till its temperature reaches 536°, but if the process be carried further, oxygen gas is evolved, and the acid is changed to the selenious. It forms *seleniates* with salifiable bases.

SELE'NIET. A compound formed by the union of selenium with a metallic base. The best known is *selenietted hydrogen*, a gaseous compound, which bears a strong analogy to sulphuretted hydrogen, but it acts with greater energy.

SELE'NIOUS ACID. A volatile and crystallisable acid, formed by burning selenium in oxygen gas, or by heating it in nitric or nitro-muriatic acid. It was formerly called *selenic acid*.

SELE'NIO-CYAN'OGEN. A compound of selenium and cyanogen, discovered by Berzelius. It has not yet been obtained in a separate state.

SEL'ENITE, Gr. σεληνιτης. 1. A subspecies of sulphate of lime of two varieties, massive and acicular.——2. A compound of selenious acid with a base.

SELE'NIUM, from σελήνη, the moon. A metalloid principle, obtained by Berzelius from the pyrites of Fahlun, and which from its chemical properties he places between sulphur and tellurium. It has, however, more properties in common with the former than with the latter substance. Selenium, after being fused and slowly cooled, is of a blueish-grey colour, with a glistening surface, but it is of a reddish-brown when quickly cooled, and has a distinct metallic lustre. It is brittle, but not hard, and has a tendency to assume a crystalline form. Sp. gr. 4·3, melting point, 225° F., but assumes a pasty consistency at 212°.

SELEU'CIDÆ. In *chronology*, the Syro-Macedonian era: a computation of time commencing from the establishment of the Seleucidæ, a race of Grecian kings, which reigned in Syria as successors of Alexander the Great; the Jewish rabbins call it the era of contracts, and the Arabs the era of two horns. It began B.C. 310?

SELF-ACT'ING. A term applied to several automatic contrivances for superseding the manual labour which was previously necessary to manage a machine of the same nature.

SELT'ZER WATER. A mineral water of Neider Seltzer, a place in Germany, about ten miles from Frankfort-on-the-Maine. It contains muriate of soda, carbonates of magnesia, soda, lime, and a large quantity of free carbonic acid.

SEL'VAGE, } Dutch, *zelf-kant*, self-bor-
SEL'VEDGE. } der. In *manufactures*, the edge of cloth where it is closed by complicating the threads.

SE'MAPHORE, σημα, sign, and φερω, I bear. A telegraph.

SEMÉ' (Fr.), sown. In *heraldry*, strewed with figures, as stars and the like.

SEMECAR'PUS. The Marking-nut tree. A genus. *Pentandria—Trigynia*. Name from σημειοω, to mark, and καρπος, a fruit, on account of the use that is made of its nut in the East Indies, to mark table-linen and articles of apparel. The *S. anacardium* was supposed to be the tree which affords the Malacca bean; which, however, is the produce of the *Anacardium Indicum*.

SEMEIOT'ICS, from σημειον, a sign. That part of medicine which considers the signs of disease. It comprehends *diagnosis* and *prognosis*.

SE'MEN ADJOW'AEN. Adjowan seed. A seed, the produce of the *Ammi copticum*, imported from India. It is used in medicine for its exciting and carminative virtues.

SEM'I. A Latin prefix signifying *half*. It answers to the Greek *hemi*, and French *demi*.

SEM'I-ARIANS. In *church history*, a branch of Arians who, in appearance, condemned the errors of Arius, but acquiesced in some of his principles, disguising them under milder terms. Thus, they admit the Son to be like the Father by a *peculiar privilege*.

SEM'IBREVE, from *semi* and *breve*. In *music*, a note of half the duration or time of the breve. It is equal to two minims, or four crotchets, or eight quavers.

SEM'ICOLON, from *semi* and *colon*. In *grammar*, a point marked thus (;), denoting a pause in reading greater than the comma, and of less duration than the colon, and of half the duration of the period.

SEMICU'BICAL PARABOLA. In *analysis*, a curve of the second order, defined by the equation $y^3 = ax^2$. It is the evolute of the common parabola.

SEMI-DIAPA'SON, from *semi* and *diapason*. In *music*, an imperfect octave.

SEMI-DIAPEN'TE, from *semi* and *diapente*. In *music*, an imperfect fifth.

SEMI-DIATES'SARON, from *semi* and *diatessaron*. In *music*, an imperfect fourth.

SEMI-DI'TONE, from *semi*, for *hemi*, and *ditone*. In *music*, a lesser third, having its terms as 6 to 5.

SEMI-FLOS'CULOSE, Lat. *semifloseulosus*. In *botany*, a compound flower is so designated, when its florets have the limb of the corolla produced in a ligulate shape on the outer side only. The dandelion and hawkweed are examples.

SEMI-MET'AL. An old name for such metals as are not malleable; e.g. bismuth, arsenic, nickel, antimony, zinc, cobalt, manganese, tungsten, molybdenum, uranium, &c.

SEMIMIN'IMA. In *music*, a half-minim or crotchet.

SEM'INAL LEAVES. The leaves of a plant which first sprout forth from the sown seeds.

SEMI-O'PAL. A variety of opal. Colours white, grey, green, red, brown, blue, rarely yellow.

SEMI-OR'DINATE. In *conic sections*, a line drawn at right angles to, and bisected by, the axis, and reaching from one side of the section to the other.

SEMIPAL'MATE, Lat. *semi*, half, and *palma*, hand. In *zoology*, when the toes are connected by a web extending only half their length.

SEMI-PELA'GIANS. In *ecclesiastical history*, a sect retaining some of the doctrines of Pelagius.

SEMI-PRO'TOLITE. The name given by Kirwan to minerals partaking of the nature of primary and secondary rocks: πρωτος, first, and λιθος, stone. It ought to be *hemiprotolite*.

SEMI-QUAD'RATE, } An aspect of the pla-
SEMI-QUAR'TILE. } nets, when distant from each other half a quadrant.

SEMI-QUA'VER. In *music*, a note of half the duration of the quaver.

SEMI-QUIN'TILE. An aspect of the planets, when distant from each other half of the quintile, or 36°.

SEMI-SEX'TILE. An aspect of the planets, when distant from each other the twelfth part of a circle, or 30°.

SEM'ISOSPIRO (It.). In *music*, a small pause, equal to the eighth part of a bar in common time.

SEM'I-TONE. In *music*, half a tone; an interval of sound, as between *mi* and *fa* in the diatonic scale, which is only half the distance of the interval between *ut* and *re*, or *sol* and *la*. It is the smallest interval admitted in modern music.

SEM'I-VOWEL. In *grammar*, a half-vowel; an articulation which is accompanied with an imperfect sound, as *l*, *m*, *n*, which do not demand a total occlusion of the mouth.

SEMNOPITHE'CUS. The generic name given by F. Cuvier to certain monkeys, which differ from the long-tailed monkeys (*Cercopithecus*, Erxl.), only by having an additional small tubercle on the last of the inferior molares. They inhabit eastern countries. The best known is the *Simia nemæus*, Lin., remarkable for its lively and varied colouring. It inhabits Cochin China. The *S. nasica*, Lin., of Borneo, is remarkable for the extraordinary form of its nose.

SEMPERVI'RENT, Lat. *sempervirens*, evergreen. Applied to plants whose leaves are permanent throughout one, two, or more years.

SEMPERVI'VUM. The House Leek. An extensive genus of plants. *Dodecandria—Dodecagynia*. Name from *semper*, always, and *vivo*, green. The British type is the common house-leek, or sengreen (*S. tectorum*), a perennial.

SEMUN'CIA. A Roman coin, one twenty-fourth of the Roman pound.

SEN'ATE, Lat. *senatus*, assembly of elders. The deliberative assembly of the Roman people. In many modern republics, the upper house of the national assembly has been so called.

SEN'ECA-ROOT, } The root of the rattle-
SEN'EGA-ROOT. } snake milk-wort (*Polygala Senega*), formerly much esteemed as a specific against the poison of the rattlesnake. It is used in decoction. *See* SENEGA.

SENE'CIO. Groundsel. An extensive genus of plants. *Syngenesia—Polygamia superflua*. Name from *senesco*, to grow old, because it has a greyish down upon it like the beard of an old man. There are nine species natives of Britain, among which are the common, wood, and squalid groundsel, the common and the marsh ragwort, or St. James's-wort, and the bird's-tongue—all herbaceous plants.

SEN'EGA. A plant, a species of polygala, so named because the Seneca or Senegaw Indians use it against the bite of the rattlesnake. *See* SENECA-ROOT.

SEN'EGAL GUM. *See* ACACIA and GUM.

SEN'ESCHAL. A French title, answering to that of high steward in England.

SEN'NA. In the *materia medica*, the leaves of the *Cassia senna*, an annual plant, which grows plentifully, (and best), in the valleys of Nubia, where it is called *Abyreyga*. It grows also in Arabia, and is imported thence into India, under the name of *Sûna*, and is imported from Calcutta and Bombay under the name of East India senna.

SENSA'TION. When an impression made on the extremity of a nerve is communicated to the sensorium, so as to excite the consciousness of the mind, it is called a *sensation*. When the impression is made by the action of a foreign body on an external part, it is called an *external* sensation; when it proceeds from some change taking place within the living system, and arising from its own actions, it is an *internal* sensation. There are, however, sensations belonging to neither of these classes. The vehicles of impressions giving rise to sensations, are the nerves: the organs by which they are primarily received, are termed the organs of the senses. *See* SENSES.

SEN'SES. The channels of communication by which the mind derives the materials of thought from the external world, and the exercise of which depends on the property of sensibility, modified by particular organs to especial ends. Man is usually considered to be endowed with five senses: sight, hearing, smell, taste, and touch. To these Dr. Thomas Browne,

late Professor of Moral Philosophy at Edinburgh, has added a sixth, *muscular sense*, by which the individual takes cognizance of the action of his own muscles. This appears, however, to be referable to the sense of touch. Some powers of the mind, as imagination, the passions, &c., have been termed *internal* senses.

Sensibil'ity. That faculty of living parts by which they are capable of receiving impressions, and increase, diminish, alter, and suspend their actions. Sensibility is usually divided into *animal sensibility*, which gives rise to sensations, and organic sensibility, which calls into action the organic contractility.

Sen'sitive Plant. The *Mimosa sensitiva*. A biennial plant of Brazil, &c. The leaves shrink from the touch, and fall on being slightly touched.

Senso'rium. The Brain. The common centre at which all the impressions of the senses are received.

Sen'sualism. In *philosophy*, the theory which resolves all our mental acts into various modifications of mere sensation.

Sen'tence, Lat. *sententia*, from *sentio*, to think. In *law*, a judgment pronounced by a court or judge upon a criminal. Strictly, sentence is only used for the declaration of judgment against one convicted of a crime. In *civil cases*, the decision of the court is called a *judgment*.

Sentico'sæ. The name of an order of plants in the Natural Method of Linné, consisting of such as are thorny (*senticosus*), or resemble the bramble, rose-bush, &c.

Sen'tinel. Sentry. Fr. *sentinelle*, from Lat. *sentio*, to perceive. A soldier set out to watch and guard a place against surprise, by giving notice of approach of danger.

Sen'za, (It.). In *music*, a prefix meaning without; as *senza stromenti*, without instruments.

Se'pal. A word invented by botanists to distinguish the parts of the calyx from those of the corolla.

Sep'aratists. A religious sect which originated in Dublin in 1803.

Sep'aratory, Lat. *separatorium*, from *separo*. 1. A chemical vessel for separating essential parts of liquids.——2. A surgical instrument for separating the pericranium from the skull.

Se'pia. 1. The Cuttle-fish. A genus of cephalopodous molluscs, comprehending, according to Linné, the *Argonauta*, Lin., and the *Sepia*, Lam. This last is the cuttle-fish, properly so called. It is distinguished by two long arms, and a fleshy fin, extending along the whole length of each side of the sac. The shell is oval, thick, convex, and composed of numerous and parallel calcareous laminæ, united by thousands of little hollow columns running perpendicularly from one to the other. This structure renders it friable, and causes it to be employed for polishing various sorts of work.——2. The *ink* of the cuttle-fish. This is a black juice, secreted by certain glands of the fish, and is ejected to darken the waters when it is pursued. One part of it is capable of rendering 1000 parts of water nearly opaque. It is used as a pigment.

Se'pium. The internal shell of the cuttle-fish.

Sepi'ariæ, Lat. from *sepes*, a hedge. The name of an order of plants in Linnæus's Natural Method, consisting of woody plants, which have a hedge-like appearance, with flowers, mostly thymus or panicle.

Sepoy's. The name given in the East Indies to the native infantry in the British service. They are about 200,000 in number?

Sept. A clan: used of the races of families in Ireland.

Sep'ta. In *conchology*, &c., plural of *septum* (q. v.).

Septa'ria, Lat. from *septa*, partitions. Lenticular concretions of ferruginous clay, anciently named Helmont's quoits (*ludi Helmontii*). They are intersected by veins of calc-spar, and when calcined and ground to powder form the excellent hydraulic cement called *Parker's cement*.

Septem'brists. The name given to the agents in the dreadful massacre, during the French Revolution, that took place in Paris on the 2nd September, 1792.

Sep'tic, Gr. σηπτικος, from σηπω, to putrefy. 1. Relating to putrefaction.——2. A substance having the power to promote or produce putrefaction in bodies.

Septuages'ima, Lat. *septuagesimus*, seventieth. The third Sunday before Lent, or before Quadragesima Sunday, supposed to be so called from its being about 70 days before Easter.

Sep'tuagint, Lat. *septuaginta*, seventy. A Greek version of the Old Testament, so called because it was the work of 70 (rather 72) translators. This translation is supposed to have been made in the reign and by the order of Ptolemy Philadelphus, king of Egypt, about 270 years before Christ.

Sep'tum, Lat. a partition, from *septo*, to separate. Applied in *anatomy* and *natural history*. 1. The *S. auris* is the drum of the ear. The *S. cerebelli* is a process of the dura mater, dividing the cerebellum perpendicularly into two parts. The *S. cordis* is a partition between the two ventricles of the heart. The *S. lucidum* is the thin and tender portion of the brain, dividing the lateral ventricles from each other. The *S. narium* is the partition be-

tween the nostrils.——2. The plates dividing the chambers of multilocular shells are called *septa*.

Se'quence, Lat. *sequentia*. In *music*, a similar succession of chords.

Sequestra'tion, from low Lat. *sequestro*, to sever. In *law*, the act of separating a thing in controversy from the possession of both parties, until the right be determined.

Sequin' (sometimes written *zechin* and *chequin*). A gold coin. That of Genoa is worth 9*s*. 5½*d*., those of Milan and Piedmont are worth 9*s*. 4¾*d*., that of Naples is worth 6*s*. 7½*d*., that of Rome is worth 9*s*. 3*d*., that of Tuscany the same, and that of Venice about a farthing more. In Turkey the old sequin is worth 7*s*. 8*d*., whereas the *sequin fonducti* is worth only 7*s*. 6½*d*.

Seragli'o. The palace of the Turkish Sultan, in Constantinople.

Se'rai. A place of accommodation for travellers in the East, thus named in India and Tartary; but the Turks call them *Khans*, and the Persians *Caravanserais*, which is the name commonly employed in Europe.

Ser'aphine. A musical wind instrument of the organ species, adapted to the size of a chamber.

Ser'aphs. In the *celestial hierarchy*, the angels of the highest rank.

Seras'kier. A Turkish general, or commander of land forces.

Serena'de, Lat. *serenus*, clear. Originally music performed in the open air on a serene evening; latterly, a nocturnal exhibition by gallants under the window of some favourite lady; the custom was formerly common in Spain and Italy.

Serena'ta. A piece of music of a vocal description.

Serge, Fr. *serge*, Sp. *xerga*, It. *sergia*. A woollen quilted stuff of various kinds. It is worked with four treddles.

Ser'geant, Fr. *sergent*, It. *sergente*. 1. A lawyer of the highest rank, under a judge. ——2. Formerly this title was borne in England by an officer answering to our modern bailiff of the hundred; and also by an officer whose business was to attend on the king and the lord high steward in court, to arrest traitors and other great offenders: the same is now called *Sergeant-at-arms* or *mace*.——3. At present, several petty officers have the name of *sergeant*.

Ser'iceous, Lat. *sericeus*, silky; *sericum*, silk. Applied, in *botany*, to the fine down of some plants.

Se'ries (Lat.), sequels; order; course. 1. In *chronology*, &c., a continued succession of things of the same order, and which have some relation or connection with each other.——2. In *analysis*, a succession of terms, or progressive quantities, connected together by the signs *plus* and *minus*, and proceeding according to some law or determinate relation. *See* Progression.

Se'ron. A buffalo's hide, used for packing drugs, &c.

Ser'pens. In *astronomy*, a northern constellation.

Ser'pent. 1. A venomous reptile. *See* Serpentia and Ophidia.——2. A musical brass wind instrument, bass to the horns or cornets.

Serpenta'ria. 1. The name of a genus of plants now distributed among the genera *Arum*, *Aristolochia*, and *Scorzonera* (q. v.). ——2. The plant called snake-root, a species of *Aristolochia*.

Serpenta'rius, Lat. from *serpens*, a serpent. 1. In *ornithology*, the *snake-eater* or *secretary*, an African bird of prey. It forms one of the divisions of the genus *Milvus*, Bech.——2. In *astronomy*, a constellation of the northern hemisphere, named also *Ophiuchus*.

Serpen'tia. Serpents. A family of reptiles of the order *Ophidia*. Name from *serpo*, to creep. The true serpents comprise the genera without a sternum, and in which there is no vestige of shoulder, but where the ribs still surround a great part of the circumference of the trunk, and where the body of each vertebra is still articulated by a convex surface to a cavity in the succeeding one. They are subdivided into two tribes, the *Amphisbænes*, founded on the genus *Amphisbæna*, Lin., and the *serpentes*, or serpents properly so called. These again are divided into venomous and non-venomous: to the former belong the boa, anaconda, python, crotalus (rattlesnake), and viper.

Ser'pentine. A mineral of the magnesian family: the *ophites* or *serpent stone* of the ancients. It is usually of a green colour, with many tints (like a serpent's skin): sective, tough, and therefore easily cut into ornamental forms. It sometimes forms whole rocks, as at Lizard Point, in Cornwall. It differs from hornblende in containing more magnesia and less iron. When intermixed with patches of marble it constitutes the stone called *verde-antique*.

Serpi'go. In *surgery*, the ringworm or tetter, from *serpo*, to creep. *See* Herpes.

Ser'pula, a genus of Articulata; order *Tubicola*. Animal, a terebella; shell a tubular univalve, which twines round and covers stones, shells, and other submarine bodies. Species numerous. Their petrified remains are called serpulites.

Serra'nus. The name of a genus of acanthopterygious fishes of the perch family. The genus contains a vast number of species, and is divided into several subgenera.

Ser'rate, Lat. *serratus*, from *serra*, a saw. Toothed like a saw.

Serrat'ula. The Saw-wort. A genus of perennial plants. *Syngenesia—Polygamia æqualis.* Name from *serra*, a saw, on account of its serrate leaves. There are three British types; the common and the Alpine saw-wort, and the corn or way thistle.

Serricor'nes. A family of pentamerous coleoptera. Name from *serra*, a saw, and *cornu*, a horn; the antennæ, with some exceptions, being dentated either like a saw or a comb, or even like a fan, and in this respect are most developed in the males.

Ser'rulate, Lat. *serrulatus*, from *serrula*, a little saw. Minutely serrate.

Sertula'ria. A genus of coralliferous polypi belonging to the family *Tubularia*. The sertularia have a corneous stem, sometimes simple, but often ramous, on the sides of which are cells, extremely various in form, which are occupied by the polypi, all connected with a gelatinous stem, which traverses the axis, like the medulla of a tree.

Se'rum, Lat., from *serus*, late. 1. The whey of milk.——2. The yellowish and somewhat greenish fluid which separates from the blood when cold and at rest..

Ser'val. An animal of Malabar, of the feline tribe. It resembles the lynx in form and size, and the panther in spots.

Servitor, Lat., from *servio*, to serve. In the *University of Oxford*, a student who attends on another for his maintenance and learning: called at Cambridge a *sizer*.

Ses'ame, } The Oily-grain. A genus
Ses'amum. } of plants. *Didynamia—Angiospermia.* Name σησαμη, from an Egyptian root. The species are natives of India, &c. The *S. orientale* affords the seeds called oily-grain, which are much esteemed as an article of food. It is cultivated in South Carolina under the name of *bene*.

Ses'amoid, from σησαμη, sesamum, and εἶδος, likeness. Like the sesamum seed. Applied, in *anatomy*, to several parts, from their shape.

Ses'qui. 1. A Latin prefix, signifying a whole and a half. In the *doctrine of definite proportions*, it is used to designate compounds in which an equivalent and a half of one ingredient combines with another; e. g. *sesqui-oxide*, *sesqui-carbonate*. ——2. In *music*, the term was used by the old masters, to distinguish different kinds of measure.

Sesquial'ter, from *sesqui*, and *alter*, other. 1. In *music*, an organ-stop implying a whole and a half.——2. In *arithmetic*, a ratio where one quantity contains another one time and half a time. Thus $\frac{9}{5} = 1\frac{1}{2}$ is a sesquialteral ratio.

Ses'quitone. In *music*, a minor third: an interval of three semitones.

Sessile, Lat. *sessilis*, sitting close. Applied, in *botany*, to parts of plants which are not elevated on any kind of stalk.

Ses'sion, Court of. The supreme civil court of Scotland, having jurisdiction in all questions, of whatever nature.

Ses'sion of Parliament. The period between its meeting and prorogation.

Ses'terce, Lat. *sestertius*. A Roman coin, or denomination of money, in value the fourth of the denarius, and originally containing two asses and a half (about 2*d*.). The *sestertium*, i. e. *sestertium pondus*, was two pounds and a half, or 250 denarii (about 8*l*.). One qualification of the Roman knight was the possession of an estate worth 400,000 sesterces; of the senator, 800,000 sesterces.

Seta'ceous, Lat. *setaceus*, bristly; *seta*, a bristle. Applied to parts of plants, &c.

Set'iform, Lat. *setiformis*, bristly; *seta*, a bristle, and *form*. Applied to parts of plants.

Set-off, in *law*, is where the defendant acknowledges the justice of the plaintiff's demand, but sets up a demand of his own, to counterbalance it in whole or in part.

Se'ton, Lat. *setaceum*, from *seta*, a bristle. In *surgery*, an artificial sinus made under the skin by means of an instrument called the *seton-needle*, which carries with it a portion of thread or silk. The thread, which is of considerable length, is allowed to remain, and a new portion is drawn through daily, to keep up a constant irritation. In *farriery*, this operation is called *rowelling*.

Se'tose, Lat. *setosus*, bristly, from *seta*, a bristle. Applied to parts of plants.

Sette'e, from *sit*. 1. A sort of large easy chair.——2. A description of vessel used on the Mediterranean. It has two masts, one deck, a very long and sharp prow, and lateen sails.

Set'ter. Among *sportsmen*, a dog that beats the field to start birds.

Sett-off'. In *architecture*, the horizontal projections left in carrying up a wall, the thickness of which is diminished by steps.

Sev'enth. In *music*, an interval.

Sexages'ima, Lat. *sexagesimus*, sixtieth. The second Sunday before Lent, so called as being about the sixtieth day before Easter.

Sexages'imal. Pertaining to the number 60. *Sexagesimal notation* is the method of computing by sixties, as that which is used in dividing degrees into minutes, and these into seconds.

Sex'tant, from *sextans*, a sixth. 1. An instrument much used in surveying, for measuring horizontal angles. It is formed like the quadrant, except that it is only 60°, or the sixth part of the circle.——2. In *astronomy*, a constellation of the southern hemisphere, containing 41 stars.

SEX'TILE, Lat. *sextilis*, from *sex*, six. A term denoting the position of planets when distant from each other 60° or two signs: marked *.

SEX'TON, Lat. *sacrista*. A church officer, the keeper of holy things belonging to divine worship.

SEX'UAL. Appertaining to the sexes. The *sexual system of plants* is that method of distinguishing plants, founded on the parts of fructification, invented by Linnæus.

SFORZATO. In *music*, an Italian term, denoting that the note over which it is placed must be struck with force.

SFUMA'TO, It., smoky. In *painting*, a style wherein the tints are so blended that the outline is scarcely perceptible.

SGRAFIT'TO, It., scratched. In *painting*, a style in which a white coat is laid upon a dark ground of stucco, and the shadows worked out.

SHAB'RACK. A military term, of Hungarian origin, used for the cloth furniture of a cavalry officer's troop-horse.

SHAD. Twaite shad. A migratory fish, the *Alosa finta*, Cuv. and Yarr. Ordinary size about 12 or 14 inches long. Inhabits the North Atlantic, the Mediterranean, and the Caspian Seas; and enters the rivers in spring to spawn.

SHAD'DOCK. The fruit of the *Citrus decumana* or shaddock-tree; so named after the person who introduced it in the West Indies from China.

SHAFT. 1. In *architecture*, the *shaft of a chimney* is the stone or brick turret above the roof. The *shaft of a king post* is the part between the goggles. The *shaft of a column* is the part between the base and the capital.——2. In *mining*, a vertical sinking or well, excavated or dry, for the purpose of working and ventilating mines. The principal shaft is usually termed the *engine-shaft*. —— 3. In *machinery*, the term shaft is applied to a large axle.

SHAGREE'N, Fr. *chagrin*, Ger. *schagrin*. A description of grained leather, prepared chiefly at Astracan in Russia, from the skins of horses, wild asses, and camels. It used formerly to be prepared from the skin of a species of squalus or hound-fish called *shagree* (?)

SHAH. A Persian title equivalent to king.

SHAKE. 1. In *music*, a trill. A rapid reiteration of two notes, comprehending an interval not greater than one whole tone, nor less than a semitone.——2. A fissure in timber, caused by its being dried too suddenly, or exposed to too great heat. Any timber when naturally full of clefts or slits is said to be *shaky*.

SHA'KERS. In *ecclesiastical history*, a sect who arose in 1747, in Lancashire, being, it is said, a secession from the Quakers.

SHALE, Germ. *schale*. 1. Slate clay. Indurated slaty clay. Shale is almost always found among the coal measures. ——2. Kemmeridge coal is sometimes called bituminous shale: it is a mixture of clay, bitumen, and carbon.

SHALLOON. In *manufacture*, a light woollen stuff, said to be named from Châlons, in France.

SHAL'LOP, Fr. *chaloupe*, Ger. *schaluppe*. 1. A small light vessel, with a small mainmast and foremast, with lug-sails. ——2. A description of large boat rigged like a schooner.

SHAL'LOT, Fr. *échalotte*. The *Allium ascalonicum*; a useful esculent root, possessing all the virtues of garlic, with less pungency.

SHAM'ANISM. A general name for the religions of a number of barbarous tribes of the Finnish race.

SHAMMY. Chamois leather. A kind of leather prepared from the skin of the chamois goat. *See* CHAMOIS.

SHAMPOO'ING. A name in the East for a mode of relieving pain in the joints by friction.

SHAM'ROCK. The name given in Ireland to the three-leaved grass, or trefoil. The original *shamrock*, or rather *shamroy*, appears from old authors to have been the wood-sorrel, not the white clover which now bears the name.

SHANK'LIN SAND. Lower greensand. A marine deposit of siliceous sands and sand-stones, of various shades of green, red, brown, yellow, grey, and white, with subordinate beds of chert and siliceous limestone. It forms the lowest member of the cretaceous group, intervening between the gault above and the weald clay below.

SHANK PAINTER. The rope or chain which passes round the shank of an anchor, and confines it to the ship's bow.

SHARP. 1. In *music*, a note artificially raised; a semitone, opposed to *flat*.——2. The mark denoting a sharp, ♯.

SHAS'TER, A sacred book among the Hindoos, containing the dogmas of their religion.

SHAWM, } Ger. *schalmeie*,
SHALM, } from *schallen*, to sound. A hautbois or cornet. This instrument was used in the sacred music of the Hebrews.

SHEARS differ from *scissors* chiefly in being larger. The name *shears* ought, perhaps, to be confined to such instrument as that used for shearing sheep, in which the blades are not connected by a pin, as in the common scissors, but by a spring (as in the figure), and to those instruments where one of

the blades is fixed and the other moveable, used in cutting iron plate, &c.——2. An instrument for raising weights. *See* SHEERS.

SHEAR'WATER. A name of two birds. 1. The *Procellaria puffinus*, Lin., found on the coasts of Great Britain and Ireland. ——2. The *Larus niger*, Lin., or black gull.

SHEATH. In *botany*, a name applied to a petiole, embracing the branch from which it springs, or to a rudimentary leaf which wraps round the stem.

SHEATH'ING. In *ship-building*, a sort of covering nailed all over the outside of a ship's bottom, to protect the planks from the ravages of worms. Formerly, this sheathing consisted only of boards, tarred and payed over, but now copper is resorted to, not merely as a substitute, but as an additional covering.

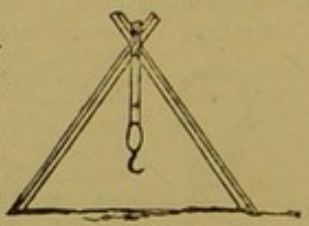
SHEAVE. 1. The wheel contained in pulley-blocks. ——2. A name given on railways worked by fixed engines to the friction-rollers or pulleys on which the rope is borne up.

SHEER. 1. In *nautical language*, the longitudinal curve or bend of a ship's deck or sides.——2. The position in which a ship is sometimes kept at single anchor, to keep her clear of it. To *break sheer* is to deviate from that position and risk fouling the anchor.

SHEER-DRAUGHT. In *naval architecture*, the side view or projection on the plane of the keel, on which are laid off the heights and length of the parts of the keel, the position and rake of the stem and sternpost, the principal timbers of the sides, the posts, decks, channels, place of greatest breadth of midship frame, stations of masts, &c.

SHEER-HULK. In the *navy*, an old 74 cut down to the lower deck, and fitted up with a pair of sheers for the purpose of taking out the lower masts of ships preparing for sea.

SHEERS. A contrivance consisting in the erection of two long spars or pieces of timber, fastened together near the top, so as to cross each other at their upper ends,



and have their lower ends far apart: from the upper end a tack depends for raising weights. When sheers are employed on land, three spars are usually set up.

SHEET. In *nautical language*, a rope fastened to one or both the lower corners of a sail, to extend and retain it in its proper situation.

SHEET-AN'CHOR. The largest anchor of a ship.

SHEET'ING. A description of linen fit for making bed sheets of.

SHEET-PI'LING. Piles are sometimes driven in close rows, to form the faces of wharfs, banks of rivers, piers for the sea, to protect foundation walls from the effects of water; also in the construction of coffer-dams, sluices, &c., this is called *sheet-piling*, and when the piles consist of planks, it is termed *pile-planking*. The piles are sometimes mortised into each other by dove-tail joints.

SHEIK (Arab.) A title of dignity belonging to the chiefs of Arabian tribes.

SHE'KEL. An ancient Jewish silver coin, equal to four Attic drachms, in value about 2*s.* 6*d.* A shekel of gold was worth 36*s.* 6*d.*

SHEL'DRAKE. An aquatic fowl, the *Anas tadorna*, Lin., originally from South America, where it perches on trees.

SHELL. 1. The hard covering or external skeleton of testaceous and crustaceous animals, and of some insects. The shells of the *testaceous* mollusca consist chiefly of carbonate of lime and animal matter; those of the *crustaceans* of a mixture of carbonate and phosphate of lime with animal matter.—— 2. In *gunnery*, a hollow cast-iron ball; it is filled with powder and thrown out of mortars, &c.; a fusee fixed firmly into a hole in the shell being kindled by the discharge of the gun. This fusee is made of such length, that it will have burned to the powder by the time the shell has reached its destination and explode it, the fragments dealing death and destruction around.

SHELL-MARL. A deposit of calcareous earth and clay containing shells.

SHEL'TIE. Shetland Pony. A small variety of the horse, produced in Shetland.

SHEMIT'IC LAN'GUAGES. The Chaldee, Syriac, Hebrew, Samaritan, Ethiopic, and old Phœnician—all sprung from the same stock.

SHERAR'DIA. The Field Madder: a genus of annual plants. *Tetrandria—Monogynia.* The corn-field madder is common in Britain; the wall-field madder is peculiar to the Italian Alps.

SHERBET', Arab. *sharâba*, to drink. A cooling summer drink, prepared from the juice of fruits and water, variously sweetened and flavoured. Sherbets are much used in India and other hot countries.

SHER'IFF, Sax. *scir-gerefa*, from *scyre*, a shire, and *gerefa*, a reeve, count, steward, or bailiff, *shire-reeve*. An officer in each county, to whom is entrusted the execution of the laws.

SHER'RY, } A species of wine, so called
SHER'RIS. } from Xeres in Spain, where it is made.

SHIELD. In *heraldry*, the escutcheon,

on which are placed the bearing. in coats of arms.

Shift. A change. A term used with reference to relays of workmen employed in mines, on railways, or other work.

Shil'ling, Sax. *scilling*; Ger. *schilling*. An English silver coin, worth 12 pence, or the 20th part of the sovereign. It contains 80·727 grs. pure silver, or 87·27 grs. of standard silver (11 oz. 2 dwts. silver + 18 dwts. alloy).

Shin'gle, Ger. *schindel*, from *scheiden*, to divide. 1. In *house-building*, shingles are small oaken boards, used like slates, for roofing, and sometimes for covering the body of buildings.——2. The loose water-worn pebbles on the sea-shore.

Ship. Strictly, a vessel having three masts, each consisting of a lower mast, a top-mast, and a top-gallant mast, with their appropriate rigging; but, in familiar language, the name ship is employed to designate any large vessel, however rigged, and frequently as a general designation for all vessels navigated with sails.

Ship-mon'ey. In *English history*, an imposition formerly charged on the ports, towns, cities, boroughs, and counties of England, for providing and furnishing certain ships for the king's service. Abolished by Stat. 17 Car. II.

Ship's-pa'pers. The papers or documents required for the manifestation of the ship and cargo, &c. They are of two sorts:—(1.) Those required by the law of a particular country, as certificate of registry, license, charter-party, bills of lading, bill of health, &c.; and (2.) Those required by the law of nations to be on board neutral ships, to vindicate their title to that character.

Shire, Sax. *scyre*, from *sciran*, to divide. A division of territory: otherwise called a county. The shire was originally a division under the jurisdiction of an earl or count, whose authority was entrusted to the sheriff (*shire-reeve*), on whom the government ultimately devolved. *See* County.

Shire-clerk. An officer who assists the sheriff in keeping the county court.

Shire-mote, Sax. *scir-gemote*, shire-meeting. An ancient county-court in England.

Shit'tim Wood. A sort of precious wood, mentioned in Scripture. Not ascertained.

Shiv'er, Ger. *schiefer*, a splinter. 1. A variety of clayey schist.——2. Among *seamen*, a sheave: the little wheel in which the rope of a pulley runs.

Shoad. In *mining*, stones containing ore mixed with rubbish in a loose soil, and sometimes near the surface.

Shoar, } Sax. *score*. A prop of timber,
Shore, } acting as a brace in the side of a building; the upper end resting against that part of the wall on which the floor is supported. Timber plates are usually placed at each end of the shoar, and the junctions are tightened by wedges. A *dead shoar* is an upright piece, built up in a wall, which has been cut or broken through for the purpose of making some alteration in the building.

Shoe. Among *plumbers*, the part of the bottom of a leaden pipe, or water-trunk, which is intended to turn the course of the water.

Shoot'ing. Among *joiners*, planing the edge of a board straight and out of winding.

Shoot'ing Board. Two boards which are joined together, with their sides lapped upon each other, so as to form a rebate for making short joints.

Shot. Properly whatever is discharged from fire-arms or cannon by the force of gunpowder. The shot used in war is of various kinds; as *round-shot* or *ball* (the larger sort for cannon made of cast-iron, the small for muskets and pistols, of lead); *double-headed* or *bar-shot*, consisting of a bar with a ball on each end; *chain-shot*, consisting of balls chained together in pairs; *grape-shot*, consisting of small balls strongly corded in canvas on an iron bottom, so as to form a sort of cylinder adapted in diameter to the bore of the gun; *case* or *canister-shot*, consisting of a great number of small bullets in a cylindrical tin-box; *langrel* or *langrage*, consisting of pieces of iron of any shape. *Small-shot* denotes musket and pistol bullets. Besides these, there are other sorts of more pernicious nature, used by privateers, pirates, &c.

Shot-wracks or Shot-lock'ers. In *ships*, wooden frames, bolted to the crampings and head-ledges round the hatchways on the decks, to contain the different shot.

Shoul'der. 1. Among *carpenters*, the plane transverse to the length of a piece of timber from which a tenon projects.——2. The *shoulder of a bastion* is the place where the face and flank meet.

Shoul'dering Pie'ces. In *joinery*, *see* Brackets.

Shrap'nel Shells, in *gunnery*, are shells filled with a quantity of musket balls, which, when the shells explode, are projected 150 yards from them.

Shred'ings. In *architecture*, slight short pieces fixed below the roof as bearers in old buildings, and forming a straight line with the upper part of the rafters: called also *furrings*.

Shrimp. A crustacean, the *cancer crangon*, Lin., reckoned delicious food.

Shrine, Lat. *scrinium*, a cabinet. The receptacle of the remains or relics of a saint.

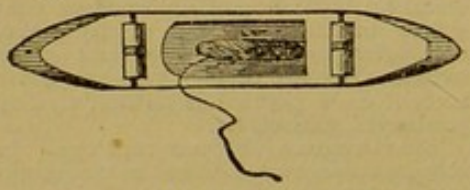
Shrouds (of a *ship*). A range of large ropes, extending from the head of a mast to the right and left side of the ship, to support the mast; as the main *shrouds*, fore *shrouds*, mizen *shrouds*. There are also futtock *shrouds*, bowsprit *shrouds*, &c.

Shrove-Tide, Shrove-Tues'day. } Confession time; Confession Tuesday: the Tuesday after Quinquagesima Sunday, or the day immediately preceding the first of Lent or Ash-Wednesday, on which day Roman Catholics make confession of their sins; after which they dine on pancakes and fritters, during the ringing of the *pancake-bell*. Much of the latter part of the duties are still kept up in England. The term *shrove* is the preterite of *shrive*, to confess.

Shrub. 1. In *botany*, a plant with a permanent woody stem, but of a more humble and slender growth than a tree. ——2. A liquor consisting of acid fruits, sugar, and various substances to give flavour, digested in rum or brandy.

Shwan Pan. The calculating instrument of the Chinese.

Shut'tle. In *weaving*, the instrument with which the woof or weft is thrown through the open lease or shot of the warp before the reed. There are many varieties of shuttles as to size, but only two marked by different kinds: the *hand-shuttle* which has no *wheels* to run upon, and is thrown directly by the hand, and the *fly-shuttle*, which has two cylindrical



FLY-SHUTTLE.

wheels to run upon, and is thrown by means of an apparatus attached to the ends of the lathe. The figure shows the under side of the fly-shuttle.

Si. In *music*, the seventh sound.

Sib'bens. Sivvens. A disease which is endemic in some of the western counties of Scotland. It strikingly resembles yaws in many respects.

Sib'erite. Rubellite or red tourmaline.

Sib'ylline Books. Documents supposed to contain the fate of the Roman Empire.

Sib'yls. In *antiquity*, certain women supposed to be endowed with the gift of prophecy. They resided in various parts of Persia, Greece, and Italy.

Side'ling Ground. A line of country whose cross-section is inclined or sloping.

Side-posts. In *carpentry*, a kind of truss-posts placed in pairs, each disposed at the same distance from the middle of the truss, for the purpose of supporting the principal rafters, braces, crown, and camber-beams, as well as for hanging the tie-beam below.

Side'real Day. The period in which any fixed star apparently completes a revolution, and comes to the same point in the heavens, which is 23 hours, 56 min., 4·6 sec. *Sideralis*, from *sidus*, a star.

Sid'erite, Lat. *siderites*, from σιδηρος, iron. An old name for the loadstone.

Sid'erites. Iron-wort. A genus of plants. *Didynamia—Gymnospermia*. Name from σιδηρος, iron, being supposed efficacious in healing wounds made by iron weapons. Warm and temperate climates.

Siderog'raphy, from σιδηρος, iron, and γραφω, to write. The art or practice of engraving on steel.

Sid'eroscope, from σιδηρος, iron, and σκοπεω, to view. An apparatus proposed by the French chemists, for detecting iron in minute quantities in any substance.

Side-tim'bers, Side-wa'vers. } Among *builders*, other names for purlins.

Si'ding. Passing place or Turn-out. A short length of additional tractway on railroads, laid by the side of a line of rails, and connected therewith at each extremity by suitable curves; the rails being constructed and disposed in such a manner that the carriages can either proceed along the main line or turn into the siding, as may be required.

Si'enite, Sy'enite. } A granular aggregated compound rock, named from Siena or Syene, a town in Egypt, near which it was extensively quarried by the Romans for architectural purposes. It consists essentially of felspar and hornblende, with sometimes quartz and mica in small quantity. The colour of sienite is usually gray, of different shades.

Sier'ra. A word meaning a *saw*, introduced into geography by the Spaniards to designate a ridge of mountains or craggy rocks.

Sies'ta (Span.). In hot countries, the practice of resting two or three hours in the middle of the day.

Sight. In the *arts*, an aperture, or point, fixed to guide the eye in making an observation; as the sights of a quadrant, theodolite, circumferentor, &c.

Sigilla'ria. The name given by Brongniart to certain large and extinct forms of vegetation discovered in the coal measures, from *sigillum*, on account of the peculiar impressions on the stems, like seals. About fifty species are already described.

Sig'moid, from the Greek letter Σ, sigma, and ειδος, likeness. Resembling the Greek letter sigma. Applied, in *anatomy*, to several parts on account of their forms.

Sign. In *astronomy*, a constellation con-

taining the twelfth part of the zodiac, or 30°. The signs are reckoned from the point of intersection of the ecliptic and equator, at the vernal equinox, and are named respectively, Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricornus, Aquarius, Pisces.——2. In *algebra*, a character indicating the relation of the quantities of an expression, and the operations to be performed upon them; as + (*plus*), denoting addition, and — (*minus*), denoting subtraction. *See* POSITIVE and NEGATIVE: also QUANTITY. There are also signs of *Multiplication* and *Division*, of *Equality*, of *Greater* and *Less* (or *Inequality*), q.v.

SIG'NALS, NAVAL. A system of symbols addressed to the eye, as flags, lights, &c., for communicating intelligence at distances too great for the human voice.

SIG'NATURE, from *signo*. 1. In *printing*, a letter put at the bottom of the first page of each sheet, as a direction to the binder in folding, gathering, and collating.——2. In *music*, the flats or sharps placed after the clef, at the beginning of the staff.

SIG'NET. A seal. The *Clerk of the Signet* is an officer in attendance upon the principal Secretary of State, and who has the royal signet in his keeping, for the signing of letters, grants, &c.

SIGN-MAN'UAL, in *law*, is used to signify a writing signed by the sovereign's own hand.

SILE'NE. The Catchfly. A very extensive genus of caryophyllous plants. *Decandria—Trigynia*. There are twelve British types, among which are the Bladder and the Moss Campions, English, Dover, Nottingham, Spanish, Lobel's, and Nautical Catchfly. There are upwards of 100 species in all.

SI'LEX. The Latin word for *flint*. An oxide of silicium or silicon, constituting the greater part of all the rocks of which the crust of the earth is composed. *See* SILICA.

SIL'HOUETTE. In the *fine arts*, the representation of an object in a black colour, lightened to represent the prominent features, and touched with gum to indicate the shadows.

SIL'ICA, from *silex*. One of the primitive earths (strictly an acid), constituting the principal portion of the scintillating stones and minerals, which compose the crust of the globe, and occurring nearly pure in flint, rock-crystal, quartz, agate, calcedony, jasper, &c. The only acid that dissolves silica is the hydrofluoric, but it is soluble in alkaline solutions, and combines with many of the metallic oxides: hence it is regarded by chemists as an acid, and called the *silicic acid*. It is obtained perfectly pure, and in the finest state of comminution, by passing silicated fluoric acid gas through water; the silica is precipitated, and may be separated by filtration. The silica thus obtained, being well washed and ignited, is a white and exceedingly light powder. It consists of 48·04 silicon, and 51·96 oxygen. It melts, before the flame of the oxy-hydrogen blowpipe, into a colourless glass.

SIL'ICATE. A compound of the silicic acid (*silica*) and a base, such as alumina, lime, magnesia, potash, soda, &c. The silicates are abundant in nature. Thus felspar and leucite are silicates of alumina and potash; albite and analcime are silicates of alumina and soda; stilbite, prehnite, mesolite, labradorite, mica, &c., are silicates of ammonia and lime; steatite and serpentine are silicates of magnesia; augite and hornblende are silicates of lime and magnesia (*Ure*). The various kinds and qualities of glass are all silicates.

SILI'CEOUS. Flinty, containing silex.

SILICICAL'CE. The name given by Brongniart to a mineral substance which occurs in amorphous masses in thin beds, under strata of compact limestone, in Provence: it is a mixture of flint (*silica*) and carbonate of lime.

SILICIFICA'TION. Conversion of a substance into stone, by the infiltration of siliceous matter; *petrifaction*.

SILI'CIUM, } The basis of silica. By
SIL'ICON. } passing the vapour of potassium over silica in an ignited tube, Sir H. Davy obtained a dark-coloured powder, which he supposed to contain *silicium*, or the basis of the earth. This has since been obtained in a pure state by Berzelius, who places it among the simple non-metallic combustibles. It appears to have a great analogy to boron. For this reason it has been named *silicon*.

SILIC'ULA, } Lat. dim. of *siliqua*. In
SIL'ICULE. } *botany*, a pouch or pod, scarcely longer than it is broad.

SILICULO'SA. The name of the first order of plants in the class *Tetradynamia* of the Linnæan system, containing such as have a broad and short pod, or whose fruit are siliculæ. Epithet *siliculose*.

SIL'IQUA, Lat., from *silo*, a snub nose. A pod: a long, dry, membranaceous pericarp, or seed-vessel of two valves, separated by a linear receptacle, along the edges of which the seeds are arranged alternately.

SILIQUO'SA. The name of the second order of plants in the class *Tetradynamia* of the Linnæan system, containing such as have long pods (*siliquæ*).

SILIQUO'SÆ. The name of a natural order of plants in the natural method of Linné, consisting of such as have a siliqua or silicula, with a tetradynamic and cruciate flower.

SILK. A fine glossy thread or filament, spun by various species of caterpillars of the genus *Phalenæ*, Lin., especially the

Ph. atlas, which produces it in largest quantity; and the *Ph. bombyx*, which is the silkworm generally known in Europe. The silkworm feeds on the leaves of the mulberry, and spins an oval cocoon of a close tissue, very fine, usually of a yellow colour, and sometimes white. A variety is now preferred, which yields the latter. The bombyx which produces it was originally from the northern provinces of China. According to Latreille, the city of Turfan, in Little Bucharia, was for a long time the rendezvous of the western caravans, and the chief entrepôt of the Chinese silks. It was the metropolis of the Seres of Upper Asia, or of the Serica of Ptolemy. Driven from their country by the Huns, the Seres established themselves in Great Bucharia and in India. It was from one of their colonies, Ser-hend (*Ser-indi*), that the Greek missionaries, in the reign of Justinian, carried the eggs of the silkworm to Constantinople. At the period of the first Crusades the cultivation of silk was introduced into Naples from the Morea, and, several centuries afterwards, under the administration of Sully particularly, into France, to which it is now a great source of wealth. Silk was formerly sold for its weight in gold.

SILK'-THROWER, } One who throws
SILK'-THROWSTER. } silk. *Thrown silk* is formed of two, three, or more *singles*, according to the substance required, to be twisted together in a contrary direction to that in which the singles of which it is composed are twisted. The singles are the reeled threads, twisted in order to give strength and firmness; and the process of *throwing* the singles is termed *organzining*; and the silk so twisted is called *organzine*. The art of throwing was long kept a secret in Italy; and becoming known in this country, the silk-throwsters were reckoned a superior class, and united (1562) into a fellowship.

SILK'WORM. *See* SILK.

SILL. 1. Among *builders*, the timber or stone at the bottom of a door; one of the bottom pieces supporting quarter and truss partitions.——2. Among *miners*, a name in Devonshire for a variety of shell, found in some mines. It is used for making a peculiar sort of fire-brick.

SIL'LON. In *fortification*, an elevation of earth raised in the middle of a moat, to defend it when it is too wide.

SIL'PHA. A genus of coleopterous insects belonging to the family *Clavicornes*, now divided into various subgenera, known by the general name of *Carrion-beetles*, from their habit of burying the bodies of moles, mice, and other small quadrupeds.

SILT. Mud: the alluvial soil washed down and deposited upon the bottoms and sides of rivers by the action of the tides. The term is also indicative of any soft light description of soil.

SILU'RIDÆ. A family of malacopterygious abdominal fishes, founded on the genus *Silurus*, Lin. The family is distinguished from all others of the order by the want of true scales, having merely a naked skin or large osseous plates.

SILU'RIAN. In *geology*, the name given by Mr. Murchison to an upper subdivision of the sedimentary strata found below the old red sandstone, on account of the strata composing this group being best developed in that portion of England and Wales formerly included in the ancient British kingdom of the Silures.

SILU'RUS. The name of a genus of fishes. Order *Malacopterygii abdominales*: family *Siluridæ*. Name from σεισω, to move or shake, and ουρα, a tail. The species are numerous, and are easily recognised by their nudity, by the mouth being cleft in the extremity of the snout, and by the strong spine which forms the first ray of the pectoral. They are properly named *Cat-fish*. The *S. glanis*, Lin., or Sly, is the largest fresh-water fish of Europe, and the only one of the genus found in it. It is found in the German and Hungarian rivers, and in the lake of Haarlem. The *S. electricus*, Lin., is an inhabitant of the rivers of Africa.

SIL'VAN. An old name for the metal tellurium.

SIL'VER, Ger. *silber*; Goth. *silubr*. One of the precious metals, nearly white when pure; superior to gold in lustre, but inferior to it in malleability, though it may be beaten into leaves not exceeding the 100,000th of an inch in thickness. It is highly ductile, and surpasses gold in tenacity, but in this respect is inferior to iron, copper, and platinum. Its hardness is between gold and copper; it melts at about 1000° F.; has a sp. gr. of 10·47; and is not oxidated by exposure to the atmosphere. Europe has some silver-mines; but the metal has hitherto been found in greatest abundance in South America. Silver is hardened for domestic purposes, and for coinage, by an alloy of copper: *standard silver* consists of 11 oz. 2 dwts. of silver and 18 dwts. of copper. *See* SHILLING.

SIL'VERING. 1. The art of covering the surfaces of bodies with a thin film of silver. The processes are nearly the same as gilding.——2. The silvering upon the back of the glass-plates of mirrors is, however, an amalgam of tin.

SIL'VER-LEAF. Silver beaten out into thin leaves for silvering, exactly in the same manner as gold-leaf.

SIL'VIC ACID. That portion of resin which remains undissolved when turpentine, freed from its oil, is digested in cold alcohol of 0·867, has been called

nitric acid by Unverdorben, and *resin beta* by Berzelius.

Simarou'ba. The name of a genus of plants. *Decandria—Monogynia.* The *S. officinalis*, or mountain damson, is the tree which yields the *Simarouba bark*. It is a native of Carolina, South America, and the West Indies. Its bitter principle is named *Quassine.*

Sim'ia. The Ape: a genus of quadrumana, comprising the monkeys, properly so called; the ourangs (*Simia*, Erxl.—*Pithecus*, Geoff.); the gibbons (*Hylobates*, Illig.); the patras (*Cercopithecus*, Erxl.); the kah-an (*Semnopithecus*, F. Cuv.); the macaques (*Macacus*); the dog-headed monkeys (*Cynocephalus*, Cuv.); the mandrills, the howling monkeys, sapajous, and the sajous (*Lagothrix*, Geoff.); the saimiri, the yarkes, fox-tailed monkeys, the sagouins, and the douroucouli.

Simi'liter (Lat.). In like manner. In *law*, the form by which either party, in pleading, accepts the issue tendered by his opponent.

Simi'litude. In *geometry*, the relation of figures similar to each other.

Sim'ilor. A golden-coloured variety of brass.

Si'mony. In *law*, the illegal buying or selling ecclesiastical preferment, denounced in Stat. 31 Elizabeth, c. vi., where it is called a crime.

Simo'om. A hot suffocating wind, which occasionally blows in Arabia and Africa; generated by the extreme heat of the sandy deserts and parched plains.

Sim'ple, Lat. *simplex*. 1. In *botany*, applied to roots, leaves, &c., when undivided.——2. In *chemistry*, applied to undecomposed substances, of which there are 55, called *elementary substances* or *elements*. Of these the metals are examples.

Simpli'cia. The name of an order of Acalephous zoophytes that float and swim in the ocean by the alternate contractions and dilatations of their body, which is gelatinous and without apparent fibres. The medusa is an example of the simple acalepha.

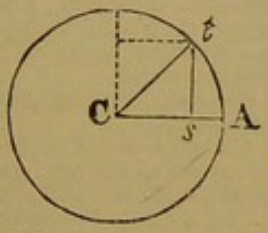
Sin'apine. A substance extracted from the seeds of the *Sinapis alba* and *nigra*, (white and black mustard); at first called *sulphosinapisin*. It is white, bulky, and light; has a bitter taste, and dissolves with a yellow colour in water and alcohol.

Sina'pis. Mustard. The name of a genus of plants, mostly herbaceous. *Tetradynamia—Siliquosa*. So called from σινει οπας, it hurts the eyes. There are 27 species, all hardy plants, except the shrubby mustard of Madeira. The white and black mustard plants are natives of Britain, where they are much cultivated.

Sin'apism. A mustard poultice: *sinapis*, mustard.

Sin'ciput (Latin). The part of the head from the forehead to the coronal suture.

Si'ne, Lat. *sinus*. In *trigonometry*, the right sine of an arc is a line, *t s*, drawn from one end of the arc *t* A, perpendicular to the radius C A, drawn through the other end, being always equal to half the chord of double the arc. The *versed-sine* is the line *s* A; the *cosine* is the sine of the complement of the arc, and the *coversed-sine* is the cosine of that complement.



Si'ne di'e (Latin). Without day. An adjournment *sine die* is an adjournment without fixing the time for resuming the business. When a defendant is suffered to go *sine die*, he is dismissed the court.

Si'ne pa'ri (Latin). Without fellow. Applied to muscles, veins, &c., which are without a fellow.

Single. Among *builders*, a term of frequent use; e.g. *single frame and naked*, is applied to a floor which has only one tier of joists; a *single joist floor* is one that has no binding-joists *single-hung:* when only one sash of a window is moveable in the same vertical plane, the sashes are said to be *single-hung*. *Single-joists* are such joists as are employed singly in a floor; *single measure*, a door which is square on both sides; if it be moulded on both sides it is *double measure*, and if moulded on one side and square on the other, it is said to be *measure and half*.

Sin'gles. In the *silk manufactures*. *See* Silk-thrower.

Sin'ister (Latin). Left: on the left hand: opposed to *dexter*, applied in heraldry. A *sinister aspect*, in *astrology*, is the appearance of two planets happening according to the succession of the signs; as Saturn in Aries, and Mars in the same degree of Gemini.

Sink'ing Fund. In *finance*, a term appropriately applied to a portion of the public revenue, set apart to be applied to the reduction of the national debt.

Sin'net. In *nautical language*, yarn bound round ropes to prevent them from galling.

Sin'oper, } Lat. *sinopis*, Gr. σινωπις. A
Sin'ople, } ferruginous quartz, which occurs crystallised and in masses that resemble some varieties of jasper.

Sin'ter. A German name for the scale which flies from iron when hammered: applied in mineralogy, *Calcareous sinter* is a variety of carbonate of lime, composed

of a series of successive layers, concentric, plane, or undulated, and nearly or quite parallel. It appears under various forms, stalactical, tuberose, reniform, globular, cylindrical, &c. *Pearl sinter* is a quartzose or siliceous mineral, brittle, porous, and fibrous; when compact it is reckoned a variety of opal.

Sin'uate, Lat. *sinuatus*, indented. Applied to leaves when they are deeply scolloped, the lobes standing apart as if part of the leaf were cut away.

Sin'uous, Lat. *sinuosus*. In the *fine arts*, of an undulating form.

Si'nus (Latin). A bag; a cavity or depression; a groove; a bay of the sea. In *anatomy*, the veins of the dura mater are called sinuses, &c. In *surgery*, the name sinus is given to a long, narrow, hollow track, leading from some abscess, diseased bone, &c.

Si'phon. Σίφων. A tube. In *hydraulics*, a bent pipe used to draw off wine and other liquors from vessels containing them, without disturbing the sediment which may be deposited, or where other modes may not be applicable. The operation of the siphon is simple; being filled with water and the shorter leg immersed in the liquid to be run off (as shown in the figure), the atmosphere,

acting continually upon the surface of the fluid, will force a continuous stream through the siphon, provided the highest point does not exceed 34 feet in the case of water, and proportional heights for other fluids corresponding to their specific gravities.

Siphona'ria. A genus of gasteropods of the order *Pectinibranchiata*; and family *Capuloida*. Named from the animal being furnished with a siphuncle or hydraulic apparatus.

Sipho'nia. 1. The generic name of the elastic gum-tree (*S. elastica*), class *Monœcia*; order *Monadelphia*. It yields the *gum-elastic*.——2. A genus of sponge-like fossil exhibiting a tubular structure.

Siphonos'toma. The name of a family of parasitical crustaceans of the order *Pœcilopoda*, now divided into two tribes, the *Calagides*, comprising *Argulus* and *Caligus* (fish-louse), and the *Lerneiformes*, comprising *Dichelestium* and *Nicothoe* (lobster-louse). Name from σίφων and στόμα, a siphon or sucker fulfilling the functions of a *mouth*.

Siph'uncle, dim. of *siphon*. A hydraulic apparatus belonging to chambered shells, passing through the several chambers, terminating in a large sac, which surrounds the heart of the animal. Its use appears to be to increase or diminish the specific gravity, so that the animal may rise or descend at pleasure.

Si'ren. 1. In *antiquity*, a goddess who enticed men into her power by the charms of music, and devoured them. A mermaid.——2. The name given by Linnæus to a genus of Batrachians, of which the *S. lacertina*, which inhabits the rice swamps of Carolina, is the best known species. It attains a length of three feet; has four toes on each foot, and the tail compressed into an obtuse fin. It lives in the mud, feeds on lumbrici, insects, &c. There are other two small species.——3. *See* Manatus.

Sire'ne. In *acoustics*, an instrument for determining the velocity of aerial vibration, corresponding to the different pitches of musical sounds.

Siri'asis, Lat. from σίφος, the cavity of the fontanel. An inflammation of the brain, said to be peculiar to children, and attended with hollowness of the eyes and depression of the fontanel.

Sir'ius, Σείριος, the Dog-star. A very brilliant star of the first magnitude, in the mouth of the constellation Canis Major or the Great Dog. This is the brightest and probably the nearest of the fixed stars.

Siroc'co (Ital.). } *See* Sciroc.
Siroc'o (Span.). }

Sis'trum, σείειν, to shake. A kind of timbrel, used at the Egyptian festivals of Isis.

Sisym'brium. The Cress: a genus of herbaceous plants. *Tetradynamia—Siliquosa*. Name from σισυβος, fringed, because of its fringed roots. The common and the broad-leaved sisymbrium, the water-cress and the fixweed, or herb sophia, are British types.

Sit'ta. The nuthatch: the name of a genus of passerine birds, of the Tenuirostrine family. The beak is straight, prismatic, and pointed, and is employed in perforating the bark of trees, in search of larvæ.

Si'um. The water-parsnip: a genus of perennial plants. *Pentandria—Digynia*. Name from σιαω, to move, on account of its agitation in water. There are four British species.

Si'va. In *Hindoo mythology*, the Supreme Being, in the character of destroyer

Sixth. In *music*, a hexachord: an interval of two kinds; the *minor sixth*, consisting of three tones and two semitones major; and the *major sixth*, composed of four tones and a semitone.

Si'zars. The lowest class of students at Cambridge.

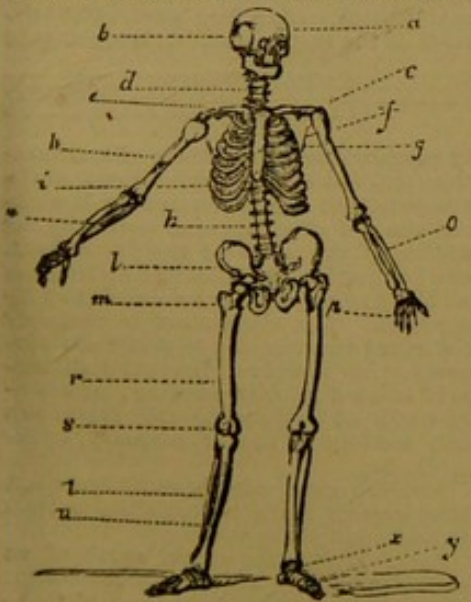
Size. A glutinous substance, prepared from different materials, as shreds and parings of leather, hides, parchment, vellum, &c., used by painters, plasterers, and others.

Si'zel. In *coining*, the residue of bars of silver, after the pieces for coins are cut out.

Skate. In *ichthyology*, a species of ray-fish, the *Raia batis*, Lin., Yarr., common on all parts of the British coast, and known by various names, as *blue-skate* in Scotland, *grey-skate* in England, and *tinker* in Lyme Regis, on account of its dusky colour.

Skein, or Rap. A quantity of cotton-yarn after it is taken off the reel. The skein contains 80 threads of 54 inches, and 7 skeins make a hank, 18 hanks a spindle.

Skel'eton. Σκελετὸν. An assemblage of the bones of an animal, cleaned, dried, and preserved in their natural position. When the bones are retained in their proper positions by their natural ligaments, the skeleton is said to be *natural*; but when they are retained in their respective situations by means of wires, the



skeleton is *artificial*. The figure shows the principal parts of the human skeleton: *a*, the os frontis (frontal bone); *b*, the os temporis (temporal bone); *c*, *e*, clavicle; *d*, the cervical vertebræ; *f*, *g*, scapula; *h*, humerus; *i*, the ribs; *k*, lumbar vertebræ; *l*, os innominatum; *m*, great trochanter; *n*, ulna; *o*, radius; *p*, phalanges of the fingers; *r*, femur; *s*, external condyle of the femur; *t*, tibia; *u*, fibula; *x*, the ancle; *y*, the tarsal bones.

Skew Back, or As'kew Back. The course of masonry forming the abutments of a segmental arch, or to the cast-iron ribs employed in bridges.

Skew Bridge. In *engineering*, a kind of bridge introduced upon railroads, when the line intersects any existing communication at right angles.

Skim'mer. Black skimmer. A bird, the *Rhynchops nigra*, Lin., so named from its mode of feeding, which is by skimming its aliment from the surface of the water with the lower mandible, while on the wing.

Skin. 1. In *anatomy*, the skin consists of two substances, placed one above the other, in the form of laminæ or layers; the inner is called the true skin; the outer is named the cuticle, epidermis, or scarf skin.——2. In *commerce*, the term is used to denote the skins of those animals, as calves, deer, goats, sheep, &c., while the term *hide* is used to designate the skins of the ox, horse, &c.

Skip. In *music*, a passage from one sound to another by more than one degree at a time.

Skirt'ing. In *architecture*, the narrow vertical board at the bottom of the wall in an apartment.

Skol'ezite. A mineral. *Thomsonite*, thus named because, when placed in the flame of the blowpipe, it twists like a worm (σκώληξ), becomes opaque, and is converted into a blebby colourless glass.

Skor'adite, } A native arseniate of iron,
Skor'odite. } of a leek-green colour (sometimes brown), so named because before the blowpipe it fuses and gives out a smell like that of garlick (σκόροδον).

Skunk. An animal of the weasel-tribe, pre-eminently remarkable for its horrible and suffocating stench. There are several species. *See* Mephitis.

Sky-roc'ket. *See* Rocket.

Sky-scra'pers. Small triangular sails, sometimes set above the royals.

Slab, Wel. *yslab*, a thin stripe. 1. A plane, or table of stone.——2. The outside plank cut off a tree, which is of unequal thickness.——3. *Slabs of tin* are the lesser masses, into which the workers cast the metal: these are run into moulds of stone.

Slab-line. A small rope by which seamen truss up the main or fore-sail.

Slack. Small coal under the size of an egg.

Slag, Dan. *slagg*. The vitreous mass

which covers the fused metals in the smelting-hearths. The slag of iron-works is usually called *cinder*, and is commonly bi-silicate of lime and magnesia, with a mixture of some metallic oxides.

SLAM. The name given in some parts to the refuse of alum-works.

SLAT. A stretcher. *See* SLOAT.

SLATE, Fr. *éclater;* Ir. *sglata*. In *mineralogy*, a genus of which the species are—1. *Mica-slate*, a mountain rock, of vast extent, and of schistose texture. It is sometimes employed for covering houses.——2. *Clay-slate*, a simple schistose mass, of a bluish-grey or greyish-black colour, of various shades, extensively distributed in Britain, and much used for covering houses; and hence called *roofing-slate*. The finer straight foliated varieties are employed as *writing-slates*; and the softer and more compact varieties are made into *slate-pencils*. It is closely connected with the mica-slate. ——3. *Whet* or *hone slate* is a slaty rock, containing a large proportion of quartz, used as a whet-stone or hone. It occurs in Saxony, Bohemia, and the Levant, (whence it takes the name of *Turkey-hone*), and also in the valley of Llanberris in North Wales.——4. *Polishing-slate* is a siliceous slaty mineral, found in Bohemia. It is supposed by some to be formed of microscopic shells.——5. *Drawing-slate*, or *black-chalk*, is of a bluish-black colour, occurs in mass, and the longitudinal fracture is slaty and glimmering. It contains about 11 per cent. of carbon, and is used in crayon-drawing, and for writing on paper and other materials. The best comes from Italy, Spain, and France; but it also occurs in the Island of Islay of fair quality.——6. *Adhesive-slate* is of a greenish-grey colour, and adheres to the tongue.——7. *Bituminous-slate* is a soft species of sectile-slate clay, impregnated with bitumen.——8. *Slate-clay*, or *shale*, is a stratified member of the coal-measures. It is simply indurated clay. There are several varieties of these species, as chlorite-slate, alum-slate, grauwacke-slate, &c.

SLAT'ER. 1. One whose business is to cover the roofs of buildings with slates. ——2. In *entomology*, *see* MILLEPED and ONISCUS.

SLATE-SYS'TEM. In *geology*, comprehends the Plynlymmon rocks, the Bala-limestone, and the Snowdon rocks. In the strata of this system are found the most ancient organic remains.

SLED, } A description of vehicle which
SLEDGE. } moves on runners, much used for conveying heavy weights, as timber, stones, &c. over soft ground, or where there are no proper roads. In England the name *sledge* is commonly used; in the United States of America *sled* is the term. The *sleigh* is somewhat different, resembling the vehicle called in Scotland a *car*. The *sled* has properly no trams, but is dragged like a harrow by means of chains or the like; the *sleigh* or Scottish *car* differs from a cart or waggon only in being slighter made and having no wheels.

SLEEP'ERS. 1. Among *builders*, timbers laid upon dwarf walls for supporting the ground-joists of floors.——2. Generally, cross horizontal timbers for fixing planking or the like where it is necessary to fill under, in order to make a secure foundation. The sleepers upon some railways are of stone; but wood is preferable as being more elastic.

SLEET. 1. In *meteorology*, a fall of rain and hail or snow together.——2. In *gunnery*, the part of a mortar passing from the chamber to the trunnions for strengthening that part.

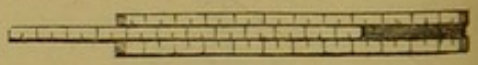
SLEETCH. The thick mud lying at the bottom of rivers.

SLICH, } The ore of any metal, but par-
SLICK. } ticularly gold, when it has been pounded and prepared for further working.

SLICK'ENSIDES. In *mineralogy*, a provincial name of a variety of galena, found in Derbyshire. It takes this name from its peculiarly polished surface.

SLIDE. In *music*, a grace used in Germany, consisting of two small notes moving by degrees.

SLID'ING-RULE. A mathematical instrument, having one or more *slides* or parts, which slide into grooves in the stock of the instrument. It is much used



in gauging, and other kinds of mensuration, and is often very convenient, as the computations are performed by it without the aid of compasses, merely by the sliding of the parts of the instrument, one by another, the lines and divisions of which give the answer or amount by inspection. The instrument is variously contrived and adapted to particular purposes: for instance, Everard's sliding-rule is used in cask-gauging; and Coggeshall's in measuring the superficies and solidity of timber, masonry, brick-work, &c.

SLID'ING-KEEL, used in small boats. A false keel let down through the bottom to hold against the wind.

SLIP. 1. Slipping of the earth of an embankment, cut, &c., arising from want of stability of the soil, badness of foundation, &c.——2. A place having a gradual descent on the bank of a river, harbour, &c., convenient for ship-building. ——3. Matter, such as that found in the

trough of grindstones after the grinding of edged-tools; any finely-ground material of an insoluble kind, diffused in water.——4. A twig separated from the main stock for planting out as a set.

Slit Deal. Inch-and quarter deal, cut into two boards.

Slit'ting Mill. A mill or machine where iron-bars are slit into nail-rods, &c.

Sloam. Layers of clay between those of coal.

Sloat. A narrow piece of timber which stretches between and holds together larger pieces, as the *sloats* of a cart, called in some parts *slat*, as the *slats* of a chair.

Sloop, Dut. *sloep*, *sloepschip*, Dan. *sluppe*. A small one-masted vessel, the mainsail of which is attached to a gaff above, and to a long boom below. The name is popularly applied to any small ship.

Slope. The name given to any inclination, but applied more particularly to those of excavations and embankments; the term *gradient* being adopted for the inclinations of the rails upon railways.

Slops. The name among seamen for all species of wearing apparel, bedding, &c., belonging to or supplied to a ship's crew.

Slough. 1. In *natural history*, the skin which a serpent casts off at its periodical renovation.——2. In *surgery*, the portion that separates from a foul sore.

Slue. In *naval usage*, to slue is to turn round a cylindrical piece of timber without shifting it from its place.

Slug. A popular name common to all those gasteropods of the Pulmonean order, which are not provided with any apparent shell. They form the genus *Limax*, Lin.

Sluice, Dut. *sluys*. A water-gate: called tautologically a *sluice-gate*. The common sluice is a description of sliding valve, set in a frame of timber, stone, or other matter, and is worked by a rack and pinion. It is used in hydraulic works, either to prevent the passage of water, or to allow it to escape, as may be required.

Slur. In *music*, a mark like the arc of a circle, drawn over two or more notes, indicating that they are to be sung to the same syllable, or made into one continued breath of a wind instrument, or played with one stroke of a stringed instrument.

Smack. A vessel with one mast commonly rigged as a sloop; used in the coasting trade.

Small-pox. Variola. An eruptive disease, characterised by acute fever. Red pimples appear on the third day; these contain pus on the eighth day, and subsequently fall off in crusts. Before the discovery of vaccination, small-pox was one of the greatest scourges of Europe.

Small Wares. The name given to textile articles, such as tapes of various sorts, braid, plaited sash cord, fringe, &c.

Smalt, Smaltz, Smalts. Powder-blue. A vitreous substance obtained by melting together zaffre, potash, and siliceous matter, and grinding the product to a fine powder. It is of a deep and beautiful blue colour, not affected by fire, and is consequently much employed in painting earthenware, &c. It is chiefly manufactured in Germany and Norway.

Smarag'dine. The colour of smaragd or emerald: a pure green colour.

Smart Tick'et. A certificate of a seaman's having been disabled.

Smelt'ing. The operation by which the ores of iron, copper, lead, &c., are reduced to the metallic state.

Smil'acine. An alkaline principle obtained from the root of the *Smilax sarsaparilla*, or *sarsaparilla* of the shops. *See* Sasseparine.

Smi'lax. Rough bindweed. An extensive genus of plants. *Diœcia—Hexandria*. Natural order *Sarmentaceæ*. Name σμιλαξ, from σμιλευω, to cut, on account of the roughness of its leaves and stalk. The China-root tree and the sarsaparilla plant are species of this genus.

Smoke Sail. A small sail hoisted to screen the quarter-deck from smoke.

Smor'zato, Ital. *extinguished*. In *music*, signifies that the violin bow is to be drawn to its full extent, but gradually lighter till the sound be nearly lost.

Smut. In *husbandry*, a disease of corn, in which a foul black substance forms on the grains. Sometimes the whole ear is blasted and converted into *smut* (foul matter). The disease often attacks maize, sometimes wheat, rarely oats.

Smyr'nium. Alexanders. A genus of perennial plants. *Pentandria—Digynia*. Name from σμυρνα, myrrh, the smell of the seed resembling much that of myrrh. Temperate climates.

Snake. 1. A popular name for the smaller species of ophidians.——2. Among *seamen*, to snake a rope is to wind a small rope round it spirally, the small rope laying between the strands of the main rope. This is also called *worming*.

Snake'root. In *botany*, a name common to two plants, the *Aristolochia serpentaria*, and the *Polygala senega*. *See* Serpentaria and Seneca.

Snake Stones. A popular name of those fossils otherwise called Ammonites.

Snake'-wood. Colubrinum lignum. The wood of the *Strychnos colubrina*, a tree which grows on the Isle of Timor, and some other parts. It is said to be a specific for the bite of the hooded serpent.

Snatch-block. A block having an opening in one of its sides, wherein to catch the bight of a rope. It is also named a *rouse-about-block*.

Sneeze'wort. An indigenous species of

milfoil, the *Achillea ptarmica*. It is so called because the powder of the dried root excites sneezing when applied to the nose.

Snipe. In *ornithology*, *see* Scolopax.

Snow, Sax. *snaw*, Goth. *snaiws*. 1. Frozen vapour.——2. A vessel equipped with two masts, resembling the main and foremasts of a ship, and a third small mast just abaft the main-mast, carrying a try-sail.

Snuff. Pulverised tobacco, variously prepared, scented, and distinguished by numerous names.

Soaps. Chemical compounds of fats and oils with soda and potash, distinguished into two sorts, *hard* and *soft*. The former is made of soda and tallow or oil, and the latter of similar oily matters and potash. When prepared of soda and tallow only it is *white* soap: when the tallow is mixed with a large proportion of rosin, palm-oil, &c., it is *yellow* soap. A great many *fine varieties* of soap are prepared for the toilet; all these, however, differ from each other, chiefly in the kind of perfume and colouring matter which they contain, and are generally inferior to good *white soap*.

Soap'stone. Another and descriptive name for steatite (q.v.).

So'ave, } (It.). Sweet, sweetly. In
Soavement'e. } *music*, denoting that the music is to be played sweetly.

So'briquet (Fr.). A burlesque appellation or nickname.

Soc, } Sax., from *socan*, to follow.
Soke. } 1. Properly the sequela, secta, or suit, of the body of suitors; hence the power or privilege of holding a court in a district, as in a manor: jurisdiction of causes, and the limits of that jurisdiction. ——2. Liberty or privilege of tenants excused from customary burdens.——3. An exclusive privilege, claimed by millers, of grinding all the corn growing within the manor in which the mill stands, or of being paid for the same as if actually ground. The payment is claimable in kind.

Soc'age, } From *soc*. A tenure of lands
Soc'cage. } and tenements by a certain and determinate service, distinct from knight-service. It is of two kinds: *free socage*, where the services are certain and honourable; and *villein socage*, where the services, though certain, are of a baser nature.

Soci'ety, Lat. *socius*, a companion. An association formed for the promotion of some object, literary, religious, benevolent, political, or convivial. Societies formed for commercial purposes are termed *companies*.

Socin'ianism. The tenets or doctrines of Socinus, who held that Christ was merely a man inspired, denied the divinity and atonement, and the doctrine of original depravity.

Sock'et Chis'el. A chisel used in mortising.

So'cle (French). A plinth. *See* Zocle.

So'da (Arabic). The mineral alkali. Pure soda is an oxide of sodium. *See* Sodium. It is not, however, found in nature in this state, being always in combination. Like potash, it is procured in an impure state, by lixiviating the ashes of burned plants, but only from those which grow upon the seashores, as the different species of *salsola* and *salicornia*. *See* Barilla and Kelp. It is now, however, almost entirely procured by the decomposition of sea-salt (chloride of sodium). The salt is first converted into sulphate of soda (Glauber's salt), which by a subsequent process is converted into a crude carbonate of soda, which, by lixiviation, &c. is converted into a dry white *soda-ash*, or into crystallised carbonate of soda. Soda is of great use in the arts, in the manufacture of glass, soap, &c., and has, to a great extent, superseded potash. Its most common salts are the acetate, borate, carbonate and bicarbonate, phosphate, sulphate, tartrate, and common culinary salt, which when dry is a chloride, and when in solution is a hydrochlorate.

Sod'alite. A variety of lapis lazuli, which contains about 25 per cent. of soda. It is found in Greenland, and at Vesuvius.

So'da Pow'ders are sold as an extemporaneous substitute for soda-water. Like Seidlitz-powders, they are put up in two papers, and managed in the same way, but their solution is a tartrate of soda, and although they form a saline and refreshing draught, their frequent use is not commendable.

So'da Wa'ter. A refreshing drink, formed by dissolving carbonate of soda in water, and super-saturating the solution with carbonic acid under pressure.

Sod-burn'ing. Burning the turf of old pasture lands for the sake of the ashes as manure, &c.

So'dium. The metallic basis of soda, discovered by Sir H. Davy in 1807, a few days after the discovery of potassium. It is procured exactly in the same way as potassium; and bears a great analogy to that metal. It is white like silver, possesses great lustre, and is a good conductor of electricity. It fuses at 200° F., and when heated strongly in oxygen or chlorine, it burns with great brilliancy. When thrown upon water, it effervesces strongly, but does not inflame, unless the water be raised to the temperature of 120°, or so. Like potassium, it is best preserved under naphtha. Sp. gr. 0·972 at 59° F.

So'fa. An elegant long seat, usually with a stuffed bottom, and mahogany or rosewood frame of six feet in length. The sofa of the Orientals, from whom we have

borrowed the name, is a sort of alcove, raised half a foot above the floor, where visitors of distinction are received. The name is also given to a covered seat on the side of a room.

SOF'FIT, } The underside of an over-
SOF'ITE. } hanging erection, as the intrados of an arch, the underside of a cornice, &c. The term is more particularly applied, in architecture, to that part of the corona or larmier which was called by the ancients *lacunaria*, and which is termed by the French *plafond*, and by us the *drip*. The term is from the Italian *soffita*.

SO'FI. A Persian word signifying a religious person, or dervish.

SO'FISM or SU'FISM. The mystical doctrines of the Mohammedan Sofis.

SOIRE'E (Fr.). Evening. An evening-party of ladies and gentlemen, at which refreshments are served up, occasional addresses delivered on miscellaneous subjects, and other means of entertainment offered.

SOIL, Lat. *solum*. The common name for that accumulation of various substances which lies upon the surface of the globe, and furnishes nutriment to plants, or which is particularly adapted to the purposes of agriculture.

SOILS. Among *builders*, a provincial term for the principal rafters of a roof.

SOL. In *music*, the fifth note of the gamut.

SOLA'NEÆ, } A natural family of plants,
SOLA'NACEÆ. } of which the genus *solanum* is the type. It includes the deadly nightshade, henbane, belladonna, tobacco, &c.

SO'LAN-GOOSE. Gannet. The common booby (*Pelicanus bassanus*, Lin.), an aquatic fowl, nearly the size of the domestic goose, found on the coast of Great Britain and elsewhere. *See* BOOBY.

SOL'ANINE. The narcotic principle of the *Solanum dulcamara*, the woody nightshade or bitter-sweet of the hedges. It has also been found in several other species of solanum, as in the berries of the *S. nigrum*, and in the fruit of the common potato. It is a pearly-white powder, alkaline, acrid, and exceedingly poisonous. It exists in the potato after germination.

SOLA'NUM. Night-shade. The name of a very extensive and important genus of plants. *Pentandria — Monogynia*. Nat. order *Luridæ*. Name from *solor*, to comfort, because some of its preparations give ease by their narcotic qualities. The bitter-sweet or woody nightshade, a climbing shrub, and the common or garden nightshade, found in waste places, are the native types of the genus; but the potato plant (*S. tuberosum*), the love-apple or tomata, mad-apple or egg-plant, the winter cherry and some other species, are now well known.

SO'LAR CY'CLE. A period of 28 years.

SO'LAR SYS'TEM. In *astronomy*, the order and disposition of the several heavenly bodies (planets, moons, and comets) that revolve about the sun (*Sol*) as the centre of motion.

SOLDANEL'LA. The name of a genus of perennial plants. *Pentandria — Monogynia*. Name *a solidando*, on account of its use in healing fresh wounds: *soldanella*, a little conqueror, dim. of *soldan*, sultan. The species are all hardy natives of Europe.

SOL'DER, } from *solidus*. A metallic com-
SOD'ER, } position for *soldering* or joining together other metals. As the metals to be united vary, the solders must of course vary likewise. Thus tin-plates, zinc, and lead, are soldered with an alloy of tin and lead; pewter is soldered with an alloy of tin, lead, and bismuth; iron, copper, and brass, are soldered with an alloy of zinc and copper; silver sometimes with pure tin, but generally with an alloy of silver, copper, and zinc; gold with an alloy of silver and gold, or of copper and gold. Platinum with pure gold.

SOLE, } In *ichthyology*, a well-known
SOAL. } marine fish, the *Solea vulgaris*, found to inhabit the Baltic, the whole of the British shores, and as far southwards as the Mediterranean. It frequents sandy ground.

SO'LEA. The sole. The name of a genus of fishes, characterised by having the eyes both on the right side: dorsal fin commencing over the upper lip, and reaching to the caudal. This genus was included by Linné in the genus *Pleuronectes*. The name is Latin from *solum*.

SO'LEN. The razor-shell or spout-fish of Scotland. A genus of molluscs. Order *Acephala testacea*. Family *Inclusa*. Animal an ascidia. The shell is cylindrical, the foot is conical, and enables the animal to bury itself in the sand, which it excavates with considerable rapidity on the approach of danger.

SOLE'NOID, *σωλην* and *ειδος*, appearance. In *electro-dynamics*, a name given by Ampère to a species of small electric currents.

SOL-FA'-ING. In *music*, the naming of the intervals, *ut*, *do*, *re*, *mi*, *fa*, &c., in the first lessons of singing. The Italians express this by the word *solfeggiare*.

SOLFATA'RA. The name of an extinct volcano, near Puzzuoli, which constantly emits aqueous vapour, and sulphureous and muriatic exhalations. Hence the word is now applied to any volcanic vent which emits similar exhalations.

SOLIC'ITOR, from *solicit*. In *law*, one who petitions for another; one who does in Chancery the business that is done by attorneys in other courts.

SOL'ID. In *geometry*, a body which has length, breadth, and thickness. A *solid*

angle is one formed by three or more plane angles, which meet in a point; a *solid problem*, in *geometry*, is one which requires the application of conic sections.——2. In *physics*, a name for all bodies, the particles of which cohere so firmly as not to be separated without some degree of force; in contradistinction to *fluid*.——3. In *anatomy*, the solids are the bones, ligaments, membranes, muscles, nerves, and vessels.

Solida'go. Golden rod. The name of an extensive genus of perennial plants. *Syngenesia—Poly. superflua.* Nat. order *Compositæ*. Name from *solido*, to make firm, in allusion to its uses in healing wounds. The common golden rod (*S. virgaurea*), is a native of Britain.

Solidun'gula. whole-hoofed: *solidus*, solid, and *ungula*, a hoof. Applied to animals of the equine genus, which have the hoof undivided.

Solifid'ians. In *theology*, those who maintain that faith alone is sufficient for salvation: *solus* and *fides*, faith.

Soli'pedes. A family of mammalia, of the order *Pachydermata*, having only one apparent toe and a single hoof on each foot; *solidus* and *pes*, a foot. One genus only is known, *Equus*, Lin.

Sol'itary, Lat. *solitarius*, from *solus*, alone. In *natural history*, applied to parts and to individuals when they exist singly. Thus peduncles are *solitary* when there is only one on the same plant; birds are *solitary* when they live alone. Most of the ferocious animals are *solitary*.

Solli'cito, It. *afflicted*, in *music*, signifies that the music is to be performed in a mournful manner: also that it is to be done carefully.

So'lo, Ital. from Lat. *solus*, alone. A tune, air, or strain to be played by a single instrument, or sung by a single voice.

Sol'stice, Lat, *solstitium*, from *sol*, the sun, and *sto*, to stand. In *astronomy*, the point of the ecliptic at which the sun ceases to recede from the equator, either north in summer, or south in winter. There are, consequently, two such points: the *summer solstice*, when the sun enters Cancer, on the 21st of June (the longest day); and the *winter solstice*, when the sun enters Capricorn, on the 22nd of December (the shortest day).

Solsti'tial Points—of the ecliptic. Those at which the sun arrives at the time of the solstices.

Solu'tion, Lat. *solutio*, from *solvo*, to melt. 1. A term applied to a very extensive class of phenomena. When a solid disappears in a liquid, the compound retaining perfect transparency, we have an example of *solution*, and the word is applied both to the *act* of combination and to the *result* of the process. Solution is the result of attraction or affinity between the fluid and the solid. This affinity continues to operate to a certain point, where it is overbalanced by the cohesion of the solid; it then ceases; the fluid is said to be *saturated;* the point where the operation ceases is called *saturation;* and the result is a *saturated solution*. The dissolving fluid is called a menstruum, or solvent.——2. In *arithmetic*, &c., the answer to a question.——3. In *surgery*, the separation of connection, or connected substances or parts, is termed *solution of continuity*.

Som'atist, from σωματιζος, corporeal, from σωμα, body. In *theology*, one who admits the existence of corporeal or material beings only.

Somatol'ogy, from σωμα, body, and λογος, discourse. The doctrine of material substances.

Somnam'bulism, from *somnus*, sleep, and *ambulo*, to walk. A term applied to sleep-walking; and also to a particular state induced by what is termed animal magnetism.

Sona'ta. An Italian term meaning a *tune*, but used to designate solos for single instruments.

Son'net, Ital. *sonnetto*. A short poem, consisting of 14 lines; two stanzas of 4 verses each, and two of three each, the rhymes being adjusted by a particular rule.

Sonom'eter, from *sonus*, sound, and μετρον, measure. An instrument for measuring sounds, or the intervals of sounds.

Soot, Sax. *sot*. The pulverulent matter condensed from smoke. It consists principally of charcoal; that from wood is pungent, nauseous, and bitter, and is found to contain some sulphate and carbonate of ammonia, an empyreumatic oil, a fixed alkali, and an insipid earth; and that from pit-coal contains besides some bituminous matter.

Soph, from *sophista*. A title given in universities to a student in his second year.

Soph'ist, from *sophista*, from σοφος, wise. A name at first given to philosophers, or men remarkable for their wisdom; next to rhetoricians; and subsequently to such as devoted their time to verbal niceties and logical quibbles. In this sense the term may be said to be in some measure applicable to all the schoolmen of the middle ages.

Sop'ra (It.). Above. In *music*, a term of description, thus, *nella parte di sopra*, in the upper part.

Sopra'no, in *Italian music*, means *supreme*, or the highest vocal part.

Sor'bic Acid. Another name for *malic acid* (q. v.), because it may be obtained, most readily and in greatest purity, from

the berries of the mountain-ash or roan-tree (*Sorbus aucuparia*).

Sorbon'ne. A college, at Paris, for the study of theology, named from the village of Sorbonne, the birth-place of its founder.

Sor'bus. The service tree: a genus. *Icosandria—Trigynia*. Name from *sorbeo*, to dry up, because its fruit stops fluxes.

Sor'des (Latin). Foul matter. The matter discharged from ulcers is thus named when it is viscid, glutinous, and of a brownish-red colour.

Sore'dia. In *botany*, heaps of powdery bodies found in lichens lying upon any part of the thallus.

So'rex. In *zoology*, the generic name of the *Shrews:* class *Mammalia:* order *Carnaria:* family *Insectivora*. The animal lives in holes, which it excavates in the earth; and feeds on worms and insects. There are several species; the *Saraneus*, Lin., is our common Field-mouse; and the rat-tailed Shrew is celebrated as being one of the animals which the Egyptians were in the habit of embalming.

So'ri, σωρος, a heap. Small heaps of reproductive granules growing upon the fronds of polypodiaceous ferns.

Sori'tes. Σωρειτης. A heap. In *logic*, an agreement, where one proposition is accumulated on another.

Sospi'ro (It.). A sigh. In *music*, the same as *rest* (q. v.).

Sostenu'to. An Italian word for *sustained*, used in music to denote the continuing of sounds, and uniting them to each other, in opposition to *spiccato*, detached.

Soth'ic Year. The Egyptian year of 365 days; so called from Sothis, the Dog-star, at whose rising it was supposed to commence.

Sot'to Vo'ce. In *Italian music*, implies soft or piano voice.

Soubahdar'. The viceroy or governor of a province in India; also the title of a native sepoy officer.

Sough. A small drain, placed at the top of an embankment, for the purpose of conveying the surface-water to the side-drain. The term is also applied to an adit in some parts of the country.

Sound. 1. In *surgery*, a probe: an instrument for feeling what is beyond the reach of the fingers.——2. In *geography*, a shallow sea, such as may be *sounded* or fathomed.——3. In *ichthyology*, the air or swimming-bladder of fish: the *vesica natantia* of Willoughby.——4. In *acoustics*, the sensation produced by the vibrations of air or other medium upon the ear with which it is in contact. A *sound-board* is a thin board placed over the head of a public speaker to strengthen the sound of his voice.

Soup, Port'able. A sort of cake, formed of concentrated broth, freed from fat, and, by long continued-boiling, from all the putrescent parts, and thereby reduced to the consistence of glue, which, in reality, it is.

South'ernwood. A shrubby species of wormwood, the *Artemisia abrotanum*, a native of the South of Europe.

Sov'ereign. 1. In *politics*, a person or body of persons in whom the legislative authority rests in every state.——2. An English coin of the value of 20*s*., and weighing 123·374 troy grains.

Sow'ans. The very nutritious article of food distinguished in Scotland by the name of *sowans*, and in England called *flummery*, "is made" (says Dr. Thomson), "from the husk of oats, by a process not unlike that by which common starch is made. The husk of the oat (called seeds), is separated from oatmeal by the sieve. It still retains a considerable portion of farinaceous matter. It is mixed with water, and allowed to remain for some days, till the water has become sour. The whole is then thrown upon a sieve. The milky water passes through, but the husk remains behind. The water thus obtained is loaded with starchy matter, which soon subsides to the bottom. The sour liquor is decanted off, and about an equal quantity of fresh water is added. This mixture, when boiled, forms a very nourishing article of food; and the portion of the sour water which adheres to the starch gives the whole a pleasant acidity." The popular opinion in Scotland, regarding the nutritious qualities of sowans, is very different from that of Dr. T. Thomson.

Soy. A kind of sauce prepared in China and Japan, from a small bean, the fruit of the *Dolichos soja*. It is eaten with fish, cold meat, &c. The Japan soy is the best.

Spa. A general denomination for a mineral spring: it is derived from a town in the kingdom of Belgium, famous for its mineral water.

Space, Fr. *espace*, Lat. *spatium*. 1. Space in the abstract is mere extension; in relation to bodies, it is the interval or distance between two or more objects.——2. In *geometry*, the area of a figure.——3. Among *printers*, a slip of wood or metal, to make a space between words or lines.——4. In *music*, the void between the lines of a staff.

Spa'dix (Lat.). A term in *botany* for an elongated receptacle, or flower-bearing spike, which emerges mostly from a spathe or sheath, and on which the sessile flowers are very crowded. The inflorescence of palms and some other plants, is a branched spadix.

Spa'his, or Sip'ahis. A part of the Turkish cavalry were so called.

Spa'lax. The generic name given by

Gulden to the Rat moles. Class *Mammalia*, order *Rodentia*. The *S. typhus* (Zanni, Slepez, Blind rat mole), is the most known. It is a singular shapeless animal, lives under ground like the moles, subsists on roots, has a large triangular head, short legs, no apparent eye; is rather larger than our rat; has smooth fur of an ash colour approaching to red. It is the blind mole of the ancients.

SPAN. 1. The space from one end of the thumb to the end of the fingers when extended: as a measure 9 inches.——2. In *nautical language*, a small line, the middle of which is attached to a stay.——3. In *architecture*, &c., the extent of an arch between its piers or abutments.

SPAN'DREL, It. *spandere*, to spread. In *architecture*, the space above the haunches of an arch.

SPAN'DREL BRACKE'TING. Brackets placed between curves.

SPAN'DREL WALL. A wall built on the back of an arch.

SPAN'ISH-WHITE. A white earth from Spain used by painters.

SPANK'ER-BOOM. A boom projecting from the mizzen-mast beyond the taff-rail.

SPANK'ER, or DRIV'ER. The gaff-sail set on the mizzen-mast of a ship.

SPAN'NER. A screw-key, an iron instrument for tightening up screw-nuts.

SPAN-PIECE. In *building*, the name given in some places to a collar-beam.

SPAN' ROOF. A common roof, formed by two inclined planes.

SPAR. 1. A small beam or rafter. This name is usually given to the round pieces of timber used for the yards and top-masts of ships.——2. In *mineralogy*, spar is applied by the working miners of England to all crystallised minerals that have a shining lustre. The term has been adopted by mineralogists, and applied synonymously with German *spath* to an order of crystallised minerals, which easily break into rhomboidal, cubical, or other forms, with polished surfaces, but without regard to the nature of the constituents, which renders a specific epithet necessary, as *calcareous* spar, *gypseous* spar, &c.

SPAR'ROWHAWK. The name of *sparrowhawk* (*Nisus*, Cuv.), is generally appropriated to those hawks whose tarsi are high and scutellated. The common sparrowhawk (*Falco nisus*, Lin.), is coloured like the goshawk, but its legs are longer, and it is a third less in size. It is used in falconry.

SPAR'RY-IR'ON ORE. Steel-ore. A valuable iron-ore found in metalliferous and common veins, in primary and secondary rocks. It consists chiefly of carbonate of protoxide of iron, and may with facility be converted into excellent steel. Its colours are grey, yellow, brown, black, &c.

SPARSE, Lat. *sparsus*, dispersed: irregularly scattered. Applied to leaves, flowerstalks, glands, stars, &c., &c.

SPAR'TIUM. Broom. A genus. *Diadelphia — Decandria*. Name σπαρτιον of Dioscorides, from σπαρτον, a rope. According to Don, the Spanish broom is the only species; but, according to others, the common and white broom, with 17 or 18 species of genista, belong to the genus.

SPASM. Σπασμος, from σπαω, I draw. A violent, involuntary, and continued contraction of the muscular fibres. Spasms are distinguished into *clonic* and *tonic* spasms: the clonic spasms are true convulsions; the contractions and relaxations are alternate; but in *tonic spasms* the member remains rigid.

SPATHA'CEÆ. A natural order of plants, comprehending the narcissus and such as have their flower protruding from a spathe.

SPATHE, σπαθη, spatha. A sheath or covering of an immature flower, which bursts longitudinally, and is more or less remote from the flower.

SPAT'ULA, Lat. dim. of *spatha*. An apothecary's instrument for spreading plasters, &c.

SPAT'ULATE, Lat. *spatulatus*, battledore-shaped. Applied to leaves, &c., of a roundish figure, tapering into an oblong base.

SPA'VIN. In *farriery*, a disease of horses, a bony excrescence or crust that grows in the inside of the hough. There is also a *blood-spavin*.

SPEAK'ER (of the House of Commons), a member of the house, elected by a majority of votes, to act as chairman or president in putting questions, keeping order, reading briefs of bills, &c. He votes only when the house is equally divided.

SPE'CIALTY. In *law*, any instrument in writing under seal.

SPE'CIE. A term used for gold and silver coin, in contradistinction to *paper money*.

SPE'CIES, Lat. from *specio*, to see. Individual animals, plants, or minerals, agreeing in their appearances or their composition. Their similarity gives rise to the establishment of species. Individuals or species, differing in circumstances arising from accident; in plants and animals, from soil and climate; in diseases, from constitution, &c.; in minerals, from locality, are termed *varieties*. The circumstances which are common to one or more species give rise to a division, or the formation of a genus. A *species* is a collection of all the individuals which resemble each other more than they resemble anything else; which can, by mutual fecundation, produce other individuals;

and which reproduce themselves, by generation, in such a manner that we may from analogy suppose them all sprung originally from one single individual.

Specif'ic. 1. A medicine possessed of sovereign efficacy in the cure of a particular disease.——2. An epithet applied to a medicine which acts on some particular organ more than on others.

Specif'ic Grav'ity. The relative weight of equal portions (as to bulk) of different kinds of matter. *See* Gravity.

Specif'ic Name; is now used for the name which, appended to the name of the genus, constitutes the distinctive name of the species.

Spec'tres. A family of orthopterous insects, comprehending such as have an attenuated body.

Spec'trum, Lat. plural *spectra*, from *specto*, to behold. 1. A visible form; an image.——2. The image formed on any white surface by a ray of solar light passing through a small hole into a dark chamber, when refracted by a triangular glass prism. The ray is divided into seven, exhibiting the seven colours observable in the rainbow; the image is called the *spectrum*, and, because it is produced by means of a prism, it is further termed *the prismatic spectrum*, and the colours making up the spectrum are the *prismatic colours* (q. v.).——3. An *ocular spectrum* is an image of a bright object, such as the setting sun, which continues for some time visible after closing and covering the eyes.

Speculum, Lat. from *specio*, to view. 1. A mirror.——2. A metallic reflector, made use of in catadioptric telescopes, instead of the object-glass used in the dioptric telescopes. The *speculum metal* is an alloy of copper and tin.——3. A surgical instrument for opening or obtaining a view of parts.

Speiss, } A compound ore of nickel and
Speise. } antimony

Spelt. A name of that species of Triticum called otherwise *German wheat*.

Spel'ter. The commercial name of *zinc* (q. v.).

Spermace'ti, from σπερμα, seed, and κητος, the whale. A product obtained from the brain of the *Physeter macrocephalus*, or long-headed whale, which inhabits the southern ocean. The brain being dug out of the cavity of the head, and the oil separated from it by dripping, the residue is crude spermaceti, which is purified and used in the manufacture of candles, in medicine, &c.

Spermoph'ilus. The generic name given by Fred. Cuvier to those marmots that have cheek pouches. The superior lightness of their structure has caused them to be called *ground squirrels*. Eastern Europe produces one species, the souslik or zizel; America produces several of them.

Spha'cel, from σφαζω, to destroy; complete mortification.

Sphacel'ism, from σφαζελιζω, to gangrene. 1. A gangrene.——2. An inflammation of the brain.

Sphag'nous. Mossy; containing peat-moss.

Sphag'num Palus'tre. A kind of moss, the decayed roots of which constitute the greater part of peat-moss.

Sphene, from σφην, a wedge. A mineral, a silicate of titanium and lime. Its colours are commonly greyish, yellowish, reddish, and blackish brown, with various shades of green. It is found amorphous and in crystals.

Spheno'id, from σφην, a wedge, and ειδος, likeness. Wedge-like: applied to a bone of the skull (*sphenoides os*), because it is wedged in among the other bones of the head.

Sphe'no-max'illary. Relating to the sphenoid and maxillary bones.

Sphe'no-pal'atine. Relating to the sphenoid and palate bones.

Sphe'no-pari'etal. Relating to the sphenoid and parietal bones.

Sphe'no-tem'poral. Relating to the sphenoid and temporal bones.

Sphere, Lat. *sphæra*, Gr. σφαιρα. A globe: a solid generated by the revolution of a semicircle about its diameter, which remains fixed. The centre of a sphere is equidistant from every point of its surface, and all its radii are equal.

Sphe'rical Excess is the sum by which the three angles of a triangle, on the surface of a sphere or spheroid, exceeds two right angles.

Sphe'rics. The doctrine of the sphere and spheroid. The solid contents of a sphere or spheroid is found by multiplying the square of the equatorial diameter by the axis of rotation and the product by 5236.

Sphe'roid, from σφαιρα, a sphere, and ειδος, like. A solid approaching the figure of a sphere, formed by the revolution of a semi-ellipsis about its axis. When it is generated by the revolution of a semi-ellipsis about its transverse or longest diameter, it is an *oblong spheroid;* when about its conjugate or shortest diameter, it is a *prolate spheroid*. The fixed axis of the ellipse is called the *axis of rotation;* the circle described by the semi-axis of the ellipse is the *equatorial circle*.

Sphero'meter, σφαιρα and μετρον, measure. An instrument for measuring the thickness of small bodies, the curvature of optical glasses, &c.

Sphex. The solitary or savage wasp:

a genus of hymenopterous insects belonging to the family *Fissores*, Cuv.

Sphigmo'meter, σφιγμος, the pulse. An instrument for counting the arterial pulsations.

Sphinc'ter, from σφιγγω, to contract. The name given to certain muscles, whose office is to contract the part in all directions, drawing it together, as the mouth of a purse is contracted by a string passing round it.

Sphinx, Lat. from σφιγξ. 1. A fabulous monster of Egypt, having the body of a lion, and the face of a young woman.—— 2. In *entomology*, the hawk-moth: a genus of lepidopterous insects. Family *Crepuscularia*. It is so named from the attitude of several of the caterpillars, which resembles that of the fabled monster.

Sphragis'tics, σφραγις, a seal. The science of seals, their history, peculiarities, and distinctions.

Spica Virginis. A star of the first magnitude in the constellation Virgo.

Spice, Fr. *epice*. A name which includes all those vegetable productions which are fragrant to the smell, and pungent to the taste, as cloves, allspice, &c.

Spi'cate. 1. Eared like corn: *spica*, an ear of corn.——2. Having spikes.

Spicca'to, It. *divided*. In *music*, nearly synonymous with *staccato* (q. v.).

Spic'ule. A spikelet or spiket; *spicula*, dim. of *spica*, a spike. Applied to grasses that have many florets on one calyx: such florets ranged on a little stalk constitute the spikelet.

Spige'lia. Worm-grass. A genus of plants. *Pentandria—Monogynia*. Named by Linné, in commemoration of Adrian Spigelius, who wrote *Isagoge in Rem Herbarium*, in 1606. West Indies and America.

Spike. Spica. 1. An ear of corn.——2. A species of inflorescence in which sessile flowers are alternate, on a common simple peduncle, as in wheat and rye, lavender, &c.——3. A long nail; also a piece of pointed iron, like a long nail, inserted with the point outwards, as on the tops of walls, gates, &c., to prevent people from passing over them.

Spike'nard. A plant, the *Nardus indica*.

Spi'na. A thorn originating from the substance of the wood: aculei or prickles are only affixed to the bark.

Spina'cia. Spinage. A genus of one species, an annual plant. *Diœcia—Pentandria* As an article of food it is similar to cabbage and other oleraceous plants.

Spin'dle. In *mechanics*, a term synonymous with axes. When several axes occur it is usual to denominate the subordinate or smaller axes as spindles.

Spine. 1. In *botany*, *see* Spina.——2. In *anatomy*, the *spina dorsi*, or bone of the back, reaching from the head to the *os sacrum*. It is a series of 24 vertebræ in the human subject.

Spinel', Fr. *spinelle*. A sub-species of corundum, which occurs in regular crystals, and sometimes in rounded grains. It is coloured red, black, blue, brown, &c by oxide of chromium, chromic acid, oxides of iron, &c.

Spinel'lane. A variety of dodecahedral zoolite which occurs on the banks of the river Laach, near Andernach. Its usual colour is blackish-brown, and its form a six-sided prism, terminated by three-sided summits, with alternate, but different, faces. It is a silicate of alumina and soda, with some oxide of iron.

Spin'et, Ital. *spinetto*. A musical instrument, thus named from *spina*, a thorn or quill, the tone being produced by a crow's-quill, inserted in the tongue of a little machine called a jack.

Spin'ners, or Spin'nerets. Organs with which insects spin their silk or webs.

Spin'ning-genie, improperly spelt *jenny*. A machine for spinning cotton, &c., invented about 1767, by James Hargreaves, a weaver, near Blackburn, in Lancashire. It was long ago superseded by the *mule*, a machine which, combining the principles of the genie and water-frame, has in a manner superseded both.

Spin'ozism. The principles of Spinoza, a native of Amsterdam, consisting of a mixture of Atheism and Pantheism.

Spi'o. A genus of annulata: order *Dorsibranchiata*. The species are small worms, from the Arctic ocean, that inhabit membranous tubes.

Spir'acle, Lat. *spiraculum*, a breathing hole. The spiracles are the external orifices of the air-tubes of insects: also called stigmata.

Spi'ral. 1. A curve, of a circular kind, which in its progress recedes from its centre. The common cork-screw is a good example.——2. In *botany*, spiral vessels are membranous tubes lined with an elastic fibre, twisted spirally, for the conveyance of air.

Spire, Gr. σπειρα, twisting. 1. In *geometry*, a line drawn progressively round the same axis with a distance between each circle: also a curved line; anything wreathed or contorted.——2. In *architecture*, a spire among the ancients was the base of a column, and sometimes the astragal or torus; but among the moderns, it designates a steeple, which diminishes as it ascends, either pyramidally or conically.

Spir'it. 1. *Spiritus*. This name was formerly given to all volatile substances collected by distillation. Three principal kinds were distinguished: inflammable or ardent spirit; acid spirits; and alka-

fine spirits. The word *spirit* is now almost exclusively confined to the various preparations of alcohol and ether.——2. In *commercial language*, the name of spirits comprehends all inflammable liquors obtained by distillation; as brandy, rum, geneva, whisky, &c. *British spirits* are such as are manufactured in Britain, as whisky and gin.

Spir'it of Salt. An old name for muriatic or hydrochloric acid.

Spir'it of Wine. *Esprit de vin.* Pure spirit, so called because formerly obtained only from wine. *See* Alcohol.

Spir'it Level. An instrument for ascertaining the deviation of any surface from the plane of the horizon. *See* Level.

Spiritoso, } (It.). With spirit. In
Spirito. } *music*, denotes a spirited manner of performing.

Spiritualism. That system, opposed to materialism, according to which all that is real is spirit.

Spir'ketting. In *ship-building*, the plank on the side between the waterway and the port-sill.

Spir'oil. In *chemistry*, the supposed base of the volatile oil extracted from the flowers of the *spiræa ulmaria*. The oil itself is a compound of C12 H5 O4.

Spiroi'late. A compound formed by the spiroilic acid with a base. All the spiroilates fulminate when heated in the air, and when mixed with a combustible body and heated they detonate.

Spiroil'ic Acid. An acid discovered by M. Löwig, by treating the hydrospiroilic acid (volatile oil of *spiræa ulmaria*) with nitric acid. The oil is changed into a solid crystalline mass, which is spiroilic acid. It has scarcely any smell, is tasteless, but produces a violent feeling of irritation in the pharynx, dissolves readily in alcohol and ether, and shows a tendency to crystallise.

Spir'ula. The name of a genus of multilocular shells. Some of the species still inhabit tropical seas, where they float on the surface of the ocean; others are only found fossil.

Splanchnol'ogy, from σπλαγχνον, an entrail, and λογος, discourse. The doctrine of the viscera.

Splayed. In *architecture*, signifies an angle cut off.

Spleen, Lat. *splen*, Gr. σπλην. A spongy viscus, of a livid colour, and so varied in form, situation, and magnitude, that nothing general can be determined regarding them. In its normal condition it is always placed on the left side, in the left hypochondrium, between the eleventh and twelfth false ribs.

Splen'algy, from σπλην, the spleen, and αλγος, pain. A pain in the spleen or its region.

Splen'tis. Inflammation of the spleen, from σπλην, the spleen.

Splenius. A flat muscle at the back of the neck.

Splen'dent, Lat. *splendens*, shining. A term applied to minerals as regards their degree of lustre. The smooth surface of most of the metals are splendent.

Spli'cing. The process of joining the ends of a rope together, or of uniting the end of a rope to any part thereof by interweaving the strands in a regular manner. There are several kinds of splicing, according to the services for which it is intended, all characterized by particular epithets. The joining is called a *splice*. To *splice the main brace*, is to have an extra allowance of spirits in cases of cold and wet.

Splint. In *surgery*, a long piece of wood, tin, strong pasteboard, or the like, employed for preventing the ends of broken bones from moving so as to interrupt the process by which fractures unite.

Splint-bone. A name for the fibula.

Splint'ery. A term in mineralogy, applied to a particular fracture of minerals. The fracture is *splintery* when the surface produced by breaking the mineral is nearly even, but exhibits little *splinters* or scales somewhat thicker at one extremity than the other, and still adhering to the surface by their thicker extremities.

Split-cloth. In *surgery*, a bandage which consists of a central portion, and six or eight tails; used principally for the head.

Spo'dium. Σποδιον. An old name for many powders obtained by calcination; as ivory black, metallic calces, &c.

Spod'umene. In *mineralogy*, the name given by Jameson to the Triphane of Haüy. It is a rare mineral, found in the iron mine of Uton, in Sweden, and in some primary rocks in Ireland. Name from σποδόω, to reduce to ashes: σποδιον, spodium, because before the blowpipe it exfoliates into little yellowish or grayish scales. It consists of silica, alumina, lime, potash, and oxide of iron.

Spoil. Spoil-bank. The surplus excavation which is laid by the side of a line of railway, canal, or other work, to save the expense of removal, and which occurs when the amount of cutting upon the line exceeds that of the embankment.

Spoke (of a wheel). The spokes are the small bars which are inserted into the nave, and which serve to support the rim or felly.

Spoke-shave. A sort of plane used in dressing the spokes of wheels and for other curved work where the common plane cannot be applied.

Spolia'tion, Writ of, in *English ecclesiastical law*, is obtained by one of the

parties to a suit suggesting that his adversary has wasted the fruit of his benefice.

SPON'DEE, Lat. *spondæus*. A poetic foot of two long syllables, as *ōmnēs*.

SPON'DYLE, Lat. *spondylus*. A joint of the spine; a vertebra.

SPON'DYLIS. The name given by Fabricius to a genus of tetramerous coleoptera, belonging to the family *Longicornes*, Cuv. Named from its globular and spinose thorax.

SPON'DYLUS. The name of a genus of marine shells found attached to rocks, coral, &c., and remarkable for their spines and rich colouring; whence the name.

SPONGE, } Lat. *spongia*, Gr. σπογγια. A
SPUNGE, } marine production, very soft, light, and porous, and highly compressible; readily imbibing water and as readily giving it out again. It is found adhering to rocks, particularly in the Mediterranean Sea, about the islands of the Archipelago, and in the Red Sea. It was formerly supposed to be a vegetable production, but it is now classed among the zoophytes, and when analysed affords the same principles as animal substances generally.

SPONGE-TENTS are employed by surgeons to dilate fistulous cancers, &c. These are prepared by dipping sponge into some hot cerate, and pressing it between two iron plates; when cold it may be cut into any desired forms.

SPON'GIA. Sponge. A genus of zoophytes. Order *Coralliferi*; family *Corticati*. The species are numerous, and assume innumerable shapes, as shrubs, horns, tubes, vases, fans, globes, &c. &c. The common sponge is the *S. officinalis* of naturalists. *See* SPONGE.

SPON'GIFORM QUARTZ. A name of Floatstone. It is light and porous like sponge.

SPON'GIOLE. In *vegetable physiology*, an organ situated at the extremity of the root, and thus named from its peculiar texture. It is by the spongioles, thus situated, that plants are enabled to absorb. They are constructed of common cellular spongy tissue, and they imbibe the fluids which are in contact with them partly by capillary action, and partly by a hygroscopic power.

SPON'SIONS, in *international law*, are authorised engagements made on behalf of states.

SPONTOO'N. A military weapon borne by officers of infantry: a sort of half pike.

SPOOL, Ger. *spule*. A hollow cylinder on which yarn is wound. It is larger than the *pirn* on which the yarn is wound for the shuttle.

SPOON'DRIFT. In *nautical language*, a spray swept from the surface of the agitated water during a tempest.

SPOR'ADIC, from σπειρω, to sow. An epithet applied to diseases which are not epidemic, but occur here and there from causes affecting only the individual.

SPOR'ULE, from σπορα, seed. The organ of reproduction in cryptogamic plants.

S. P. Q. R. In *antiquity*, an abbreviation of the words *Senatus Populusque Romanus*, the Senate and the Roman people.

SPRAIN. A subluxation; an excessive strain of the ligaments of a joint, without dislocation.

SPRAT. A small fish, the *Clupea sprattus*, Cuv. and Yarr., found to frequent the whole of the British Coasts. The sprat rarely reaches 6 inches in length. It feeds on small crustaceous animals, and itself forms an agreeable and cheap food.

SPRAY. Water driven from the top of a wave, &c. by the wind: *spray* is only occasional; *spoondrift* is continuous.

SPRING. 1. In *mechanics*, an elastic body which, when distorted or compressed, has the power to restore itself. Thus the spring of a watch is a fine piece of tempered steel, coiled up in a cylindrical case; by stretching itself it puts the wheels, &c. in motion.——2. In *navigation*, a rope passing out of one extremity of a ship, and attached to a cable from the other, to bring her broadside to bear on the object.——3. In *astronomy*, one of the seasons: that commencing, in the northern hemisphere, when the sun enters Aries, about the 21st of March. In common language, we reckon spring from the 1st February.——4. In *hydraulics*, a fountain of water rising out of the ground.

SPRINGES. Nooses of horse-hair, &c. to catch birds.

SPRIN'GING. In *architecture*, the lowest part of an arch, or the point from which it springs or rises.

SPRING-TIDES. The tides that follow the new and full moon: in distinction to *neap-tides*.

SPRIT. A small boom, pole or spar, which crosses the sail of a boat diagonally, from the mast to the upper aftermost corner, which it is used to extend and elevate.

SPRIT-SAIL. 1. The sail extended by a sprit.——2. A sail attached to a yard which hangs under the bowsprit.

SPRUCE. 1. A species of fir, the *Pinus abies*. —— 2. A fermented liquor called *spruce-beer*, being made of treacle or molasses, and the "essence (decoction) of spruce."

SPUN-YARN. Among *seamen*, a line formed of three rope yarns twisted.

SPUR-ROYAL. Spur-rial, or royal. A gold coin first struck in the reign of Edward IV. It was worth 15*s*. in the reign of James I.

SPUR'LING-LINE. Among *seamen*, the line which forms the communication between the wheel and the tell-tale.

Squad'ron. A body of cavalry, of from 100 to 200 men. Also, a detachment of ships employed on an expedition.

Squall. The sea term for a gust of wind.

Squaloid, from *squalus*, a shark. The squaloid division of fossils are related to the shark tribe. The species abound in the tertiary strata.

Squalus. The name given by Linné to the true shark. Order *Chondropterygii Branchiis fixis*, family *Selachi*. There are numerous species, several viviparous. The most celebrated is the white shark (*S. carcharias*, Lin.), which attains a length of 25 feet. It inhabits every sea. *See* Carcharias. The basking shark (*S. maximus*, Lin.), is the largest of all the squali, but it has none of the characteristic ferocity of the tribe. The blue shark, angel fish, or monk, sea-fox, or long-tailed shark, hammer-headed shark, or balance-fish, are species of less note.

Squamipen'nes, from *squama*, a scale, and *penna*, a wing or fin. The name given to a family of acanthopterygious fishes, because the soft and frequently the spinous parts of their dorsal and anal fins are covered with scales. The species are abundant in the seas of hot climates, and are adorned with the most beautiful colours. They frequent rocky shores, and are eaten. They form the genus *Chætodon*, Lin.

Square. In *geometry*, a quadrilateral figure, with right angles and equal sides.

Square Measures. The squares of the lineal measures.

Square Number. The product of a number multiplied by itself.

Square-rigged. An epithet applied to a ship that has long yards, at right angles with the length of the deck, in contradistinction to sails extended obliquely by stays or lateen yards.

Square-root. In *arithmetic*, &c., the second power of any number or the product arising from the multiplication of a number into itself. *See* Involution and Evolution.

Square-sails, are such as are extended by a yard, distinguished from others, extended by booms, stays, lateens, and gaffs.

Squaring the Circle is attempting to make a square that shall be equal to a given circle.

Squar'rose, } Lat. *squarrosus*, rough,
Squar'rous. } scabby, scurfy, scaly, from *squarra*, roughness of skin. Applied chiefly in *natural history*, when the body is invested with scales widely divaricating.

Squill. Sea Onion. A plant with a large bulbous root, the *Scilla maritima*, which grows spontaneously on the sandy shores of Spain and the Levant. The root is one of the most powerful and useful remedies in the Materia Medica.

Squirrel. The several species of squirrel form the genus *Sciurus*, Lin. They are light, active creatures; live on trees, feed on fruits, and are particularly marked by their long bushy tail. *See* Sciurus.

Stacca'to (It.), separated. In *music*, denoting that the notes to which it is affixed are to be detached in a striking way from each other.

Stack. Corn in the sheaf piled up in a circular or rectangular figure, brought to a point or ridge at top.

Stac'te. Στακτη, from σταζω, to distil. 1. That kind of myrrh which distils or falls in drops from the trees.——2. A very liquid species of amber.

Stadium. Σταδιον. 1. An ancient Grecian measure of length, containing 125 geometrical paces, or 625 Roman feet; consequently it corresponded nearly to our furlong.——2. Also a race-course for men and horses, and the ground on which the wrestlers and athletæ exercised.

Staff, Fr. *estafette*, It. *staffetta*. An express, a courier. 1. In the *army*, an establishment of officers, in various departments, attached to the commandant of an army. It consists of a quarter-master-general, adjutant-general, and major of brigade. The *regimental staff* consists of the adjutant, quarter-master, chaplain, surgeon, &c.——2. In *surgery* (Sax. *staef*, a stick, a crook, prop, or support), a grooved steel instrument, introduced through the urethra into the bladder, to guide the knife in the operation of lithotomy.——3. In *music*, the five lines upon which the music is written.——4. In *architecture*, a *staff-angle* is a square rod of wood, standing flush with the wall on each of its sides, at the external angles, to prevent their being damaged.

Stag'gers. In *farriery*, a disease of horses, cows, and sheep. It is said to be a kind of apoplexy, in which the animal reels or staggers. It appears rather to be a species of hydrocephalus.

Stag'yrite. An appellation given to Aristotle, from Stagira, a town of Macedonia, where he was born.

Stained Glass. Glass on which pictures have been painted with metallic oxides, chlorides, &c., ground up with proper fluxes, and fused into its surface by the application of heat. The colours are all transparent.

Staith. The line of rails forming the extremity of a railway, and generally occurring next rivers, being laid down upon high platforms, for the purpose of discharging coals, &c. into the holds of the vessels, or receptacles prepared for them.

Stalac'tite, σταλακτις, from σταλαζω, to drop. A concretion of carbonate of lime, pendent from the roof of a cavern,

and produced by the percolation and dripping of water holding in solution, or super-saturated with, carbonate of lime. The mode of formation of a stalactite resembles that of an icicle.

Stalag'mite, from σταλαγμος, a dropping. A concretion of carbonate of lime, originating from the same cause as stalactite, but formed upon the floor of a cavern or grotto, by the dropping of the lime-water from the roof, which, under these circumstances, is usually covered with stalactites. It sometimes happens, that the stalactites increasing downwards, and the stalagmites increasing upwards, the two become united, and form a column extending from the floor to the roof. Some caverns have been completely filled in this manner, and present a solid mass of carbonate of lime, which in some instances, as at Carrara, has been placed among the finer marbles.——2. The name of a genus of plants. *Polygamia—Monœcia.* The species yield a sort of bastard gamboge; whence the name from σταλαγμος, distillation, the gum escaping as if by distillation.

Stalk, stem, Lat. *caulis* and *scapus.* 1. That part of a plant rising immediately from the root, and which usually supports the leaves, flowers, and fruit. The *culm* is the stalk of grasses.——2. In *architecture*, an ornament resembling a stalk, in the Corinthian capital, from which the volutes spring.

Stalk'ing. A sporting-term, applied to a kind of screen (which is sometimes a horse), to hide the sportsman till he gets within shot.

Stall. In *church rituals*, the seat of a dignified clergyman in the choir.

Stall'age. A duty paid for being permitted to set up a stall, in a fair or market.

Sta'men. The male organ of plants, found generally with the corolla near the pistil, consisting of two parts, the filament and the anther. The plural is *stamens* or *stamina.*

Stam'ina. 1. A term applied in *physiology* and *pathology* to the degree of strength and vigour in the constitution. ——2. The simple original particles which exist in the embryo or seed, by whose augmentation the animal is subsequently formed.

Stamini'ferous, Lat. *staminiferus*, stamen-bearing. Applied to flowers and florets which contain one or more stamens and no pistils.

Stamp. 1. Any instrument for making impressions by pressure or mere force on other bodies; also the impression so made.——2. A kind of large pestle for *stamping* or pounding or beating ores, &c.——3. A paper or parchment, on which a tax is paid.

Stamp'-duties. A general name for all those taxes which bear evidence of the payment in the stamp impressed on the paper, or parchment. Most legal instruments are drawn on *stamps*, that is paper or parchment which has paid a certain amount of tax.

Stamp'ing Mill. A machine in which ores are pounded by means of a stamp.

Stan'chions. The sea term for upright supports in general.

Stand. A sea term, used variously.—A sail *stands* well or ill; a ship *stands* on her course; and so on.

Stan'dard. 1. An ensign of war: a staff with a flag or colours.——2. That which is established by a competent power, as a rule or model, as *standard* weights and measures.——3. In *coinage*, the proportion of weight of pure metal and of alloy established by authority. Our standard for gold and silver coins is $\frac{11}{12}$.——4. In *ship-building*, an inverted knee placed upon the deck, instead of beneath it, with its inverted branch turned upward from that which lies horizontally.——5. In *botany*, the upper petal of a papilionaceous corolla, called also the *banner.*

Stan'naries. Tin-mines and works: from *stannum*, tin.

Stan'nic Acid. A name which has been given to the peroxide of tin (*stannum*), because it is soluble in acids.

Stan'za (Italian). 1. In *poetry*, a number of lines or verses, connected with each other, and ending in a full-point or pause; a part of a poem containing every variation of measure or relation in that poem.——2. In *architecture*, an apartment or division in a building.

Stapes. A stirrup, *in quo pes stat.* The name of a bone of the internal ear, and somewhat like a stirrup.

Staphylo'ma, } Lat. from σταφυλη, a
Staphylo'sis. } gripe. A disease of the eye-ball in which the cornea loses its natural transparency, rises above the level of the eye, and successively even projects beyond the eye-lids in the form of an elongated whitish tumour, which is attended with a total loss of sight.

Staph'ysine A solid substance, of an alkaline nature, and an exceedingly acrid taste, obtained from *Delphinium staphysagria* or *stavesacre*, a biennial plant, which grows plentifully in the south of Europe.

Sta'ple, Sax. *stapel*, *stapul*, a stake. 1. In *commerce*, a settled mart or market; an emporium. Formerly the king's *staple* was established in certain ports or towns; and certain goods could not be exported without being first brought to these ports to be rated, and charged with the duties payable to the crown. Hence

the words *staple commodities* came in time to signify the principal commodities produced by a country for exportation or use.——2. The thread or pile of the textile articles, cotton, wool, and flax. Thus, Sea-island cotton is of a fine long *staple*. ——3. A loop of iron formed with two points to be driven into wood, &c.

STAR. Stars are fixed or planetary. 1. The *fixed stars* are known by their twinkling, and by their being always in the same position in relation to each other. The planets shine with a steady light, and are constantly changing their position with regard to the other heavenly bodies. The *pole star* is a bright star in the tail of the little Bear (*Ursa minor*), and is so called from its being very near the North pole.——2. The figure of a star: a radiated mark in writing or painting: called also an asterisk, and marked thus *. It is used as a mark of reference, or to fill a blank where letters are omitted.

STAR'-AP'PLE. The fruit of a species of Chrysophyllum, which grows in the warm climates of America. It is an olive-shaped fleshy fruit, eaten by way of dessert.

STAR'BOARD. In *navigation*, the right-hand side of a ship, looking forward, as larboard is on the left-hand side.

STARCH. A white pulverulent substance, consisting of microscopic spheroids, containing amylaceous matter. It exists in a great many plants. Potatoes yield it in large quantity; it exists abundantly in the stems of some monocotyledonous plants, especially of the palm tribe; and all the edible grains, as wheat, rye, rice, &c.; and siliquose seeds, as beans and peas, afford in it such quantity that the preparation of it from these is now an extensive manufacture. Wheat is the grain commonly employed for making starch.

STAR-CHAM'BER. Formerly a court of criminal jurisdiction in England. It was abolished by Stat. 16 Charles I.

STAR'FISH. Sea-star. A name common to a genus of zoophytes, from the shape of the animals. *See* ASTERIAS.

STAR'-FORT. In *fortification*, a work with several faces, and salient and re-entering angles. A *star-redoubt* is built of the same form.

STAR'LING. 1. In *ornithology*, *see* STURNUS.——2. In *engineering*, *see* CUTWATER.

STAR'OSTS. Polish noblemen who possessed certain castles and domains, called *starosties*.

STAR-SHOOT. The *Tremella nostoc*, an indigenous greenish jelly, which is edible.

STAR-THIS'TLE. 1. The *Carlina acaulis*. ——2. The *Centaurea calcitrapa*, an indigenous perennial. The Jersey Star-thistle is another species of centaury found in Jersey.

STA'TER. An ancient Greek coin.

STA'TICE. The Sea Drift. A genus of plants. *Pentandria—Pentagynia*. Name from στατιζω, to stop, on account of its supposed efficacy in restraining fluxes. The marsh-rosemary of America, and the sea-lavender or red behen, are examples.

STAT'ICS, from στατος, standing. 1. That branch of mechanical science which treats of the equilibrium, pressure, weight, &c. of solid bodies when at rest. ——2. The science which considers the weight of bodies.

STA'TION. 1. In *astronomy*, a planet is at its *station*, or is *stationary*, when its motion in right ascension ceases.——2. In *surveying*, the place of observation for measuring angles.——3. In the *Romish Church*, *station* is applied to churches in which indulgences are granted on certain days.——4. In *railway economy*, halting-places along the line, for taking-up and setting-down passengers, the extremes being named *termini*.

STA'TIONARY. Fixed, not progressive or regressive. The sun is *stationary* in Cancer. The Court of England, which was formerly itinerary, is now *stationary*. Steam-engines which work permanently at the same place are *stationary*, as distinct from *locomotives*. Some railways are worked by *stationary-engines*.

STA'TIONERY. Writing-paper and the general contents of a stationer's shop.

STA'TION POIN'TER. In *maritime surveying*, an instrument for laying down on a chart the position of a place, from which the angles subtended by three known distant objects are measured.

STATIS'TICS, Lat. *status*, condition. The science which determines the condition of a country, in reference to its extent, population, industry, wealth, power, and the like.

STA'TUARY. The art of carving images, or representations of life; also one who practises or professes the art of making statues. Statuary is a branch of sculpture.

STAT'UE, Lat. *statua*, from *statuo*, to set. Statues are figures of men, and other objects, formed out of marble by the chisel.

STA'TUS QUO. In *politics*, a treaty between two or more belligerents, by which each party is restored to the same state as before the war, possessing the same territories, fortresses, &c.

STAT'UTE, Lat. *statutum*, from *statuo*, to set. An act of the legislature of a state, which extends as law to all the subjects of that state; as distinguished from an act, which relates only to an individual or company. *Statutes* are positive law, and distinguished from *common law*: the former owe their binding force to a positive declaration of the supreme power; the latter owes its binding force to the principles of justice, and long use and consent of the people.

STAVE. 1. A narrow piece of wood of which casks, &c. are made.——2. In *music*, the five horizontal and parallel lines on which the notes of tunes are written or printed: written now more commonly *staff*.

STAY. In the *rigging of a ship*, a long strong rope, employed to support the mast, by being extended from its upper end to the stern of the ship. The *fore-stay* reaches from the foremast-head towards the bowsprit-end; the *main-stay* extends to the ship's stem; the *mizzen-stay* is stretched to a collar on the main-mast, above the quarter-deck, &c. *Stays*, in *seamanship*, also implies the operation of going about, or changing the course of a ship, with a shifting of the sails. *To be in stays*, is to lie with the head to the wind, and the sails so arranged as to check her progress.

STEAM. In a general sense, this word is used to signify the visible cloudiness arising from the condensation of aqueous vapour, expelled by heat; but in a stricter sense, it is the aqueous vapour arising from water when heated to 212° and upwards. To account for the force of steam, it must be observed, that water is composed, like other bodies, of particles or atoms held together by the force of cohesive attraction, which heat has the power of decreasing; or, rather, of imparting a repulsive force, which is intense in proportion to the degree of heat applied. Thus the pressure of steam from water at 212° is equal to a column of mercury of 30 inches; from water at 320°, it is equal to a column of 135: the first is 14 lbs. 11 oz., the latter 66 lbs. 1 oz.

STEAM'-BOAT, } A vessel propelled by
STEAM'-VES'SEL. } the force of steam. Perhaps the first vessel of this sort was that of the Marquis de Jouffrey, upon the Saône, at Lyons, in 1782; the next was that of Mr. Miller, upon the Forth and Clyde canal, in 1789; but the first steam-vessel which ran as a regular packet-boat was that of Mr. Rob. Fulton, the Vermont, launched at New York in 1807, and plied between that and the city of Albany, a distance of 150 miles.

STEAM BOIL'ER. A vessel in which water is converted into steam for the supply of steam-engines or for other uses.

STEAM CAR'RIAGE. A locomotive engine adapted to run upon a common road.

STEAM'-EN'GINE. An engine worked by the power obtained from the expansion and contraction of steam from boiling water; that is, by the property which water possesses of expanding to vapour under the force of heat, and the suddenness with which the expanded water returns to its original bulk, on the application of cold. These properties of water were known to the ancients, but it was not till the early part of the 17th century that this power was made available for the working of machines. A mining engineer, named Savery, is said to have been the first who constructed and publicly exhibited an engine, acting by the expansive force and subsequent condensation of steam, and which he applied to the raising of water in 1699; but it is certain that the Marquis of Worcester preceded him in doing this. Dr. Papin next introduced the safety-valve to an engine of his contrivance in 1707, and Mr. Newcomen, in the same year, made various improvements and modifications, producing what are known by the name of *atmospheric engines*, subsequently rendered more efficient by Messrs. Breighton and Smeaton. Mr. James Watt followed next, and introduced the *condenser* one vessel placed in another of cold water, and exhausted of air and other fluids, and connected with the steam cylinder by a pipe through which the whole of the steam from the cylinder escapes, and is thus speedily condensed. He introduced various other improvements, and may be said to have perfected this most perfect and valuable of all engines. He found it only the "miner's friend," he left it applicable to every kind of work and the never-tiring friend of the human race.

STEAM'-GAUGE. A contrivance connected with the boilers of steam-engines, and employed to indicate the pressure of the steam. It usually consists of a bent tube, with one end secured to the boiler, and the other open to the atmosphere. It contains a sufficient quantity of mercury to counteract the pressure of the steam, and the level of the mercury, varying as the steam pressure, shows at all times the elastic force upon the boiler.

STEAM'-GUN. A contrivance for projecting balls by means of steam. It bears some analogy to the air-gun, but requires too much extraneous apparatus ever to be conveniently movable. It is barely probable that it will at some future time be rendered available aboard of ships, but it seems to be highly available for forts and other similar defensive works.

STEAM NAVIGA'TION. The art of applying steam power to the propulsion of vessels in general, whether in inland waters or on the open sea.

STEAM-PIPE. The pipe communicating with the upper part of the boiler through which the steam passes in its way to the cylinders.

STEAM'-WHEEL. Another name for a rotatory steam-engine.

STEAM'-WHIS'TLE. A device, attached to locomotives, for giving warning to the passengers and others when the engine is starting. It consists of a pipe situated at the top of the boiler, with a cock to the

same, and surmounted by a hollow cup. The steam escapes at the top, and passing round the thin edge of the cup, strikes the same with considerable force, and thereby produces a loud shrill whistle, heard at a distance of many miles.

STE'ARIC ACID (*see* STEARINE). The solid constituent of fatty substances, as of tallow and olive oil converted into a crystalline mass by saponification with alkaline matters, and abstraction of the alkali by an acid. By this process fats are converted into three acids, the stearic, margaric, and oleic: the first two are solid, the last liquid.

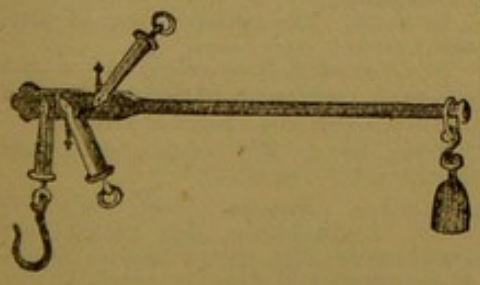
STE'ARINE, } from στιαρ, fat, the sub-
STE'ARONE, } stance of which factitious wax candles are now made. It consists of the stearic and margaric acids combined.

STE'ATITE. Soapstone. A mineral of the magnesian family, usually of a greyish-white colour, often marked by dendritic delineations. It has a coarse, splintery fracture, and a dull fatty lustre, and feels like soap to the touch, whence the name from στιαρ, soap. It is found in contemporaneous veins traversing serpentine, as at Portsoy, in Shetland; in the limestone of Icolmkill; in the serpentine of Cornwall; in Anglesey; in Saxony, Bavaria, Hungary, &c. It is used in the manufacture of porcelain; in polishing marble, &c.; as the basis of cosmetic powders, in the composition of crayons, &c. When steatite occurs in lamellar forms it is named *talc*.

STEATO'ME, from στιαρ, fat. An encysted tumour, the contents of which are of a fatty consistence.

STEEL, Sax. *style*. A carburet of iron: the best, hardest, finest, and closest grained iron, combined with carbon by a particular process.

STEEL'YARD. Statera Romana. A description of balance consisting of a short arm, from which a required weight is suspended, and a long graduated arm, to which an invariable movable weight is



attached. Equilibrium is attained when the weights are reciprocally proportioned to their distances from the point of suspension.

STEE'MING or STEAM'ING. The brick or stone lining of a well.

STEE'PLE-CHASE. A hunt, in which the sportsmen agree to follow the fox directly over the country, regardless of all obstructions, as hedges, ditches, rivers, &c. *Steeple-races* are sometimes got up on the same plan.

STEER'AGE. In a *ship*, an apartment forward of the great cabin, from which it is separated usually by a bulk-head. In *ships of war* it serves as an anteroom to the great cabin. In *steam vessels*, the great cabin and steerage are separated by the whole space occupied by the machinery, &c.

STEER'ING. In *nautical language*, directing or governing a ship or other vessel in her course. The *steersman* manages the helm by means of the *steering-wheel*, which is connected with the rudder.

STEEV'ING. In *nautical language*, the angle of elevation which a ship's bowsprit forms with the horizon.

STEGANOG'RAPHY, στεγανος, covered, and γραφω, I write. The art of writing in cypher.

STEL'ECHITE. The name given to a fine variety of Storax, in larger pieces than the calamite.

STEL'LATE, Lat. *stellatus*, star-like. Applied to plants and parts of plants.

STEL'LERUS. The name of a genus of herbivorous cetacea. One species only is known, and it is confined to the north part of the Pacific Ocean.

STEL'LITES. Fossil star-fish. *See* ASTERITES.

STEL'LIFORM, Lat. *stelliformis*, star-like. Radiated.

STEL'LULAR. Having marks resembling *stellæ* or stars. Applied in *natural history*.

STEM. 1. In *botany* (*see* STALK).——2. In *navigation*, the prow or foretimber of the ship, which comes bending up from the keel.

STEM'MATA. In *entomology*, three smooth hemispheric dots, generally on the top of the head; chiefly observable in hymenopterous insects.

STEMMAT'OPUS. The generic name given by Fred. Cuvier to the hooded seal (*Ph. cristata*, Gm.), from the Arctic Ocean: στεμμα and ωψ, the animal being furnished with a loose skin on the head, which it can inflate at pleasure, and which is drawn over the eyes on the approach of danger, the nostrils then being inflated like bladders.——2. In *music*, the upright line appended to the notes.

STEM'PLES. In *mining*, the cross-bars of wood in the shaft of a mine.

STEN'CIL. A piece of thin leather, or oil-cloth, used in painting on walls to imitate paper. The pattern is cut out on the leather, &c., which is then laid flat

on the wall, and the colour brushed over it.

STEN'CILLING. A method of painting on walls with a stencil, so as to imitate the figures of paper-hangings.

STENESAU'RUS. A genus of fossil saurians, thus named by M. Geoffroy St. Hilaire, from στενος, narrow, and σαυρος, a saurian.

STENOG'RAPHY, from στενος, short, and γραφη, writing. Short-hand writing.

STEPPES. The name used in Russia to designate very extensive flat uncultivated plains.

STEPS. 1. In *ship-building*, large pieces of timber into which the heels of the masts are fixed.——2 In *architecture*, the degrees or gradients of a stair, composed of two parts, the *tread* or horizontal part, and the *riser* or vertical part. Steps round the circumference of a circle are called *winders*, and when they proceed straightforward they are named *flyers*.

STER'CULIA. A genus of plants. *Monadelphia—Polyandria.* Name from *stercus*, dung, on account of the fœtid odour of the flowers.

STEREOG'RAPHY, from στερεος, solid, and γραφω, to describe. The art of drawing solids upon plane surfaces.

STEREOG'RAPHIC PROJEC'TION, στερεος, solid, γραφη, description. The projection of the sphere upon the plane of one of its great circles, the point of view being at the pole of that circle.

STEREOM'ETER, στερεος, and μετρον, measure. An instrument for measuring the specific gravity of liquids, porous bodies, and powders, as well as of solids.

STEREOM'ETRY, from στερεος, solid, and μετρεω, to measure. The mensuration of solids.

STER'EOTYPE, from στερεος, solid, and τυπος, a type. Literally, a fixed metal-type: hence one entire solid plate of metallic type for book-printing, made by taking an impression in stucco, of one or more pages composed of movable types, and casting a reverse from this impression, by pouring upon it, in a melted state, a metallic composition, very nearly approaching type-metal, in the proportions of its ingredients. The process of making such plates is called *stereotype-founding*, or *stereotyping;* the plates so cast are *stereotype-work;* the art of printing from them is *stereotype-printing;* and books so printed are said to be *stereotyped.*

STER'LING. 1. A term probably from *Easterling*, used to distinguish English money of account, as £10 *sterling.*——2. English money.

STERN (of a *ship*). The hinder part where the rudder is placed: the *steerplace* or helm-place.

STERNAL'GIA, from στερνον, the sternum, and αλγος, pain. 1. Pain about the sternum.——2. A name of the pectoral angina (*angina pectoris*).

STERNOP'TYX. A genus of small fishes, with a very elevated and compressed body, and having a series of small fossulæ along each side of the pelvic crest, which has been considered as a festooned duplicature of the sternum; whence the name *sternoptyx*. They frequent the warm parts of the Atlantic ocean.

STER'NUM. *Pectoris os.* The breast-bone; the oblong flat bone placed at the fore-part of the thorax.

STETH'OSCOPE, from στηθος, the chest, and σκοπεω, to explore. An instrument invented by Läennec, to aid auscultation. It is made of cedar-wood, of a cylindrical form, about eleven inches long, and about an inch and a half in diameter, and has a cylindrical perforation through its whole length. It is a highly useful instrument.

STEW'ARD, Sax. *stiward*, from *sted*, a place, and *ward*, a keeper. 1. A man employed in great families, to superintend the household generally, to keep accounts, collect rents, &c.——2. In *law*, a title of several officers of distinction. Thus, the greatest officer under the crown is the *lord high steward of England.* The office was anciently the inheritance of the earls of Leicester, till forfeited by Simon de Montfort. The office is now, in a measure, abolished: a lord high steward being made only for particular occasions, as a coronation, the arraignment of a peer for high treason, &c. There is also a *lord steward* of the royal household, who is chief officer of the court, &c.——3. In a *ship of war*, an officer appointed by the purser, to distribute provisions to the officers and crew. In *common ships*, a man who supplies the table and superintends the provisions.——4. In *colleges*, the person who superintends the concerns of the kitchen.

STHE'NIA, Lat. from σθενος, strength. In *nosology*, strength is opposed to *asthenia* or debility.

STIB'IUM. The ancient name of antimony.

STICH'OMANCY, from στιχος, a line, and μαντεια, prophecy. Divination by lines or passages in books taken at hazard.

STICK, GOLD. The colonels of the Life Guards are so called.

STIG'MA. Στιγμα, from στιζω, to mark. 1. In *botany*, that part of the female organ of a plant which is placed at the summit of the style.——2. In *pathology*, a small red speck on the skin, occasioning an elevation of the cuticle. When stigmata assume a livid colour, they are termed *petechiæ* and *purpuræ.*

——3. An impression, such as that made by branding with a hot iron.

Stig'mata, plural of stigma. Spiracles from which the tracheæ of insects commence.

Stil'bite, from στιλβω, to shine. A mineral, the radiated zeolite of Jameson, thus named from its shining lustre. It occurs in the secondary trap-rocks of Scotland, Norway, &c. It is commonly white, but sometimes grey, yellow, &c.

Stile. In *architecture*, the vertical piece in framing or panelling.

Still. The name of the principal vessel in which distillation is conducted. The liquid is vaporised by heat in the part called the *cucurbit*, and the vapours are condensed in another part called the *refrigeratory*. Stills are of many forms, the simplest of which consists of a retort and receiver. The term is commonly derived from Latin *stillo*, to drop, the root of *distill*.

Stilt Bird. The name of the *Himantopus melanopteris*, having long slender legs.

Stim'ulant, from *stimulo*, to stir up. Possessing the power of exciting the animal energy. Medical stimulants are *general* when they affect the whole system, as mercury; and *topical*, when they affect only a part, as mustard applied to the skin.

Stim'ulus, (Lat.) from στιγμος. In *pathology*, that which rouses the action or energy of a part. In *botany*, a sting. The nettle is furnished with *stimuli*.

Sting. In *entomology*, an apparatus in the form of a little barbed spear, furnished by nature to some insects as a weapon of defence. In most instances it is a tube through which a poisonous liquid is projected, which influences the part *stung*, and in some cases proves fatal to life.

Stink'stone. The name given to a variety of limestone, which gives out a fœtid odour when rubbed. The black marble of Kilkenny is an example.

Stint. In *coal mines*, a measure of work, two yards long by one broad, which each miner clears before he removes to another place.

Stipe, Lat. *stipes*, from στυπος. The stem of a fungus, fern, or palm.

Sti'pend, Lat. *stipendium*. Originally the pay of soldiers. In *law*, a salary or allowance for work done. In Scotland, the term is confined to denote the salaries of clergymen.

Stip'ilate, Lat. *stipilatus*, standing on a pillar or pedicle. *See* Stipe.

Stip'pling. 1. A mode of engraving on copper by means of dots, as contradistinguished from engraving in continuous lines.——2. The term is likewise applied to the mode adopted by some artists in drawing, of putting in tints and shadows of black lead or crayon, by means of the end of a piece of coiled paper charged with the pigment, with which it is *stippled* or stamped on to the surface of the paper. Good artists generally despise this process.

Stip'ula, } In *botany*, a leafy appen-
Stip'ule. } dage to proper leaves or their footstalk. The stipulæ often approximate closely to the appearance of real leaves.

Stip'ulate, Lat. *stipulatus*. Having stipules; producing stipulæ.

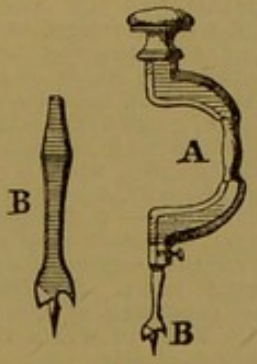
Stir'rup, Sax. *stirge-rapa*, step-rope; *stigan*, to step up. 1. A kind of ring, horizontal on one side to receive the foot of the rider, and attached to a strap which is fastened to the saddle. The first stirrups appear to have been ropes.——2. In *ships*, stirrups are short ropes, having their upper ends plaited and nailed round the yards, and eyes made in their lower ends, through which the horses are reeved, to keep them parallel to the yards. A piece of timber put under the keel, when some part of it is lost, is also denominated a *stirrup*.

Sti'ver, } A Dutch coin about the va-
Stui'ver. } lue of a halfpenny sterling. It is also a money of account in Holland and Flanders.

Stock. 1. In *botany*, *see* Mathiola and Cheiranthus.——2. In *agriculture*, the domestic animals, as horses, cows, sheep, belonging to the owner of a farm.——3. Living beasts shipped to a foreign country or distant market.——4. The capital of a commercial insurance or banking company, also the goods on hand of a merchant or trading company. *See* Stocks. ——5. A carpenter's tool. *See* Stock and Bit.

Stock'ade, } Ital. *stocco*. In *fortifica-*
Stoccad'e, } *tion*, a sharp stake or post set in the earth, more properly a line of such posts set up as a fence or barrier.

Stock and Bit. An instrument used by carpenters. The *stock* A is a tool with



a crank, so contrived as to rest with one end against the breast of the workman, while with the one hand he guides the boring end B, and with the other turns

the crank. The steel borers are called *bits*, and the whole instrument is commonly called a *stock and bit*, or centre-bit.

STOCK-BRO'KER. A broker who deals in the purchase and sale of *stocks* or shares in the public funds.

STOCK-EXCHA'NGE. The building where the public *stock* is bought and sold (*see* STOCKS and EXCHANGE.) The *Stock-Exchange*, situated in Capel-court, was opened in 1802. Formerly the place of rendezvous for persons transacting business in the stocks was Jonathan's Coffee-house, in Change-alley, Cornhill; and it is from this circumstance that the term *alley* is familiarly used for *stock-exchange*, and that a petty speculator in the funds is styled a "dabbler in the alley."

STOCK-DOVE. The wild pigeon of Europe, *Columba œnas*, Lin., long regarded as the *stock* of the domestic pigeon, but now regarded as a distinct species.

STOCK-FISH. Cod-fish dried hard without salt.

STOCK'INGS. The clothing of the legs and feet, anciently made of cloth or milled stuff, sewed together, but now invariably knitted. Stockings are made of wool, cotton, and silk.

STOCK'ING-FRAME. An implement of the hosier, for weaving or knitting stockings, &c. It is a somewhat complicated machine, invented by William Lee, A.M., of St. John's College, Cambridge, in 1589; but receiving little encouragement, and being in indigent circumstances, he went to France, where, meeting with further disappointment, he died of a broken heart, like many other inventors before and since his time. The machine has, during the course of the last century, been much improved.

STOCK-JOB'BING. Speculating in the public funds; a species of gambling.

STOCK-LOCK. A lock fitted into a wooden case. The larger locks for doors are generally of this sort.

STOCKS. 1. A frame erected on the shore of a river, or of the sea, and the large establishments in the inside of docks, for the purposes of ship-building. It generally consists of a number of solid wooden blocks, ranged parallel to each other, at convenient distances, upon a very firm foundation, and with a gradual declivity towards the water.——2. The public funds of the nation, or government securities, instituted for the purpose of paying the interest upon loans. *See* FUNDS.——3. A machine consisting of two pieces of timber, with holes in which the legs of offenders are confined.

STO'ICS. Disciples of the philosopher Zeno, who taught that men should be free from passion, unmoved by grief or joy, and submit without complaint to the unavoidable necessity by which all things are governed. The name Στωικοι is from στωα, a porch in Athens, where Zeno lectured.

STO'LO (Latin), a sucker. A runner or shoot from the root of a plant, which takes root in the earth. The stolos are said to be *supraterraneous* when they run on the surface of the ground, and *subterraneous* when they run under the surface.

STOLONIF'EROUS, Lat. *stoloniferus*, putting forth suckers; *stolo*, a sucker or scion, and *fero*, to produce.

STOM'ACH, Gr. στομαχος, from στομα, the mouth, and χεω, to pour. A membranous receptacle, the organ of digestion in animal bodies. It prepares the food for entering into the several parts of the body, for its nourishment.

STO'MACH-PUMP. An instrument for withdrawing poisons from the stomach, and introducing cleansing or other liquids. It resembles the syringe, except that it includes two passages, the *sucking* and *forcing*, and has two orifices near its extremity.

STOMAP'ODA. An order of marine crustaceans, having the shell divided into two portions, the anterior of which supports the eyes and intermediate antennæ, or composes the head without giving origin to the foot-claws. These organs, as well as the four anterior feet, are frequently approximated to the mouth on two lines that converge inferiorly, and hence the denomination of stomapoda, στομα and πους.

STO'MATA. Passages through the epidermis of plants, universally regarded as spiracles or breathing-pores.

STONE-BO'RER. A molluscous animal, inhabiting a bivalve shell, which mechanically perforates or bores into rocks.

STONE-FRUIT. Fruit of which the seed is covered with a hard shell, enveloped in the pulp. *See* DRUPE.

STONE-GALL. The name given by workmen to a roundish mass of clay, often occurring in variegated sandstone. Stone-galls lessen the value of stones for architectural purposes.

STOOL. The root of a timber-tree which throws up shoots.

STOP-PLANKS. A certain description of dam, employed on canals and other hydraulic works. In order to prevent the loss of water on canals, &c., it is usual to contract the water-way at certain points, and carry up wing-walls from below, making vertical grooves in the face of the masonry upon each side, corresponding with each other, for the insertion of hatches or *stop-planks*. Provision is made for stop-planks in most hydraulic works; for instance, grooves are made at each end of a lock, on the outside of the cham-

ber, in order that the water may be kept out during any repairs.

Sto'rax. The most fragrant of all the resins. It is obtained from a tree, the *Styrax officinalis*, which grows in the Levant. The best is imported in red tears, but the common sort in large cakes. This last is the most fragrant, though very impure.——2. The Peruvian balsam is sometimes called *white storax*. *See*, also, Styrax.

Stor'thing. The parliament of Norway.

Sto'ry. In *architecture*, a subdivision of the height of a house, comprehended by one flight of stairs.

Sto'ry-posts. Upright timbers used in sheds, workshops, and old wooden houses, to support the floors or superincumbent walls.

Sto'ry-rod. A rod equal in length to the height of a story of a house, and divided into as many parts as there are intended to be steps in the stair, for measuring and laying them off with accuracy.

Stoup. A basin for holy-water in a niche at the entrance of a Catholic church.

Stove, Sax. *stofa*. 1. A place in which a fire in dwelling-houses, churches, public rooms, &c., is made, and so contrived that it may heat the air of the apartment, and lead the smoke up the chimney. Stoves are of various constructions, and numerous patents have been taken out for inventions and improvements upon them. Franklin's stove, which is much used in France, is one of the best. The German stove, recently brought into notice in this country by Dr. Arnott, has the peculiar advantages of thoroughly avoiding smoke and of burning little fuel. When a stove allows the burning coals to be seen, it is called a *stove-grate*.——2. In *horticulture*, a structure in which plants are cultivated that acquire a considerably higher temperature than the open air.

Stra'bism, Lat. *strabismus*, from στραβίζω, to squint. Squinting: an affection of the eye, by which a person sees objects in an oblique manner, from the axis of vision being distorted.

Straight Arch. In *architecture*, the arch over an aperture, whose intrados is straight.

Straight Jointed Floor. A floor in which the joints are continued from one end to the other, and the heading joints are not in the same straight lines as folding floors.

Strain'ing Piece. Strutting piece. A beam placed between two opposite beams, to prevent their nearer approach, as rafters, braces, struts, &c.

Strait. In *geography*, a narrow pass or frith separating one country from another.

Strand (of a rope). One of the twists or divisions of which the rope is composed. When one (or more) of the strands of a rope is broken, the rope is said to be *stranded*.

Strand'ing. In *navigation*, the running of a ship on shore, beach, or strand, by which she is wrecked (in this case said to be *stranded*).

Stran'gles. In *farriery*, a collection of foul humours in the body of a colt; generally voided by the nostrils.

Stran'gury, Lat. *stranguria*, from στραγξ, a drop, and ουρον, urine. A disease in which there is pain in passing the urine, which is excreted by drops.

Strap. In *carpentry*, an iron plate, securing the junction of two or more pieces of timber, into which it is bolted or keyed.

Strappa'do, Ital. from *strappare*, to pull. A military punishment formerly practised. It consisted in drawing the offender to the top of a beam, and letting him fall, by which means a limb was sometimes dislocated.

Strass. The basis of factitious gems or pastes. *See* Paste.

Stra'ta, Lat. pl. of *stratum*, a bed. In *geology*, the thicker layers of mineral matter, forming the crust of the globe: the thin layers are commonly called *beds*. The strata present very different characters when compared with each other, yet they are composed of but comparatively few primary elements, so concreted as to produce considerable variety. Most of them also contain foreign matters, fragments of other rocks, shells, animals, and plants. Rocks arranged in layers are said to be *stratified*, and the order of their arrangement is termed *stratification*.

Strath. In *Scotland*, generally signifies a valley of considerable size.

Stra'tum (Lat.). A layer or bed. *See* Strata.

Stra'tus. Fall-cloud. A name applied to fogs, mists, and other extensive sheets of clouds, that rest on the earth's surface.

Streak, Ger. *striche*. A term in *mineralogy* for that appearance of a mineral which arises from its being scratched by a hard sharp instrument. It is said to be *similar* when the powder obtained by scratching the mineral is of the same colour as the mineral; and *dissimilar* when the colours differ.

Stream-tin. Among *miners*, tin ore found beneath the surface of alluvial ground, and separated from the earthy matters by passing a stream of water over it.

Stretch'ing Course. In *building*, a course consisting wholly of *stretchers* that is, bricks, stones, or the like, laid lengthways in the longitudinal direction of the wall.

STRET'TO, It. *narrow*. In *music*, signifies that the measure is to be played short and concise; opposed to *largo*.

STRIÆ, Lat. pl. of *stria*, a streak. 1. In *conchology*, fine thread-like lines in the exterior surface of many shells, longitudinal, transverse, or oblique.——2. In *botany*, fine lines running in parallel directions.

STRI'ATE, } Lat. *striatus*, scored, streak-
STRI'ATED, } ed, channelled, fluted, chamfered. Applied chiefly in *natural history*.

STRI'DOR DENTIUM (Lat.). Grinding of the teeth (in sleep). A symptom, in children, of intestinal irritation from worms, and of irritation of the brain in adults during fever.

STRI'GA. 1. A species of pubescence on plants, white, bristle-like with broad bases, mostly decumbent.——2. In *architecture*, the flutings of a column. *Fasciola*.

STRING-BOARD. In *architecture*, a board placed next to the well-hole in wooden stairs, and terminating the ends of the steps.

STRING-COURSE. In *architecture*, a narrow moulding, or projecting course, continued along the side of a building.

STRING'-PIECE. In *architecture*, a piece of board placed under the flying-steps of a wooden stair for a support, and forming, as it were, the soffit of the stair.

STRIX. The Owl. A genus of nocturnal birds of the accipitrine order, now divided into various sub-genera, according to their tufts, the size of their ears, the extent of the circle of feathers which surrounds their eyes, &c., as *otus*, *syrnium*, *bubo*, *scops*, and *noctua*.

STRON'GYLUS. The name given by Müller to a genus of intestinal worms: order *Nematoidea*. One of the species is said to be found in the human kidney.

STRON'TIA, } A greyish-white-coloured
STRON'TIAN. } alkaline earth, of a pungent and acrid taste, first found in the state of carbonate, in a lead-mine at Strontian, in Argyleshire, Scotland. In its chemical characters it closely resembles baryta. The nitrate is much employed in fire-works, to communicate a red colour to flame. Its base is *strontium*.

STRONTI'ANITE. Native carbonate of strontia. When ignited with charcoal-powder it affords the earth strontia. It resembles carbonate of baryta, but is said not to be poisonous, which that mineral is.

STRON'TIUM. The metallic basis of strontia, first procured by Sir H. Davy, in 1808. It is analogous to barium, but has less lustre.

STRONTI'TES. The name given to strontia by Dr. Hope, who discovered that earth in 1787. Klaproth modified the name for the sake of uniformity of nomenclature, which is always desirable.

STRO'PHE. Στροφη, from στρεφω, to turn. In *Greek poetry*, a stanza: the first member of a poem. The strophe is succeeded by a similar stanza, called *antistrophe*.

STROPHI'OLE. Strophiolum. A little curved gland-like part near the scar or base of some seeds, particularly of the papilionaceous genus.

STROPH'ULUS. A papulous eruption peculiar to infants, and exhibiting a variety of forms known popularly as *red-gum*, *white-gum*, *tooth-rash*, &c.

STRUC'TURE, Lat. *structura*. 1. A term in *mineralogy* denoting the particular arrangement of the integrant particles or molecules of a mineral.——2. The manner of organisation of animal and vegetable bodies.——3. A building.

STRU'MA. 1. A glandular swelling.——2. Bronchocele: an induration of the thyroid gland. *Struma*, according to Dr. Good, is from στρωμα, *congestion*, or from *struo*, to heap up, or *à struendo*, because strumæ grow insensibly.

STRUMA'RIA. The name of a genus of perennial plants. *Hexandria—Monogynia*. Cape of Good Hope.

STRU'MOUS. Having strumæ or swellings of the glands: scrofulous.

STRUT. In *architecture*, a brace or oblique stay.

STRU'THIO. The Ostrich: a genus of birds. Order *Grallatoriæ*: family *Brevipennes*. There are two species. (1.) The ostrich of the eastern continent (*S. camelus*), celebrated from the earliest ages. It attains the height of 6 or 8 feet, lives in great troops, lays eggs weighing nearly 3 lbs., feeds on grass, grain, &c., and runs faster than any other animal. (2.) The American ostrich (*S. rhea*), is one-half smaller than the oriental species; its few feathers are greyish. It is common in South America, and is easily tamed when taken young. The eggs are hatched by the male.

STRUT-BEAM. In *carpentry*, an old name for a collar-beam.

STRUTH'IOLA. A genus of trees and shrubs. *Tetrandria—Monogynia*. Cape of Good Hope.

STRUTHION'IDÆ. Struthio, the type A family of terrestrial birds, with short wings and strong legs; the brevipennes of Cuvier.

STRUTS. In *carpentry*, oblique framing pieces, joined to the king-posts, or queen-posts, and the principal rafters; sometimes called *braces*.

STRUT'TING-PIECE, *see* STRAINING-PIECE.

STRYCH'NIA, } An alkaline base ex-
STRYCH'NINE. } tracted from the bean of the *strychnos nux vomica*. It acts most powerfully upon the animal system when taken into the stomach. The eighth of a

grain is a fatal dose for a strong dog. Like most other poisons, it is reckoned a valuable medicine.

Strych'nic Acid. An acid obtained like strychnia from the bean of the *strychnos nux vomica*, and also from *St. Ignatius's Bean*; called also *Igasuric acid*.

Strych'nos. The name of a genus of plants. *Pentandria—Monogynia*. Name στρυχνος, used by the Greeks to designate a species of nightshade. The species, of which there are two, are natives of India; one, the *S. nux vomica*, affords the poison-nut, or *nux vomica* of the shops, one of the most powerful of the vegetable poisons; the other species, *S potatorum*, which affords the cleaning-nut, is less known. Formerly the plants which afford St. Ignatius's bean, Jesuit's bean, and *Upas ticuté*, one of the strongest Java poisons, were comprised in this genus.

Stuc'co. A name indefinitely applied to the finer kinds of calcareous plasters. We usually give this name to plaster of Paris, which is calcined calcareous gypsum, mixed with water to the consistence of cream; but the common stucco, for architectural and sculptural purposes, is composed of pulverised white marble, mixed with plaster of lime, the whole sifted and worked up with marble. This composition, in process of time, becomes as hard as stone, and takes a fine polish.

Stud'ding-sail. A sail which is set beyond the skirts of the principal sails of a ship. The studding-sails are only set during light winds. They appear like wings upon the yard-arms.

Studies. 1. In *painting*, these signify works which a painter undertakes in order to acquire a practical knowledge of his art, and facility of execution.——2. The term is also applied to the parts taken separately, which the artist afterwards transfers to the picture.

Studs. In *carpentry*, a term applied to posts or quarters which are placed in partitions, about a foot distant from each other.

Stud'work. In *building*, a wall of brick-work built between studs.

Stu'fa (Italian). A jet of steam issuing from a fissure of the earth in volcanic regions.

Stuff. Applied to various woollen fabrics; especially to a light woollen cloth, formerly much used for curtains and bed-furniture.

Stuffing-box. In *mechanics*, a piece secured to the end of a cylinder-pipe or other vessel through which a rod passes: used in pumps, steam-engines, &c., where the piston-rod requires to move freely, yet to be air-tight.

Stum. Wine not yet fermented. Stum is frequently added to vapid wines, to excite fermentation anew

Stur'dy. In *farriery*, a disease of frequent occurrence among sheep, attended with stupor and blindness. It generally proves fatal.

Stur'geon. A large, valuable, and well-known fish, which ascends certain of the European rivers, and is an object of important fisheries. There are several species. The sturgeon properly so called (*Accipenser sturio*, Parneil) called the sharp-nosed sturgeon, found in vast abundance in some of the American rivers, but rarely in those of Britain. It attains a length of 5 or 6 feet; (2.) The broad-nosed sturgeon (*Accipenser latirostres*, Parneil), some specimens of which have been taken in the rivers of Scotland, between 7 and 8 feet in length; (3.) The sterlet (*Accipenser ruthenus*, Lin.), a delicious fish, rarely more than two feet long. Its caviar is reserved for the Russian court, and there is reason to believe that it is the *Elops* and *Accipenser*, so highly celebrated among the ancients; (4.) The great sturgeon or beluga (*Accipenser huso*, Lin.), which is frequently taken 15 feet in length, and weighing 1200 lbs., and one specimen was taken which weighed nearly 3000 lbs. It is found in the Po. There are some other species less known. *See* Accipenser.

Sturi'ones. Sturgeons. An order of Chondropterygious fishes (*Chondropterygii*, with *free branchiæ*), closely allied to the ordinary fishes in their gills. The sturgeon is the type of the order. *Sturio* (whence *sturgeon*) is modern, and is probably the German name *stoer* latinised.

Style, Lat. *stylus*, Gr. στυλος. 1. Anciently a sharp-pointed instrument, to write on hard substances without ink; an antique pen. Hence the metaphorical use of the term to denote a particular manner of writing as regards the mode of expression, choice of words, &c.——2. In *botany*, the shaft of a flower which proceeds from the germen, and bears the stigma.——3. In *surgery*, a probe.——4. In *dialling*, the gnomon of a dial.——5. In *chronology*, a particular manner of reckoning time with regard to the Julian and Gregorian calendars. Style is *old* or *new*. The *old style* follows the Julian manner of computing the months and days, or the calendar as established by Julius Cæsar, in which the year is reckoned 365 days, 6 hours. The *new style* was introduced by Pope Gregory XIII., who reformed the calendar, reckoning the year 365 days, 5 hours, 48 minutes, 45 seconds, which is very nearly the true solar year. At the reformation of the calendar it was found necessary to retrench 11 days from the old style. This was acted upon in Germany in 1700, and adopted by act of parliament in Britain in 1752, when the 3rd of September of

that year was reckoned the 14th. The difference between the old and new styles is now 12 days. *See* CALENDAR.——6. In *literature*, the distinctive manner of writing of an author.——7. In the *fine arts*, the mode in which an artist forms and expresses his ideas on and of a given subject.

STYLI'FORM. Shaped like a bodkin or style.

STYLI'TES. In *ecclesiastical history*, a sect of solitaries, who distinguished themselves by standing motionless on columns and pillars, for the exercise of their patience! whence the name, from στυλος, a column.

STY'LO. In *anatomy*, names compounded of this word belong to the muscles which are attached to the styloid process of the temporal bone.

STY'LOBATE, Lat. *stylobatum*. In *architecture*, a name for the whole uninterrupted basis between the columns.

STYRAX. 1. The name of a genus of trees. *Decandria—Monogynia*. Name στυραξ, a reed, because it was usual to preserve the gum storax in reeds. The gum-benzoin is the produce of the *S. benzoin*, a tree formerly placed in the genus Laurus; the solid or officinal storax is the produce of the *S. officinalis*, a tree which grows in Italy and the Levant.——2. A name of storax.

SUB. 1. In *composition*, signifies a subordinate degree.——2. In *chemical nomenclature*, when *sub* is prefixed to the name of a salt, it denotes an excess of base, and deficiency of acid.

SUBAH. In *India*, a province or viceroyship.

SUB'ALTERNS, in the *army*, are officers below the rank of captain.

SUB-A'PENNINE. A term introduced into geology by Brocchi, to denote a series of strata of the older pliocene period, resting uncomformably upon the inclined beds of the Apennine range. They are composed of sand, clay, marl, and calcareous tufa, and are all tertiary deposits.

SUBAXIL'LARY. Placed under the axil or angle formed by a branch of a plant with the stem, or by a leaf with the branch.

SUB'-BRACHIANS, Lat. *sub*, and *brachium*, arm. An order of Malacopterygious fishes, having the ventral fins either beneath, before, or behind, the pectoral fins.

SUBCAR'BONATE. A carbonate in which the base predominates. *See* SUB and CARBONATE.

SUBCLA'VIAN. That which is or passes under the clavicle; as the *subclavian* veins and arteries.

SUBCON'TRARY. A term applied in *geometry*, when two similar triangles are so placed as to have a common angle at their vertex, and yet their bases not parallel.

SUBDOM'INANT. In *music*, the fourth note above the tonic, being under the dominant.

SUBDU'PLICATE RATIO of two numbers, is that of their square roots.

SUBER'IC ACID. A white pulverulent acid, obtained from cork (*suber*) by digesting it with nitric acid. It has also been obtained in crystals, which sublime in white vapours when heated. It consists of $C_8 H_6 O_3$.

SU'BERINE. The name given by Chévreul to a peculiar substance obtained from cork (*suber*) by treating it in the same way as is done with wood, in order to procure lignine.

SUB'EROSE, Lat. *suberosus*, slightly or sub-gnawed. Applied, in *botany*, to parts which appear as if a little gnawed.

SUBINFEUD'ATION, from *sub* and *infeudation*. A term, in *law*, for the act of enfeoffing by a tenant or feoffee, who holds lands of the Crown: the act of a greater baron, who grants lands, or a smaller manor, to an inferior person.

SU'BITO (It.). suddenly. In *music*, a term of direction, as *volte subito*, turn (the leaf) quickly.

SUB'JECT, Lat. *subjectus*. 1. In *grammar*, the nominative case to a verb passive: this is the subject of the verb.——2. In the *fine arts*, that which it is the aim of the artist to express.——3. In *logic*, the subject of a proposition is the term of which the other is affirmed or denied.

SUBJUNC'TIVE, Lat. *subjunctivus*. In *grammar*, a term designating the fourth mood of verbs, because usually subjoined to other verbs or words expressing condition, hypothesis, or contingency; as *Si fecerint æquum*, If they should do what is just.——2. The term is often used as a noun denoting the subjunctive mood.

SUBLAPSA'RIAN. 'from *sub*, and *lapsus*, a fall. A term, in *theology*, for that doctrine which maintains that the sin of Adam's apostasy being imputed to all posterity, God, in compassion, decreed to send his Son to rescue a great number from their lost estate, and to accept of his obedience and death on their account. The decree of reprobation, according to the *sublapsarians*, is nothing more than a preterition or non-election of persons whom God left as he found, involved in the guilt of Adam's transgression, without any personal sin, when he withdrew some others as guilty as they. The term *sublapsarian* is opposed to *supralapsarian* (q.v.).

SUB'LIMATE. 1. Anything which is sublimed: the result of a process of sublimation.——2. The corrosive sublimate (*bichloride of mercury*) is sometimes called simply *sublimate*, by way of eminence.

SUBLIMA'TION. A process by which volatile particles of solid substances are driven off by heat, and again condensed in a solid form; often a crystalline mass. The process differs from evaporation only in being confined to solid matters. It is usually performed for the purpose of purifying certain substances, but sometimes for the purpose of reducing the solid into vapour, to facilitate its chemical combination with some other substance. When the sublimed matter concretes into a solid hard mass, as bichloride of mercury and sal-ammoniac, it is commonly called a *sublimate*; if into a powdery form, as sulphur and benzoin, it is popularly named *flowers*.

SUB'LIME, Lat. *sublimis*. In the *fine arts*, high or exalted in style; that which in art is raised above the higher standard of nature.

SUBMAX'ILLARY, from *sub*, and *maxilla*, the jaw-bone. Situated under the jaw. Thus the salivary glands, situated one on either side, immediately within the angle of the lower jaw, are termed *submaxillary glands*.

SUBME'DIANT. In *music*, the sixth note, or middle note between the octave and subdominant.

SUBMUL'TIPLE. In *arithmetic*, a number or quantity which is contained in another, a certain number of times, or is an aliquot part of it. Thus 4 and 7 are a *submultiple* of 28, and 28 is a common multiple of 4 and 7; also 4 and 7 are the aliquot parts of 28. The term is in some measure superfluous.

SUBNOR'MAL. In *geometry*, a line which determines the point of the axis of a curve, where the normal or perpendicular, raised from the point of contact of a tangent to the curve, cuts the axis.

SUBOR'DINARY. In *heraldry*, an ordinary which is less than one-fifth of the whole shield.

SUBORNA'TION, Fr. from *suborner*. 1. In *law*, the crime of procuring a person to take such a false oath as constitutes perjury.——2. The crime of procuring one to do a criminal action.

SUBPŒ'NA, } Lat. from *sub*, and *pœna*,
SUBPE'NA, } penalty. A writ commanding the attendance in court of the person on whom it is served, as witness, &c., under a penalty. The person so summoned is said to be *subpœnaed*.

SUBROGA'TION, from *subrogo*. In *civil law*, the substituting of one person for another, and giving him the rights of that other.

SUB'SALT. A salt in which the base is not saturated by the acid: opposed to *supersalt* (q. v.).

SUBSE'MITONE. In *music*, the leading note, or sharp seventh of the scale.

SUB'SIDY, Lat. *subsidium*, from *subsido*. Something furnished for aid. Formerly *subsidius* was a tax, for the benefit of the kings of England, on persons in respect to their reputed estates, after the nominal value of 4*s*. the pound for lands, and 2*s*. 8*d*. for goods.——2. In *international policy*, a sum of money paid by one nation to another, to purchase the service of additional troops, or other aid in war, &c. Thus Britain paid heavy *subsidies* to Austria and Prussia, during the last European war, to engage them to resist the progress of the French. These subsidies, moreover, generally found their way into the coffers of Napoleon, being usually paid over by the bribed for a little respite.

SUB'SOIL. Under-soil: the bed of earth which lies between the surface-soil and base of rocks on which it rests: substratum.

SUB'SPECIES. A division of a species.

SUB'STANTIVE. Lat. *substantivus*. 1. In *grammar*, a noun. The part of speech which expresses something that exists either materially or immaterially. Adjectives and even pronouns are sometimes used *substantively*, and we have *substantive* verbs, or verbs betokening existence.—— 2. In *dyeing*, *substantive colours* are such as remain permanent on the fabric, without the intervention of other substances.

SUBSTITU'TION, from *substitute*. 1. In *law*, the designation of another heir to enjoy, in default of a former heir, or after him.——2. In *algebra*, the replacing of one quantity by another which is equal, but differently expressed.——3. In *music*, *chords of substitution* are those of the ninth major and minor.

SUBSTRAC'TION. In *law*, the withdrawing (*subtracting*), or withholding of some right. Thus the *substraction* of a legacy is the withholding or detaining it from the legatee by the executor, for which the law gives a remedy.

SUB'STYLE. Substylar Line, in *dialling*, is a right line on which the gnomon or style is erected, at right angles with the plane.

SUBSUL'TUS TENDINUM. In *nosology*, weak convulsive motions or twisting of the tendons, observed in the extreme stages of debility, produced by low nervous and typhus fevers. They are usually the harbingers of a fatal termination.

SUBTAN'GENT. In *geometry*, the part of the axis contained between the ordinate and tangent drawn to the same point in a curve: the line which determines the intersection of the tangent in the axis prolonged.

SUBTEN'SE, from *sub* and *tensus*. The chord of an arc: something extended under.

SUBTRAC'TION, from *subtraho*. In *arithmetic*, &c., the taking of one number from another of the same kind or denomina

tion: the operation by which is found the difference between two sums, or a number equal to that difference

Sub'trahend, from *subtraho*. In *arithmetic*, the number to be subtracted or taken from another.

Sub'ulate, Lat. *subulatus*, awl-shaped. Applied, in *botany*, to leaves, &c., which taper from a thick base to a point.

Succin'amide. A white solid substance, which crystallises readily in rhomboids from its solutions: obtained by the action of ammoniacal gas on anhydrous succinic acid, at an elevated temperature. Discovered and thus named by M. Darcet.

Succin'ic Acid. Acid of amber (*succinum*), obtained by subjecting that substance to dry distillation. It sublimes and crystallises, into the upper part of the apparatus; but it must afterwards be purified by solution and recrystallisation, repeated until the crystals become transparent and shining.

Suc'cinite. A mineral thus named from its amber-yellow colour (*succinum*, amber). It occurs in small roundish masses about the size of peas. Some mineralogists refer it to idocrase; others to the garnet.

Suc'cinum. The Latin name for amber: from *succus*, juice, because it was thought to exude from a tree. The Greeks called it ἤλεκτρον, whence our word *electricity*.

Suc'cory or Chicory. Wild endive (*Cichorium intybus*). A plant which grows on calcareous soils in most countries of Europe. The root which, when new, is white and fleshy, is dried and ground on some parts of the continent as a substitute for coffee. It has of late been similarly used in England, particularly to adulterate coffee, it being much cheaper than that article.

Succus'sion. In *nosology*, a mode of exploring the chest, which consists in shaking the patient's body, and listening to the sounds thereby produced.

Sucker. 1. In *botany*, *see* Stolo.——2. In *mechanics*, a name sometimes given to the bucket, piston, or raising valve of a pump.——3. In *ichthyology*, the lumpfish: also the name of a common river-fish in New England.

Suc'tion. In *hydraulics*, *see* Pump.

Suda'men, Lat. from *sudor*, sweat. Sudamina are vesicles like millet seed, which appear suddenly on the skin without fever, especially in the summer time.

Su'datory. A sweating-room. *Sudor*, sweat.

Su'datory Fever. *Sudor anglicus*. The sweating sickness, an extraordinary epidemy which made its appearance in England in 1485, and carried off vast numbers.

Sudorif'ics, from *sudor*, sweat, and *facio*, to make. Medicines which produce sudation. *See* Diaphoretic.

Suffolk Crag. A marine deposit of the older pliocene period, consisting of sand and gravel with shells and corals.

Suf'fragan, from *suffragans*, assisting. A bishop considered as an assistant to his metropolitan.

Suffru'ticose, Lat. *suffruticosus*. Somewhat woody, nearly shrubby. Applied in botany.

Su'gar, Lat. *saccharum*, Gr. σακχαρον, Pers. *shakkar*, Arab. *sukhir*, Sans. *sarkara*, Slav. *zakar*, Fr. *sucre*, Ger. *zucher*, Dut. *suiker*, Dan. *sokker*, Swed. *socker*. Wel. *sugyr*. A well-known granulated substance, manufactured chiefly from the sugar-cane, *Arundo saccharifera*, but procured also from a great variety of other plants, as maple, beet, parsnep, birch, &c. The sugar is contained in the juice: this saccharine liquor is concentrated by boiling, which expels the water; lime is then added to neutralise any vegetable acid which may be present; the grosser impurities rise to the surface, and are separated in the form of scum; and finally, as the liquor cools, the sugar separates from the molasses in grains. It is then put into hogsheads (called *potting*), with holes in their bottoms, through which the molasses drain off into cisterns below, leaving the sugar in the state known in commerce by the name of *raw* or *muscovado sugar*. This, when further purified, takes the name of *refined sugar*, *double refined sugar*, &c., according to the degrees of purification. Sugar is a proximate element of the vegetable kingdom, and is found in most ripe fruits, and many farinaceous roots. By fermentation it is converted into alcohol, and thence forms the basis of those substances which are used for making intoxicating liquors, as grapes, malt, apples, molasses, &c. &c. The ultimate elements of sugar are carbon, oxygen, and hydrogen, resolvable into charcoal and water.

Sugar-can'dy. Sugar clarified and crystallised. It is made by boiling a solution of sugar till it becomes thick, when it is removed into a heated room and sticks or threads are put into it, on which it crystallises.

Su'gar-cane. The *Arundo saccharifera*, from which sugar is chiefly manufactured.

Su'gar-house. A building in which sugar is refined.

Su'gar-man'gel-wur'zel. A biennial plant, a variety of the silver beet (*Beta cicla*), which grows in the south of Europe.

Su'gar-mill. A machine for expressing the juice of the sugar-cane.

Su'gar of Lead. Acetate of lead. Poisonous.

Suit. 1. In *law*, an action for the recovery of a right or claim.——2. To *bring suit* formerly meant to bring *secta* or witness. to prove the plaintiff's demand;

but now it means simply to institute an action.

Suit and Service. In *feudal law*, the duty of feudatories to attend the courts of their lords or superiors, in time of peace; and in war to follow them, and perform military service.

Suit-covenant. In *law*, a covenant or agreement to sue at a certain court.

Suit'or. 1. In *law*, one who sues or prosecutes a demand of right.——2. A party in a suit, whether as plaintiff, defendant, petitioner, appellant, witness, juror, or the like.

Su'la. The Booby: a sub-genus of palmipede birds, included in the genus *Pelicanus*, Lin. *Sula* is the name of the common species of the *Feroe Islands*, but extended to all the tribe by Brisson. *See* Booby and Pelicanus.

Sul'cate, Lat. *sulcatus*, furrowed: marked with deep lines running lengthways. Applied to stems, leaves, seeds, &c., of plants; and to shells.

Sulphameth'ylene. A crystallisable compound, obtained by treating methylene with liquid ammonia. It is very deliquescent.

Sul'phamide. A white light powder, obtained by combining dry ammoniacal gas and anhydrous sulphuric acid. When heated, it melts into a clear liquid, which concretes on cooling into a bisulphate of ammonia.

Sul'phate. A salt formed by the union of the sulphuric acid with a salifiable base. The sulphates are an important class of salts, the principal ones of which are—(1.) *Alum*, sulphate of alumina and potash; (2.) *Blue vitriol*, sulphate of copper; (3.) *Green vitriol* or *copperas*, sulphate of iron; (4.) *Epsom salt*, sulphate of magnesia; (5.) *Glauber's salt*, sulphate of soda; (6.) Sulphate of potash; (7.) *White vitriol*, sulphate of zinc; (8.) Sulphate of mercury; (9.) Sulphate of ammonia; (10.) *Gypsum, selenite, plaster of Paris, alabaster*, sulphate of lime; (11.) Sulphate of antimony; (12.) Sulphate of quinine, much used in medicine; (13.) Sulphate of manganese, used by calico-printers.

Sul'phite. A salt formed by the combination of a definite quantity of the sulphurous acid with a base.

Sul'phobenzide. A substance obtained in regular colourless crystals, by treating benzine with sulphuric acid. It consists of two atoms of benzine combined with one atom of sulphuric acid.

Sulphocet'ic Acid. An acid formed by placing ethal in contact with sulphuric acid, and applying heat: the substances combine and form the acid in question. It is thus named because the basis appears to be hydrate of cetene composed of two atoms of cetene and one atom of water.

Sulphocy'anic Acid. Sulpho-prussic acid. Sulphuretted chyazic acid. A colourless, transparent liquid acid, possessing a strong odour, somewhat resembling acetic acid, obtained from *sulphocyanate* of potash by a tedious process.

Sulphoglyce'ric Acid. An acid which may be obtained by treating glycerine with sulphuric acid. It has not yet been insulated.

Sulpho-indigot'ic Acid. A solid, dark-blue substance, soluble in water, of an acid and astringent taste, obtained by the action of sulphuric acid on indigo. The process is laborious and intricate. The *hypo-sulpho-indigotic acid* is very similar to the sulpho-indigotic.

Sulph'ometh'ylic Acid. A crystallisable acid, readily obtained from sulphomethylate of baryta. This again is formed by passing anhydrous sulphuric acid into pyroxilic spirit, and supersaturating the liquid with barytes. The sulphomethylic acid may perhaps be regarded as a bisulphate of methylene.

Sulphonaph'thalic Acid. A crystallisable acid, considered as a compound of two atoms of sulphuric acid and one atom of naphthaline. It forms salts called *sulphonaphthalates*. The *hyposulphonaphthalic acid* is obtained in the form of a white powder from the sulphonaphthalate of baryta.

Sul'pho-salts. These are merely double sulphurets, many of which may be prepared by passing a stream of sulphuretted hydrogen into a solution of an oxisalt. the hydrogen of the gas unites with the oxygen of the base, forming water, and the sulphur of the gas takes the place of the oxygen, converting the base into a sulphuret instead of an oxide.

Sul'phovinic Acid. Œnothionic acid. A peculiar acid generated during the process for obtaining sulphuric ether.

Sul'phur. Brimstone. A well-known simple combustible substance, found very abundantly in depositions, in sublimed incrustations, on the surface of certain waters near volcanoes, and in combination with many metals. It is found in greatest abundance and purity in the neighbourhood of volcanoes, modern or extinct, as at Solfatara in Italy; but all those ores known by the name of *pyrites*, of which there are a vast variety, are combinations of sulphur with different metals. That which is manufactured in this country is obtained by the roasting of pyrites. When melted (at 226° Fah.), and cast in cylindrical moulds, it is termed *rough* or *roll sulphur*; when this is purified by sublimation, it is called *sublimed sulphur*, and often *flowers of sulphur*, and is in the form of a bright yellow powder. When sulphur is melted and allowed to cool in the air it is yellow and very

brittle, but when poured into water it is white and viscid. Sulphur is of great importance in the arts. It is used extensively in the manufacture of gunpowder and of sulphuric acid.

Sul'phuration. The name given to the process by which woollen, silk, and cotton goods and straw hats are exposed to the vapours of burning sulphur or sulphurous acid gas, to whiten or bleach them. The process requires the utmost care.

Sul'phuret. A combination of sulphur with a simple base.

Sul'phuretted Hydrogen. A deleterious gas composed of one part of hydrogen and 16 parts of sulphur, by weight. It is the active constituent of the sulphurous mineral waters. Its sp. gr. is 1191, air being 1000.

Sul'phuretted Chy'azic Acid. *See* Sulphocyanic Acid.

Sulphu'ric Acid. Oil of vitriol; vitriolic acid. An acid which, when pure, is without smell or colour, and of an oily consistence. It is most violently caustic, and so acid that a single drop of it will give a gallon of water the power of reddening blue litmus. If four parts be mixed with one of water at 50°, the temperature instantaneously rises to 300° F., and the same quantity will raise one of ice to 212°. On the contrary, four parts of ice, and one part of the acid sinks the thermometer 4° below 0. The sulphuric acid of Nordhausen is prepared by distilling dried copperas: it comes over as a brown-coloured liquid, varying in sp. gr. from 1·842 to 1·896. By redistillation in a glass retort, into a receiver surrounded with ice, it comes over in white fumes, and is deposited in silky filaments, like asbestos, tough and difficult to cut. This anhydrous acid consists of one equivalent proportion of sulphur and three of oxygen, or, by weight, 16 of the former and 24 of the latter. But the acid prepared in this country by the combustion of sulphur with access of atmospheric air, is colourless, and in its most concentrated state has a sp. gr. of only 1·842 (though it is sometimes found in commerce of a sp. gr. of 1·845, in consequence of impurities). In this state it contains 81½ per cent. of dry acid, and 100 parts of it are neutralised by 143 of dry carbonate of potash, or by 110 of dry carbonate of soda. The best test for sulphuric acid in solution is the hydrochlorate of baryta (the nitrate is generally recommended). The salts formed by the sulphuric acid with bases are termed *sulphates*.

Sul'phuric Ether. A highly volatile, fragrant, inflammable, and intoxicating liquid, produced by distilling a mixture of equal weights of sulphuric acid and alcohol.

Sul'phurous Acid. When sulphur is heated to 180° or 190°, in an open vessel, it melts and soon afterwards emits a bluish flame, visible in the dark, but which in open day-light has the appearance of a white fume. This fume has a suffocating smell, and has so little heat that it will not set fire to flax. The suffocating vapour given off is a gas composed of one equivalent proportion of sulphur and two of oxygen, or, by weight, of 16 of each: it is *sulphurous acid gas*. It is, moreover, readily imbibed by water, forming the liquid formerly called *volatile vitriolic acid*, and now *sulphurous acid*. It has a strong sulphurous smell, but, when it is exposed for a time to air, it loses this smell by imbibing another atom of oxygen, and is thereby changed into *sulphuric acid*. The salts formed by the sulphurous acid are termed *sulphites*.

Sulphur Salts. This term is applied to *double sulphurets*. The sulphurets of the most electro-positive bases, such as the protosulphurets of potassium, sodium, &c., have been termed *sulphur bases*; and the sulphurets of arsenic, antimony, &c., the bi-sulphuret of carbon, and sulphuretted hydrogen have been termed *sulphur acids*. The compounds of one of the former class with one of the latter are *sulphur salts*.

Sul'tan, Arab. *sultaun*, mighty. A general title of Mohammedan princes.

Sumach', } Fr. *sumac*, Ger. *schumack*,
Shumac'. } Rus. *sumak*, Arab. *su'mak*, from *samak*, to be red. The common sumach is the *Rhus coriaria*, a shrub which grows spontaneously in Spain, Portugal, the Bannat, and the Illyrian Provinces. The young fustic is the *Rhus cotinus*, cultivated in Italy; and the *ridoul* or *rodou* is the *Coriaria myrthifolia*, which grows in the neighbourhood of Montpellier. The shoots of these plants are cut yearly quite to the root, and being carefully dried, they are chipped or reduced to powder by a mill, and are then prepared for the purposes of dyeing and tanning, and sold under the general name of *sumach*. The colouring matter is yellow.

Sum'mer. 1. One of the four seasons of the year.——2. In *architecture*, any large timber supported on two posts, serving as a lintel to a door, window, or the like.

Sum'mer-fallow. Naked Fallow. Land ploughed, but lying bare of crop in summer.

Sum'merset. In *gymnastics*, a high leap, in which the feet are thrown over the head. The word is a corruption of the French *soubresaut*.

Summons, Lat. *submoneas*. In *law*, a citation to appear in court, to answer the demand of the plaintiff.

Sum'oom. A pestilential wind of Persia, &c. *See* simoom.

Sump. 1. A pond of water, reserved for salt-works, &c.——2. In *mining*, a pit sunk below the bottom of the mine.——3. In *metallurgy*, a round pit of stone, lined with clay, for receiving the metal on its first fusion.

Sumpt'uary Laws. *Leges sumptuariæ*. Laws relating to expense (*sumptus*), regulating the expense of citizens in apparel, food, furniture, and other personal matters. Such laws have been enacted, and, what is more singular, have been attempted to be executed!

Sun. In *astronomy*, the great luminary and centre of our system, having all the planets and comets revolving around him, at different distances, and in different periods of time, and giving light and heat to all. His apparent diameter at the earth is 32′ 36″ when nearest (92,000,000 miles). when most distant (95,000,000 miles); and, taking the mass of the earth as 1, his mass is 1,384,472. He revolves about his axis in 25½ days, with his equator inclined 7° 30′ to the plane of the earth's orbit. Several hypotheses have been advanced regarding the emission of light and heat by the sun, but none of them are satisfactory.

Sun'niah (Arab.). A troop. The orthodox sect of Mussulmans.

Su'per. A Latin preposition signifying *above, over, excess*. 1. Used, in *composition*, to denote on the top, more than enough, more than another. 2. In *chemistry*, this word, when prefixed to the name of a salt, denotes an excess of acid. *See* Supersalt.

Supercar'go. A person in a merchantship, whose business it is to manage the sales, and superintend all the commercial concerns of the voyage.

Superdom'inant, Lat. *super*, and *dominant*, governing. In *music*, in the descending scale, the sixth of the key.

Supererога'tion (Works of). In *theology*, good works of men, beyond what are necessary for salvation; which, among Roman Catholics, are believed to be meritorious in the sight of God.

Superfi'cial Measure. *See* Square Measure.

Superfi'cies, from *super*, upon, and *facies*, face. The surface, consisting of length and breadth, but without regard to thickness.

Super'flua. *Polygamia superflua*. In *botany*, one of the orders of the class *Syngenesia*, characterised by a compound flower, in which the florets of the disk are hermaphrodite and fertile, and those of the ray, though female, or pistiliferous only, are also fertile. *See* Polygamia and Syngenesia.

Supe'rior. In *law*, one who has made an original part of heritable property, with reservation of the rent and service.

Su'persalt. A salt having an excess of acid to the base: opposed to *sub-salt* (q.v.). This class of salts are now generally distinguished by the prefix *bi*; thus the *super-tartrate of potash* is now called the *bi-tartrate of potash*, and so of others. In like manner, *sub* is denoted by the prefix *di*; thus the *sub-chromate of lead* is denominated the *di-chromate of lead*. These prefixes are more precise than *super* and *sub*, and are, therefore, to be preferred.

Superscа'pular, from *super*, and *scapular* (q.v.). Placed above the shoulder-blade: opposed to *subscapular*.

Superse'deas. In *law*, a writ of *supersedeas* is one superseding the powers of an officer in certain cases, or to stay proceedings.

Superton'ic. In *music*, the note next above the key-note.

Supina'tors. A name given to those muscles which turn the palm of the hand upwards.

Sup'plement, Lat. *supplementum*, from *sub* and *pleo*, to fill. 1. In *trigonometry*, the quantity by which an arc or angle falls short of 180°, or of a semicircle.——2. In *literature*, an addition made to any work or treatise, with a view of making it more complete.

Supplica'vit. In *law*, a writ, issuing out of the Queen's Bench, or Chancery, for taking surety of the peace, when one is in danger of being hurt in the body by another.

Support'ers. In *heraldry*, figures standing on the scroll, and placed by the side of the escutcheon, such as the *lion* and *unicorn* in the British arms.

Suppo'sed Bass. In *music*, the bass of a chord, when it is not the note of the common chord

Suppo'sitory Lat. *suppositorium*, from *sub* and *pono*, to put. In *medicine*, a substance put into the rectum, there to remain and dissolve gradually.

Suppura'tion, from *suppurate*, from *sub* and *pus*. In *surgery*, the formation of pus.

Su'pra. A Latin preposition, meaning *above*; used as a prefix.

Supracreta'ceous Rocks. In *geology*, applied to the *tertiary strata*, which lie upon the chalk.

Supralapsa'rians. Those who assert that the fall of Adam, with its pernicious consequences, were predestinated from eternity.

Supranaturalists. A name given, in Germany, to a middle party of divines, between the Rationalists and Evangelical party.

Suprem'acy. The *oath of supremacy* is an oath taken by the established clergy, &c., acknowledging the supremacy of the sovereign in spiritual affairs, and abjuring the pretended supremacy of the pope

Sur. A prefix from the French, contracted from Latin *super*, *supra*, over, above, &c.

Sur'base. In *architecture*, the mouldings immediately above the base of a room.

Surbase'ment (French). The trait of any arch, or vault, which describes a portion of an ellipse.

Surcin'gle, Fr. from *sur*, and Lat. *cingulum*, a belt. A belt, band, or girth, which passes over a saddle, or the like, on a horse's back, to bind it fast.

Sur'culus. In *botany*, a Latin name, used to designate the stem of mosses, or the shoot which bears the leaves. Plural *surculi*.

Surd, from *surdus*, deaf. In *algebra*, a quantity which is incommensurable to unity: otherwise called an *irrational quantity*.

Sure'ty, Fr. *sûreté*. In *law*, one that is bound with, and for, another, to answer for that other's appearance in court, for his payment of a debt, &c., and who, in case of the failure of the principal, may be compelled to pay the damages specified, or the debt.

Sur'face, from *sur* and *face*. *See* Superficies. A surface which may be cut by a plane through any given point, so that the intersect of the plane and surface may be a curve, is called a *curved surface*. If the curve bend inwards, it is a *concave surface*; if outwards, it is a *convex surface*. Some surfaces are *concave-convex*, that is, compounded of the two surfaces, concave and convex.

Surge, Lat. *surgo*, to rise. 1. In *shipbuilding*, the tapering part in front of the whelps, between the chocks of a capstan, on which the messenger may surge.——2. To surge, among *seamen*, is to let go a portion of a rope suddenly.

Sur'geon (corrupted from *chirurgeon*). In ancient *medicine* the business of the surgeon was confined to the treatment of such diseases as required manual operation. Such is still regarded as the legitimate object of surgery; but the surgeon has now superadded much of the business of the physician, and prescribes for internal as well as external diseases.

Sur'gery. A branch of therapeutics, which has for its object the treatment of all diseases requiring manual operation, or which are external or local in their nature: the business of a surgeon.

Surmount'ed. 1. In *architecture*, an arch higher than a semicircle.——2. In *heraldry*, when one figure is laid over another.

Surmul'let. In *ichthyology*, a name common to all the species of the genus *mullus*. The red surmullet (*M. barbatus*, Lin.), inhabits the Mediterranean, and attains a length of 15 inches. It was extravagantly esteemed by the Romans. The striped surmullet (*M. surmuletus*, Lin.), is somewhat smaller, but equal to the red surmullet in delicacy.

Surrebut'ter. In *law-pleadings*, the plaintiff's reply to a defendant's rebutter.

Surrejoin'der. In *law-pleadings*, a plaintiff's answer to a defendant's rejoinder.

Surrend'. In *law*, the yielding of an estate by a tenant to the lord, for such purposes as are expressed by the tenant in the act.

Sur'rogate, Lat. *surrogatus*. In *law*, one substituted for, or appointed in, the room of another.

Sursol'id. 1. In *mathematics*, the fifth power of a number; thus, $3^5 = 243$ is the sursolid of 3.——2. A *sursolid problem* is one which can only be solved by curves of a higher kind than the conic sections.

Surtur'band. A name given to the bovey or brown coal. The term is Icelandic.

Sur'vey, Fr. *sur* and *voir*, to see. A measured plan and description of any tract or line of country, the operation of making which is termed *surveying*. A survey is either made by Gunter's chain, both angles and distances being taken with it, or the angles are taken with instruments adapted to that purpose, and the distances by the chain. In large surveys, the distances are also sometimes calculated, in which case it is called a *trigonometrical survey*, being performed by extending a series of triangles over the country to be delineated.

Survi'vor. In *law*, the longest liver of two joint tenants, or of two persons who have a joint interest in anything. The survivor then inherits by right of *survivorship*.

Sus. The hog. A genus of mammiferous animals, of the order *Pachydermata*, and family *Ordinaria*. The wild hog, *S. scrofa*, Lin., is the parent stock of our domestic hog and its varieties. The body is short and thick, ears straight, hair bristled and black, but, when young striped black and white. Naturalists have separated from this genus the Peccaries, under the subgeneric names of *Phacochærus* and *Dycotele*.

Suspen'sion Bridge. A bridge suspended from inverted bows, by means of rods, usually of iron; the bows being supported by stone piers erected at each end, and from thence carried down and secured to the ground.

Sus'sex Marble occurs in layers, varying in thickness from two inches to fifteen. The layers are separated from each other by seams of clay, loose friable marl, &c. It bears a high polish, and is extensively used for architectural and ornamental purposes. Its common appear

ance is a blueish gray, mottled with green and yellow.

SUTTE'E. 1. A female deity of the Hindús. ——2. A widow, in India, who immolates herself on the funeral pile of her husband.

SU'TURE, Lat. *sutura*, from *suo*, to join. 1. In *surgery*, the uniting of the edges of wounds by sewing.——2. In *anatomy*, the word suture is applied to the union of bones by means of dentiform margins, as in the bones of the cranium.——3. In *botany*, it is applied to that part of a capsule which is a kind of furrow on the external surface, in which the valves are united. ——4. In *entomology*, the line at which the elytra meet, and are sometimes confluent. ——5. In *mammalogy*, the line formed by the converging series of hairs of the integument.

SWAB. 1. A large bundle of old yarns, swung right and left, to dry the deck. ——2. In *metal-founding*, a small taper tuft of hemp, charged with water, for touching up the edges of the moulds.

SWAMP differs from a bog or marsh only by supporting vegetation of a larger species.

SWAMP-ORE. In *mineralogy*, *see* BOG-ORE.

SWAN. In *ornithology*, *see* CYGNUS.

SWAN-PAN. The Chinese abacus.

SWEEP-WASHER. The person who extracts from the sweepings, potsherds, &c. of refineries of gold and silver, the small residuum of precious metal.

SWEETBRI'AR. A sweet-scented species of the rose-tree, the *Rosa rubiginosa*.

SWELL. 1. In *music*, a set of pipes in an organ, acted upon by a key-board, and capable of being increased by the action of a pedal.——2. At *sea*, a succession of waves in a particular direction.

SWIETE'NIA. Mahogany-tree. A genus. *Decandria—Monogynia*. Named after Van Swieten. There are two species: the common mahogany-tree, *S. mahagoni*, of South America and West Indies (*see* MAHOGANY), and the red-wood tree, *S. febrifuga*, of India. The wood of this last is hard and durable, and affords a red dye, and its bark has been proposed as a substitute for cinchona, and appears to have some febrifuge power.

SWIFT. The largest and strongest of the swallow tribe which visit this country; the *Hirundo apus* of Linnæus.

SWIFT'ER. In a *ship*, the foremost and aftermost shrouds, which are not rattled with the rest.

SWIL'LEY. A provincial name for a small coal-field.

SWIM'MERS. The web-footed or aquatic birds. Also a tribe of spiders which live in water.

SWINE'POX. A variety of the chicken-pox, in which the vesicles are pointed, and the fluid remains clear throughout the disease

SWINE'STONE. A name given by Kirwan to the fœtid carbonate of lime. *See* STINKSTONE.

SWING. A ship at anchor *swings* when it changes its position at the turn of the tide.

SWING'-BRIDGE, SWIV'EL-BRIDGE. A moveable bridge, consisting of two parts, which meet midway between the abutments, each turning upon a centre-pivot, to admit the passage of shipping, when required.

SWIN'GLE, SWIN'GLING KNIFE. A sort of wooden instrument, like a large knife, about two feet long, with one thin edge. Used for cleaning flax of the shives.

SWING'LING. The process of beating and cleaning flax.

SWING'LING TOW. The coarse part of flax, separated from the finer by the processes of swingling and hatcheling.

SWING'-TREE, SWIN'GLE-TREE. A cross-bar by which a horse is yoked to a carriage, plough, &c.; usually three in number when two horses are yoked.

SWITCH (of a railway). That portion of moveable rails forming the junction of the siding with the main line, which are usually shifted by means of an eccentric movement. The use of switches is to allow a vehicle, engine, or train to be transferred from one line of rails to another.

SWIV'EL. A kind of ring, or link of a chain, that is capable of being turned round, when jointed to the next by means of a pin or axis, forming a *swivel-joint*. The term is also used as the name of a small cannon, provided with a similar joint. The swivel is usually fixed on a ship's side, stern, or bow, in such a manner as to be turned in every direction. Shot 1½ lb.

SWIV'EL-HOOK. A hook that turns in the end of an iron block strap, for the ready taking of the turns out of a tackle.

SWORD'FISH. The *Xiphias gladius*, Lin. One of the largest and best fishes of the European seas, frequently attaining the length of 15 feet. It is characterised by the form of the beak, which is horizontally flattened and trenchant, like the broad blade of a sword. *See* XIPHIAS.

SWORDS OF STATE. There are four swords used at the coronation of a British sovereign, (1.) The sword of state; (2.) The sword of mercy; (3.) The sword of spiritual justice; (4). The sword of temporal justice.

SYC'AMORE, SYC'OMORE. 1. A species of the ficus or fig-tree: from συκον, a fig, and μωρον, a mulberry, because its leaves are like those of the mulberry-tree.——2. The name is sometimes improperly applied to the *Acer majus* or maple.

SYCEE SILVER. A silver currency among the Chinese.

SYCO'SIS, } 1. A wart or excrescence on
SYCO'MA. } the eyelid, &c., resembling a fig (συκον).——2. A cutaneous disease, which consists in an eruption of inflamed but not hard tubercles, occurring on the bearded portion of the face and on the scalp, usually clustered together in irregular patches.

SY'ENITE. *See* SIENITE.

SYL'LABLE, συλλαβη. A simple or compound sound, pronounced, with all its articulations, by a single impulsion of the voice.

SYL'LABUS, συλλαβος. An abstract or compendium containing the heads of a discourse, course of lectures, book, &c.

SYLLEP'SIS, συλληψις, substitution. A figure in grammar by which the sense of a word is modified by being put in the place of another word. Also the agreement of a verb or adjective, not with the word next it, but with the most important in the sentence, as *rex et regina beati*.

SYL'LOGISM, συλλογισμος, from συν, and λεγω, to speak. A form of reasoning or argument consisting of three propositions, of which the two first are called *premises*, and the last the *conclusion* which must arise necessarily from the premises, so that if the first two propositions are true, the conclusion must be true, and the arguments amount to a demonstration. *Example*:

Plants have not the power of locomotion . . . *Major* } *premises.*
A tree is a plant . . *Minor* }
Therefore a tree has not the power of locomotion . *Conclusion.*

SYLPH, Gr. σιλφη. A kind of insect. The name given to the spirits of air in the nomenclature of Rosicrucians and Cabalists.

SYL'VANITE. An ore of tellurium found in the mine of Mariahilf, in the mountains of Fatzbay, near Zalethna, in Transylvania. It is of a bluish-white colour and metallic lustre, and contains 92½ of the metal.

SYM'BOL, συμβολον. A type. That which contains in its figure a representation of something else.

SYMPATHET'IC INK. A name for those inks with which the writing does not appear until some re-agent gives it opacity. Thus writing is invisible with, (1). A weak solution of galls, till the paper is moistened with a solution of sulphate of iron; (2.) With a dilute solution of prussiate of potash, till wetted with a solution of sulphate of iron; (3.) With nitrate of cobalt, till heated; (4.) With solution of gold or silver, till exposed to the light of the sun; (5.) With a solution of equal parts of sulphate of copper and sal ammoniac, till heated, &c.

SYMPATHET'IC NERVE. The intercostal nerve.

SYM'PHONY, Lat. *symphonia*, Gr. συμφωνια, from συν and φωνη, voice. 1. In *music*, a consonance or concert of instruments.——2. An overture or other composition for instruments.——3. A musical instrument mentioned by French writers.

SYM'PHYSIS, Lat. from συμφυω, to grow together. Mediate connection. Applied in anatomy to a genus of the connection of bones in which they are united by means of an intervening body. It comprehends synchondrosis, syssarcosis, synneurosis, and syndesmosis.

SYM'PHYTUM. Comfrey. A genus of perennial plants. *Pentandria — Monogynia*. Name from συμφυω, to unite, because it was considered good for promoting cicatrisation of wounds. The officinal and the tuberous comfrey are the British types of the genus. All the species are perennial and hardy.

SYMPIESOM'ETER. A kind of barometer contrived with a bent glass tube containing oil in the shaded part, and hydrogen gas in the unshaded part; the tube is open at *a*, but close at *b*. The pressure of the atmosphere is known by the space which the hydrogen occupies in the tube. The instrument is useful, but inferior in accuracy to the common barometer.

SYMPTOMATOL'OGY, from συμπτωμα, and λογος, discourse. The doctrine of symptoms.

SYNARTHRO'SIS, from συναρθροω, to articulate. A mode of connection of bones in which they do not admit of motion on each other.

SYNCHONDRO'SIS, from συν and χονδρος, a cartilage. A species of symphysis in which the bone is united with another by means of an intervening cartilage, *e. g.*, the vertebræ.

SYNCHORE'SIS, συνχωρησις. Concession. A rhetorical figure, wherein an argument is scoffingly conceded, for the purpose of retorting more pointedly.

SYN'CHRONISM, from συν, together, and χρονος, time. A concurrence of events happening at the same time.

SYNCLIN'ICAL LINES. In *geology*, lines which form ridges and troughs, running nearly parallel to each other.

SYNCOPA'TION, from *syncope*. 1. The construction of a word by the omission of a letter: called also synaresis.——2. In *music*, an interruption of the common

measure; an inversion of the order of notes; a prolonging of a note begun on the unaccented part of a bar to the accented part of the next bar; also a driving note, when a shorter note, at the beginning of a measure, is followed by two or more longer notes before another short note occurs equal to that which occasioned the driving, to make the number even.

Syn'cope. Συγκοπη. A cutting down. 1. In *nosology*, fainting or swooning.—2. In *grammar*, an elision of one or more letters from the middle of a word.—3. In *music*, the same as syncopation. Also the division of a note, introduced when two or more notes of one part answer to a single note of another.

Syn'cretism, συνκρασις, mixture. In *philosophy*, the blending of the tenets of different schools into a system.

Syndesmo'sis, from συνδεσμος, a ligament. A species of symphysis in which the bones are united by means of the intervention of a ligament, as the radius with the ulna.

Syn'dic, Lat. *syndicus*; Gr. συνδικος, from συν and δικη, justice. An officer of government, invested with different powers in different countries; a kind of magistrate intrusted with the affairs of a city or community. In Geneva, the *syndic* is the chief magistrate. Almost all the companies in Paris, and most of the universities, &c., have their *syndics*.

Synec'doche. Συνεκδοχη. A rhetorical figure, or trope, by which the whole of a thing is put for a part, or a part for the whole; as the genus for the species, or the species for the genus, &c.

Syngen'esia, Lat. from συν, together, and γενεσις, generation. The name of a class of plants in the sexual system of Linnæus, consisting of such as have the anthers united in a tube, the filaments on which they are supported being mostly separated and distinct. The flowers are compound. The orders are *Polygamia æqualis*, of which the thistle is an example; *Polygamia superflua*, of which the tansy, daisy, and wormwood are examples; *Polygamia frustranea*, of which the sunflower and knapweed are examples; *Polygamia necessaria*, of which the marigold is an example; and *Polygamia segregata*, of which there is no British specimen.

Syng'nathus. The Pipe-fish. A numerous genus of fishes of the order *Lophobranchi*, characterised by a tubular snout, formed by the prolongation of the ethmoid, vomer, tympanals, preopercula, subopercula, &c., and terminated by an ordinary mouth, but cleft almost vertically at its extremity. The name is from συν and γναθος, a jaw, *i. e.*, united jaws. There are three subgenera, viz., *Hippocampus* (Sea-horse), *Solenostomus*, and *Pegasus*.

Synneuro'sis, from συν and νευρον, a nerve. A term synonymous with *syndesmosis* (q. v.).

Syn'ocha, (Lat.) from συνεχω, to continue. In *nosology*, inflammatory fever, as distinguished from putrid fever. *Synochus* is mixed fever.

Syn'od, from συν and οδος, a way. 1. In *church government*, an assembly, especially of ecclesiastics.—2. In *astronomy*, a conjunction or concurrency of several of the heavenly bodies.

Syn'odal. A pecuniary rent, formerly paid to the higher ecclesiastics, at the time of their Easter visitation.

Synod'ical Month, or Lunation, denotes the period of time (29 days, 12 hours, and 44 minutes 2·8283 seconds), in which the moon, departing from the sun after a conjunction, returns to him again.

Synop'sis, συνοψις. A general view, or collection of things or parts, so arranged as to exhibit the whole or principal parts in a general view.

Syno'via. A term coined by Paracelsus, to denote an unctuous fluid, secreted from certain glands in the joints of animals, where it is contained. Its use is to lubricate the cartilaginous surfaces of the articulatory bones, and to facilitate their motions.

Syn'tax, Lat. *syntaxis*, Gr. συνταξις, from συν, and τασσω, to join. A system: a number of things put or joined together. In *grammar*, that branch which teaches the due arrangement of words in sentences, according to established usage. It includes *concord* and *government*.

Synteno'sis, from συν, and τενων, a tendon. A species of articulation when the bones are connected together by tendons.

Syn'thesis, συνθεσις, combination, from συν, together, and τιθημι, to place. The composition of a whole from its parts. In *mathematics*, the process of reasoning out new principles from those already established. Opposed to *analysis*.

Synton'ic, from συν, and τονος, tone. A term in *music*, for sharp or intense.

Syph'ilis. The venereal disease. According to some, this term is derived from the name of a shepherd who tended the flocks of King Alcinous; according to others, it is from σιφλος, deformed. Dr. M. Good says, that it was probably invented by Fracastorio, from συν, and φιλεω, importing "mutual love," for such is the title by which he has designated his cele-

brated and very elegant poem on this very inelegant subject.

Syr'iac. The language of Syria, especially the ancient language of that country.

Syr'ian Oil. A fragrant essential oil, obtained by distilling the canary balsam plant, or moldavica.

Syr'inge, from *συριγξ*, a pipe. A pipe through which water or other liquid may be squirted. It is used by surgeons, &c., for washing wounds, for injecting fluids into animal bodies, and other purposes.

Syringoden'dron. The name given by Count Sternberg to certain species of Sigillaria, on account of their parallel pipe-shaped flutings: *συριγξ*, a pipe, and *δενδρον*, a tree. The trunks, many of which are of the size of forest trees, are without joint, and fluted from one end to the other.

Syringot'omy, from *συριγξ*, a fistula, and *τεμνω*, to cut. The operation of cutting for fistula.

Syr'inx, *Συριγξ*, a pipe. 1. In *surgery*, a fistula.——2. In *music*, an instrument composed of reeds, of different lengths, tied together.

Syssar'cosis, from *συν*, and *σαρξ*, flesh. A species of union of bones, in which one is united to another by means of an intervening muscle.

Sys'tem, *συστημα*, composition. In *logic*, (1.) any combination of things acting together; (2.) a scheme which reduces many things to regular dependency or co-operation; (3.) a scheme which unites many things in order; (4.) an assemblage or chain of principles and conclusions. In *astronomy*, the word *system* denotes a hypothesis, or supposition of a certain order and arrangement of the several parts of the universe, according to which philosophers explain all the phenomena of the heavenly bodies, their motions, changes, &c.. &c. Thus, the *Ptolemaic system* places the earth at rest in the centre of the universe, and makes the heavens revolve round it, every 24 hours, from east to west, carrying along the heavenly bodies, stars, planets, &c. The *Copernican system* makes the sun the centre of the *solar system*, and makes the earth and other planets revolve round the great luminary as a centre. In *music*, a *system* is an interval compounded, or supposed to be compounded, of several lesser intervals, as the fifth octave, &c., the elements of which are called diastema.

Sys'tole. *Συστολη*, contraction. A term used to denote the contraction of the heart, by which the blood is forced into the arteries. The reverse of *diastole* (q. v.).

Sys'tyle, from *συν* and *στυλος*, a column. In *architecture*, that kind of intercolumniation which has two diameters between the columns.

Syz'ygy. *Συζυγια*, conjunction, from *συν*, together, and *ζυγοω*, to join. A term used in astronomy both for the conjunction and opposition of a planet with the sun. Thus the syzygies of the sun and moon occur at the time of full and new moon.

T.

T, the 20th letter of the English alphabet, stood as a numeral among the Latins for 160, and with a dash over it, $\overline{T}$, for 160,000. In *music*, T is the initial, of tenor vocal and instrumental, of *tacet* for silence, as *adagio tacet*, when a performer is to rest during the whole movement. In concertos and symphonies, it is the initial of *tutti*, the whole band, after a solo. It sometimes stands for *tr.* or *trillo*, a shake.

T Band'age. A bandage, so named from its shape, used to support dressings after certain surgical operations.

Tabani'des. The name given by Latreille to a family of dipterous insects, characterised by a salient proboscis, usually terminated by two lips, with projecting palpi; by the last joint of the antennæ being annulated; and by a sucker composed of six pieces. It comprises the genus *Tabanus*, Lin.

Taba'nus. The ox or horse-fly: a genus of dipterous insects, comprising the family *Tabanides*, Lat. The tabani appear towards the end of spring, and are very common in the woods and pastures. They are much dreaded by beasts of burden; these, having no means of repelling their attacks, are sometimes covered with blood from the wounds they inflict. They even attack man to suck his blood. The *T. bovinus*, Lin., is the best known species in Britain: it is the *cleg* of Scotland.

Tab'ard. A sort of mantle, which covers the body, reaching rather below the loins, but open at the sides from the shoulders downward.

Tabashe'er. A Persian word, used to designate a siliceous concretion, found in the joints of the bamboo. It is in high repute with Eastern physicians, as a specific for bilious vomitings, bloody flux, &c It has peculiar optical properties.

Tab'by, Fr. *tabis*. In *manufacture*, a variety of thick silk stuff, usually waved or watered by a peculiar process of calendering. It is manufactured like taffeta.

Tab'bying. The process of giving stuffs a wavy appearance in the calender, like that given to tabby: called also *watering*.

Ta'bes. A Latin word of doubtful origin, used to designate a wasting of the body, characterised by emaciation, weakness, and fever, but without cough or spitting.

In the absence of fever, it differs from atrophy, and in the absence of cough and spitting, from phthisis.

Tab'lature, Lat. *tabula*, table. In *music*, the use of letters or other characters, for expressing the notes of a composition.

Ta'ble. 1. In *mathematics*, a system of numbers calculated, to be ready for expediting various computations. Thus there are logarithmic tables, tables of powers and roots, &c.——2. *Astronomical tables* are computations of the motions, places, and other phenomena of the planets.——3. In *architecture*, &c. (*see* Table, Tablet). —— 4. In *physical geography*, table land is an extensive series of planes, with steep acclivities on every side.

Ta'ble, } 1. In *architecture*, a flat surface,
Ta'blet. } generally rectangular, charged with an ornamental figure. A table which projects from the naked wall is termed a *raised table;* when it is perpendicular to the horizon it is a *raking table;* and when the surface is rough it is a *rustic table.* A *corbel table* is a horizontal ornament, used for a cornice in Gothic buildings.——2. A *table of glass* is the original circular plate before it is cut, of which 24 make a case.——3. *Tablet* is also used by Rickman to denote projecting mouldings or strings, among which he includes the cornice and drip-stone.

Ta'bling. Among *Scotch builders*, is used to designate the coping of very common houses.

Taboo'. A term most extensively used throughout the islands of the Pacific Ocean, to denote a kind of religious interdiction, during which all intercourse with persons, places, or things, is *tabooed* or prohibited.

Ta'bor, } Tabourine. A small drum
Ta'bour. } used as an accompaniment to a fife or pipe. The term is French, and is the same which in some languages is written *tambour* and *timbrel.* The *atabal* of the Spaniards is of the same family.

Tab'ular, Lat. *tabularis*, from *tabula*, a table. Having a flat square surface like a table, formed in large plates or laminæ. A *tabular crystal* is one in which the prism is very short. *Tabular spar* is a silicate of lime, which occurs crystallized in rectangular four-sided tables. It occurs in primary rocks, in Norway, and some other places.

Tacamahac'ca, } 1. A resinous substance,
Ta'mahaca. } of a yellowish brown colour, slightly aromatic taste, and fragrant smell; obtained from the *Fagara octandra*, a tree which grows in South America, Madagascar, and the West Indies. The name is of Indian origin.—— 2. *Tacamahac in the lump* is supposed by some to be the produce of the *Populus balsamifera*, a tree of North America, often planted in our gardens, as an ornament, and commonly called *Tacamahac.*

Ta'cet, Lat. *taceo*, silence. In *music*, a term denoting silence.

Tachom'eter, from ταχος, speed, and μετρον, measure. An instrument for indicating minute variations in the velocity of machines.

Tachype'tes. The generic name given by Vieillot to the frigate bird, the *Pelicanus aquilus*, Lin. This bird is particularly remarkable for the strength and length of its wings (10 to 12 feet when expanded). It flies to immense distances from all land, principally between the tropics, darting upon the flying fish, and striking the boobies to make them disgorge their prey.

Tack. 1. In *navigation*, a rope used to confine the foremost lower corners of the courses and stay-sails, when the wind crosses the ship's course obliquely; also a rope employed to pull the lower corner of a studding-sail to the boom.——Hence, 2. The part of a sail to which the tack is usually fastened, the foremost lower corner of the courses.——Hence, 3. The course of a ship in regard to the position of her sails, as the *starboard tack*, the *larboard tack;* the former when she is close-hauled with the wind on her starboard; the latter when close-hauled with the wind on her larboard.——Hence, 4. To *tack*, is to change the course of a ship, by shifting the tacks and position of the sails from one side to the other. *See* also Tackle.

Tack, } A small nail. The *tack* has
Tack'et. } usually a thin head, and is used for nailing slightly any covering, as tin-plate, canvass, &c.; the *tacket* has a large and thick head, and is driven into coarse shoes to prevent the soles from wearing rapidly.

Tack'le, Ger. and Dut. *takel;* Sw. *tackel* 1. A term used to designate a pair of pulley blocks and ropes, used for raising or removing weights.——2. The rigging and apparatus of a ship. The *ground-tackle* consists of anchors with their cables, &c.; the *gun-tackle*, the instruments for hauling cannon in and out. *Tack-tackle*, a small tackle for pulling down the tacks of the principal sails.

Tac'tics, Gr. ταχτικος, from ταξις, order. The science and art of disposing military and naval forces in order for battle, and performing military and naval evolutions.

Tæ'dium Vi'tæ. Weariness of life. A mental disorder.

Ta'el. A Chinese weight for gold and silver; used also in the East Indian Archipelago.

Tæ'nia. The Tape-worm: a genus of entozoa, characterised by a long, flat, and

jointed body. Order *Parenchymata:* family *Tænioidea*, Cuv. Name ταινια, signifies a fillet or tape. The common species found in the human subject is the *T. lata*, Rud., or *T. vulgaris*, Gm. It is frequently upwards of 20 feet in length, and it has been found upwards of 100 feet, and an inch broad. It is extremely injurious and tenacious, and the most violent remedies often fail to expel it. The *T. solium*, Lin., is usually from 4 to 10 feet in length, but much larger ones are sometimes met with. It is one of the most dangerous of the intestinal worms, and the most difficult to expel. There are many other species.

TÆNIOI'DEA. A family of parenchymatous intestinal worms, comprising those species in which the head is provided with two or four suckers, placed around its middle, which is itself sometimes marked with a pore, and sometimes furnished with a proboscis. The type is the genus *Tænia*, Lin.

TÆNIOI'DES. A family of acanthopterygious fishes, closely connected with the scomberoides. Named from ταινια, a tape, or riband; the species being elongated, and flattened on the sides.

TAF'FEREL, } Taffrail. The upper part
TAF'FARIL. } of a ship's stern, usually ornamented with carved work. The Dutch have *taffereel*, from *tafel*, a table.

TAF'FETA, } Fr. *tafetas, taffetas;* It.
TAF'FETY, } *taffetta.* A fine, light, smooth stuff of silk, having usually a remarkably fine gloss. Taffetas are of all colours.

TA'FIA. A variety of rum.

TAGLIACO'TIAN OPERATION. The operation for restoring a lost nose. *See* TALIACOTIAN.

TAIL, Fr. *tailler*, to cut off. In *law*, an estate in tail is a limited fee: an estate limited to certain heirs, and from which the other heirs are precluded.

TAIL'LAGE, Fr. *tailler*, to cut off. A portion cut out of a whole: a share of a man's substance paid away by way of tribute.

TAILLE', Fr. *tailler*, to cut off. In *law*, the fee that is opposite to fee-simple, because it is not in the free power of the possessor to dispose of it, but is by the first giver cut, or divided, from all other, and tied to the issue of the donée.

TAIL'LOIR (Fr.). In *architecture*, the same as *abacus* (q. v.).

TAIL-PIECE (of a violin). A piece of ebony attached to the end of the instrument to which the strings are fastened.

TAI'LZIE, or EN'TAIL, Fr. *tailler*, to cut off. In *Scottish law*, a deed, whereby the legal course of succession is cut off, and a new one substituted.

TAL'APOIN. In Siam, the name (1) of a priest, (2) of a monkey.

TAL'BOT. A variety of the dog, noted for his quick scent and eager pursuit of game. The figure of this dog is said to be borne in the arms of the Talbot family

TALC. 1. A mineral genus, the *talk* of Werner, and the *talc* of Brongniart. There are three species, the earthy talc, or talcite of Kirwan, of a greenish-white colour (usually), a glistening pearly lustre, and an unctuous feel. It is frequently confounded with agaric mineral.——2. Common or Venetian talc. Colours, greenish-white, pale apple-green, silvery, reddish, and yellowish-white. Occurs, massive, rarely crystallised, in minute hexagonal tubers confusedly grouped together. Found in primitive mountains, particularly forming beds and veins in serpentine, in the mountains of Tyrol and Salzburg. It is employed as a basis for coloured crayons, and for the finest rouge for the toilette.——3. Indurate talc, or talc-slate, of a greenish-white, commonly, but sometimes, snow-white. It occurs in mass; has a bright shining lustre, between pearly and greasy, passing sometimes into semi-metallic. Its fracture is curved and lamellar, and its fragments are blunt-edged plates. It is translucent, and in thin pieces semi-transparent; is very soft, sectile, smooth and unctuous to the touch. It forms beds in mountains of argillaceous and micaceous schist, of gneiss, and the newer serpentine, in the Alps, in Stiria, Austria, and Hungary, and in Breadalbane and the Shetland Isles. Talc is a silicate of magnesia and alumina, usually with some oxide of iron and water.

TALE. In *commerce*, a weight for gold and silver, in China, and some parts of the East Indies. It is also a money of account. *See* TAEL.

TAL'ENT. A Grecian weight, much used in computing money.

TA'LES, Lat. plural of *talis*. In *law*, an additional number of men for those empanelled on a jury of inquest, and not appearing, or that are challenged on either side.

TALIACO'TIAN OPERATION. A surgical operation for the restoration of noses and other parts, by partially detaching a portion from the arm, moulding it into a proper shape, causing adhesion, and, after a time, finally detaching it from the arm, and leaving it adhering in its new situation. Operations of this sort are called taliacotian, from their discoverer Caspar Taliacotius, who published a work in 1598, detailing the processes and the results of his experience.

TALIO. *Lex talionis. Pœna talionis.* The law of retaliation, as an eye for an eye, a tooth for a tooth, &c.

TAL'ISMAN. An oriental word, which has been long used to denote a figure cut

or carved under certain superstitious observances of the configuration of the heavens, which were supposed to communicate magical influence to it, to prevent the attacks of certain diseases, &c.

Tal'low. The concrete fat of quadrupeds. That of the ox consists of 76 parts stearine and 24 parts oleine. The fat of the hog is termed *lard*, and contains much more oleine.

Tal'low-tree. The *Stillingia sebifera:* a tree of China, and other parts. It takes this name from its producing a substance like tallow, and which is applied to the same purposes.

Tal'ly, Fr. *tailler*, to cut off. A piece of wood, on which notches are made, as the marks of number. Before the general introduction of writing, the only way of keeping accounts was for the purchaser and seller to be provided each with a *tally*, having a series of notches, corresponding in number to the quantity of goods delivered; and these tallies were received as evidence in courts of justice. Written *tallies* are now substituted for the notched sticks.

Tal'lying. In *seamanship*, hauling aft the corners of the main and fore-sail.

Tal'ly Trade. A system of retail dealing, carried on in London and other large towns, by which shopkeepers furnish certain articles on credit to their customers, who agree to pay the stipulated price by certain weekly or monthly instalments, (usually a shilling a week per pound.)

Tal'mud. The body of the Hebrew laws, traditions and comments of Jewish doctors; also the book containing them. The term is Hebrew, from the Chaldaic verb *lamad*, to teach.

Tal'on. In *architecture*, a French term for the same moulding which is otherwise called an *ogee*.

Tal'pa. The mole, which forms a genus. Class *Mammalia:* order *carnaria:* family *Insectivora*. The common mole (*T. europæa*, Lin.), is well known from its subterranean habits, and its vexatious depredations on cultivated grounds. Its form is admirably adapted to its mode of living; and it is well provided with the means of hunting under ground for its food, which consists of worms, insects, and some soft roots. The mole of America forms the genus *Condylura* (q. v.).

Ta'lus, Lat. from *taxillus*, a small die? 1. In *anatomy*, the ankle; also the bone of the ankle or *astragalus* (q. v.).——2. In *architecture*, the inclination or batten of a sloping wall, or a wall which is thicker at the bottom than the top.

Tam'arin. A small monkey; the *Simia Midas*, Lin., of South America. It is remarkable for the size of its ears, and is hence called the great-eared monkey.

Tamarin'dus. The Tamarind-tree and its fruit. Natural order *Lomentaceæ*. Name, Sp. *tamarindo*, It. *tamarindi*, from Arab. *tamar*, a date, and *indus*, for India. There is only one species of the tree, and it is found in both Indies, in Arabia, and Egypt. The preserve called *tamarinds* consists of a pulp, with the seeds concreted together by numerous tough strings or fibres.

Tam'arix, Tam'arisk. The name of a genus of trees. *Pentandria — Trigynia*. Named from Heb. *tamarik*, abstersion, on account of certain real or supposed properties in purifying the blood. The French tamarisk-tree, *T. Gallica*, is found in Britain.

Tambac', Tombac', Tambak', Tombak'. A name common to two alloys of copper. 1. The white copper of the Chinese, consisting of copper 40, nickel 31, zinc 25, and iron 3. It is silver white, very sonorous, and malleable at all temperatures up to a cherry-red heat, but brittle at a red-white heat.——2. Red brass, which contains more copper and less zinc than the common brass.

Tambou'r, from *tabour*. 1. In *manufactures*, a species of fancy-work in threads (sometimes of gold and silver), worked by needles of a peculiar form, into leaves, flowers, &c., upon a stuff (sometimes silk), stretched over a circular frame, called also a *tambour*, on account of its resemblance to a drum.——2. In *architecture*, the naked part of a Corinthian or composite capital; the wall of a circular temple which is surrounded with columns; a place inclosed with folding-doors at the entrance of a church, &c. ——3. In *mechanics*, *see* Drum.

Tambouri'ne. 1. A lively French dance, formerly in vogue at operas.——2. One of the most ancient musical instruments. It is mentioned in scripture under the name of *timbrel;* and it is still retained, as a sort of national instrument, by the Biscayans, who accompany all their national songs and dances by the *gingle* of the *tambour de Basque*. In this country, it is only to be met with in the possession of our street-musicians, where it ought to be.

Tamp'ing. Among *miners*, 1. The operation of filling the hole bored in a rock for the purpose of blasting it with gunpowder.——2. The matter put in above the powder, in blasting rocks, &c.

Tam'pion, Tom'pion. Fr. *tampon*. The stopper of a cannon or other piece of ordnance, usually consisting of a cylindrical piece of wood.

Tam'tam. A large sort of drum or gong, used by the Hindoos and Chinese. It is made of an alloy of 100 copper, and 25 of tin, which is peculiarly sonorous.

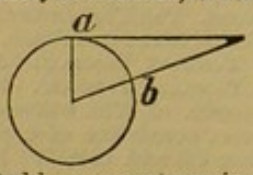
Tan. *See* Tannin.

Tan'agra. The Tanager. A genus of birds. Order *Passerinæ* · family *Dentiros-*

tres. There are several species, all resembling the finches in their habits; feeding on grain, and also on berries and insects, and are particularly remarkable for their bright colours.

TAN'GENCIES (PROBLEM OF). An ancient problem, the object of which was to describe a circle passing through given points, and touching given straight lines, the number of data being, in any case, three in number.

TAN'GENT, from *tangens*, touching. In *geometry*, a right line perpendicularly raised on the extremity of a radius, which touches a circle, but does not cut it or come within the circumference. In *trigonometry*, the tangent of an arc *a b* is terminated by a secant passing through the other extremity of that arc.



TAN'ISTRY. In *law*, a tenure of lands in Ireland, by which the proprietor had only a life-estate, and to this he was admitted by election. The Celtic term is *tanaisteachd*, from *tanaiste*, a lord or governor of a country; from *tan*, a region or territory. The primitive meaning of *tanistry* seems to have been that the inheritance should descend to the oldest, or the most worthy of the blood and name of the deceased, without regard to proximity, or in other words to the strongest candidate. It occasioned many bloody feuds in families.

TANK. In the *navy*, a case of sheet iron for holding water. In *gardening*, a cistern for collecting rain-water.

TAN'NER'S BARK. The bark of oak, and other trees abounding in tannin.

TAN'NIC ACID, } Tan, or tanning prin-
TAN'NIN. } ciple. A peculiar vegetable principle, obtained from nut-galls, and so named because it is the effective agent in *tanning*, or the conversion of skin into leather. Pure tannin is colourless, has an excessively astringent taste, without bitterness, but no smell. Water dissolves it in great quantity, and the solution reddens paper stained with litmus. It decomposes the alkaline carbonates with effervescence, and forms, with most of the metallic solutions, precipitates which in reality are *tannates*. Tannin is found in several vegetable substances besides gall-nuts, as oak-bark, tea, &c.

TAN'SY. In *botany* (1.) A name common to all the species of the genus *Tanacetum*. (2.) The *maudlin tansy* is the *Achillea ageratum*. (3.) For *wild tansy*, *see* POTENTILLA.

TAN'TALITE. The name given by Ekeberg to the ferruginous oxide of tantalum. Since tantalum and columbium have been ascertained to be identically the same metal, this ore has been called columbite. Its colour is nearly iron-black. It contains 80 of oxide of tantalum, 12 of oxide of iron, and 8 of oxide of manganese.

TAN'TALUM. A metal extracted from tantalite, at first supposed to be distinct, but now ascertained to be identical with *columbium* (q. v.).

TAN'TALUS. The Wood Pelican. A genus of birds. Order *Grallatoriæ*; family *Cultrirostres*, Cuv. *Tantalus* is the Latin name for the heron. This genus, according to Cuvier, has only one species, the *T. loculator*, Lin., about the size of a stork. It inhabits both Americas, arriving in each country about the rainy season, and frequents muddy waters, where it chiefly hunts for eels. But, according to Gmelin, the genus *Tantalus* includes those birds which form the genus *Ibis*, Cuv.

TAP'ESTRY, Fr. *tapisserie*, hangings. An ornamental figured textile fabric, of worsted or silk, for lining the walls of apartments, &c.

TAPE'WORM. *See* TÆNIA.

TAPIO'CA. The starch yielded by the Cassava root (root of the *Jatropha manihot*) after its poisonous principle has been destroyed by roasting. *See* JATROPHA.

TA'PIR. A genus of mammiferous pachydermatous animals. For a long time only one species was known, the *T. Americanus*, Lin., or American tapir; about the size of an ass; skin brown, and nearly naked; common in wet places, and along the rivers of the warm parts of South America. The flesh is eaten. A second species, belonging to the eastern continent, has recently been discovered in the forests of Malacca and Sumatra. It is larger than the American species, and of a blackish brown colour. More lately still, a third species has been discovered in the Cordilleras. Fossil tapirs are also scattered all over Europe, and among others is a gigantic species, the *T. giganteus*, Cuv., which, in size, must have been nearly equal to the elephant.

TAP'ROOT. In *botany*, the principal root of a plant, which shoots directly downwards.

TAR, Sax. *tare*. A thick, viscid, brownish black, resinous, oleaginous substance, chiefly obtained from the pine and other turpentine trees, by subjecting the wood, in close vessels, to destructive distillation. It contains, according to Reichenbach, the proximate principles, *Paraffine*, *Eupion*, *Creosote*, *Picemar*, *Pittacal*, *Pyretine*, *Pyroleine*, and some vinegar. The tar of Europe is the best. *Mineral tar* is a variety of bitumen.

TAR'ANTISM. A disease. *See* TARENTISM.

TARAN'TULA. 1. The name given by Fabricius to a genus of arachnides belonging to the family *Pedipalpi* of the order

Pulmonariæ. All the species have eight eyes, of which three on each side form a triangle, and two near the middle of the anterior margin are placed on a tubercle on each side. They are all confined to the hottest portions of America and Asia, and are now divided into two subgenera, *Phrynus*, Ollivier, and *Thelyphonus*, Latreille.——2. The *tarentula* (q. v.). It is from the *tarentula* or *tarantula* that the genus is named; although this is a species of a different genus of spider. *See* TARENTULA.

TARDIG'RADA. The name of a family of tardigrade animals, of the order *Edentata*, Lin. The only existing genus is the *Bradypus*, or Sloth.

TAR'DIGRADE, from *tardus*, slow, and *gradus*, step: slow-paced. Applied in *natural history*.

TAR'DO. A term in *Italian music* to denote a slow movement similar to *largo*.

TARE. 1. In *commerce*, an abatement, or deduction, made from the weight of a parcel of goods, on account of the weight of the chest, cask, bag, &c., in which they are contained. The *real tare* is the actual weight of the box, bag, &c. containing the goods; the *customary tare* is the supposed weight of such package, according to the custom of the trade; the *average tare* is the medium allowance, estimated by taking the real tare of a few of the packages.——2. In *botany*, a plant, the *vicia sativa*, much cultivated in England for its stem and leaves, which are used as fodder; and also for its seed, which is much used for feeding poultry. It is also called *vetch*, and sometimes *fitch*, by farmers.

TAR'ENTISM. The disease produced by the bite of the tarentula.

TAREN'TULA. A species of spider, belonging to the genus *Lycosa*, (Latr.). It is one of the largest of the Lycosæ; and the poisonous nature of its bite is thought to produce the most serious consequences, being followed by *tarentism*, a disease which was reckoned susceptible of relief only by dancing to the sound of a flute, or other musical instrument, till the patient fell down quite exhausted. This affection once prevailed in Italy to such an extent as to constitute an epidemic mania, which, like St. Vitus's dance, seems to have originated in morbid imagination, and to have been kept up by quackery. The real effects of the bite of the tarentula, as ascertained by modern experiment, are very similar to those of the common scorpion. The animal takes its name from the city of *Tarentum*, now *Taranto*, in the kingdom of Naples, and in the environs of which it is common.

TAR'GUM. The title of a paraphrase, or translation of the Pentateuch, in the Chaldee language. The word is strictly Chaldaic, and means *interpretation*.

TAR'IFF, Fr. *tarif*; It. *tariffa*; Sp. *tarifa*, a book of rates or prices. A table, alphabetically arranged, specifying the various duties, drawbacks, bounties, &c., charged and allowed on the importation and exportation of articles of foreign and domestic produce.

TARPAU'LIN, } A piece of canvass, well
TARPAW'LING. } daubed with tar, used to cover the hatchways at sea, to prevent the penetration of the rain or sea-water, which may at times rush over the decks.

TARPE'IAN. An appellation given to a steep rock, at Rome, from which, by the law of the twelve tables, those guilty of certain crimes were precipitated. It was named after Tarpeia, the daughter of Tarpeius, the governor of the citadel of Rome, who promised to open the gates to the Sabines, provided they gave her their gold bracelets.

TAR'RASS, TER'RASS, TRASS. A volcanic product, resembling puzzolana, used as a water cement. The *tarrass mortar* is made by covering a previously prepared mass of quick-lime with an equal quantity of powdered tarrass, and beating the composition together with water. It is highly durable in water.

TAR'SUS, ταρσος. 1. The instep, or that part of the foot which is between the leg and the metatarsus: it is composed of seven bones, viz., the astragalus, os calcis, os naviculare, os cuboides, and three ossa cuneiformia.——2. The thin cartilage situated at the edges of the eyelids, to preserve their firmness and shape.

TAR'TAN. In *navigation*, a small coasting vessel of the Mediterranean, with one mast, a bowsprit, and a large lateen sail.

TAR'TAR, Lat. *tartarum*, from ταρταρος, infernal. 1. The concretion which fixes to the inside of hogsheads containing wine: named also *argal*, or *argol*. It is the crude bitartrate of potash, which exists in the juice of the grape, precipitated during the fermentation, in proportion as the alcohol is formed, in consequence of its insolubility in that liquid. It is white or red, according as it is let fall by white or red wine. When purified, it forms *cream of tartar*, or pure bitartrate of potash.——2. The earthy substance which in some cases deposits upon the human teeth from the saliva. ——3. In *pharmacy*, an old name for any preparation containing tartaric acid.

TARTAR'IC ACID. The acid of tartar, which may be procured in needle-like or laminated crystals from its solutions. Its taste is very acid and agreeable, so that it may supply the place of lemon juice

By distilling nitric acid off the crystals, they are converted into oxalic acid, and the nitric acid passes to the state of nitrous.

TARTROMETH'YLIC ACID. An acid obtained by treating tartaric acid with pyroxylic spirit, and distilling the liquid. It is white, destitute of smell, has an acid, but at the same time sweetish, taste. It is heavier than water, but crystallises in four-sided prisms with right bases. It consists of two atoms tartaric acid, one atom methylene, and one atom water.

TARTROVIN'IC ACID. An acid obtained by the reaction of tartaric acid and alcohol (spirit of wine) on each other. It has a fine white colour, is destitute of smell, and has a sweetish agreeable acidulous taste. It is heavier than water, and crystallises in oblique four-sided prisms. It is composed of two atoms tartaric acid and one atom ether combined with one atom water.

TARTUF'FE. A common French nickname for pretenders to devotion.

TAR-WATER. Water impregnated with tar; formerly a celebrated remedy for many chronic affections, especially of the lungs.

TASTU'RA, Ital. *tasto*, a touch or key. A term used to designate the whole range or set of keys in an organ, harpsichord, virginal, spinet, clavichord, and pianoforte.

TATTOO'. In *military affairs*, the beat of drum by which soldiers are warned to quarters.

TATTOO'ING. An operation practised by the South Sea Islanders, to mark their bodies with figures of various kinds. It is performed by puncturing the skin, and rubbing a black colour into the wounds.

TAUNT. Among *seamen*, a term signifying too high or tall, as the masts of a ship.

TAU'RUS. The bull. In *astronomy*, one of the signs of the zodiac, the second in order of that next to Aries. Taurus contains 141 stars.

TAUTO'CHRONE, ταυτος, the same, and χρονος, time. In *mechanics*, a curve line, such that a heavy body descending along it will always reach the lowest point in the same time, from whatever point in the curve the body begins to descend.

TAW'ING. The art of preparing the skins of sheep, lambs, kids, and goats, in white, for various sorts of manufactures, especially gloves.

TAX'IDERMY, from ταξις, order, and δερμα, skin. The art of preparing and preserving specimens of animals by stuffing, &c.

TAXIS, ταξις, order. This term is used by surgeons to denote the operation by which those parts which have quitted their natural situation, are replaced by the hand without the assistance of instruments, as in reducing hernia, &c.——2. In *architecture*, the fitness of the parts to the end for which a building is erected.

TAXON'OMY, from ταξις, order, and νομος, law. Classification: a term used to designate the arrangement of animals and plants according to certain principles in divisions and groups.

TAX'US. The yew-tree. A genus of trees of three species. *Diœcia—Monadelphia*. Nat. order *Coniferæ*. One species is a native of Britain, another of Ireland, and a third of China.

T BANDAGE. In *surgery*, a bandage so named from its figure.

TEA, Chinese *te* and *cha*; Malay *teh*; Hind. *cha*; Rus. *tchai*. 1. The leaves of the tea-tree or shrub (*Thea viridis*). This plant ordinarily grows to the height of from 3 to 6 feet, and has some resemblance to the myrtle of the south of Europe. Its blossom is white, like those of the dog-rose; its stem has numerous leafy branches. The sorts of tea are *black teas* (produce of *Thea bohea*), comprehending bohea, congou, souchong, and pekoe.——2. *Green teas* (produce of the *Thea viridis*), comprehending twankay, hyson skin, young hyson, hyson, imperial, and gunpowder. The qualities of these teas are in general dependent on the period of the season at which the leaves are gathered, the age of the plants, and other particular causes of that sort, and also on the locality where the plants grow. The finest teas are hardly known in the English market.

TEAK'-WOOD. Indian oak. The wood of the *Tectona grandis*, a large forest tree which grows in dry and elevated districts of Asia and the Asiatic isles. The wood is porous, but hard and durable, is easily seasoned, and shrinks little. It is of an oily nature, and therefore does not injure iron. The wood called *African teak*, so largely imported into England from the west coast of Africa, is an inferior article.

TEANY, TAWNY, or BRUSK. In *heraldry*, a colour between yellow and red; it is reckoned a dishonourable colour.

TEA'SEL. Fuller's thistle. The *Dipsacus fullonum*, a biennial plant, much cultivated in England for the sake of the awns of the head, which are of considerable importance to clothiers, to raise the nap of woollen cloths. For this purpose they are fixed round the periphery of a large broad wheel, against which the cloth is held while the machine is turned.——2. In *botany*. *See* DIPSACUS.

TEB'ETH. The tenth month of the Jewish ecclesiastical year, and the fourth of the civil. It answers to our December.

TECH'NICAL, τεχνικος, appertaining to the arts: τεχνη, art. A technical term is one which is not in common use, but belongs to some art, profession, science or calling.

TECHNOL'OGY, from τεχνη, art, and λογος, word. Explanation of technical terms.

TECTIBRAN'CHIATA. An order of gasteropods, approaching the Pectinibranchiata in the form of the organs of respiration, and like them inhabiting the ocean. Name from *tectus*, covered, and *branchus*, the branchiæ being more or less covered by the mantle, in which a small shell is generally contained

TECTO'NA. The generic name of the teak-wood tree or Indian oak. *Pentandria—Monogynia.* Name from τεκτονικος, from τευχω, to build, in allusion to the use of the wood in ship-building, &c. One species, a forest-tree of India, &c. *See* TEAK-WOOD.

TE DEUM. A hymn to be sung in churches or on public occasions of joy: so called from the first words of the Latin version.

TEETH are usually divided into three classes: the *incisores* or cutting-teeth; the *canini* or canine teeth; and the *molares* or grinders. The *incisores* are the four teeth in the front of each jaw; the *canini* or *cuspidati* are the longest of all the teeth, deriving their name from their resemblance to a dog's tusk. The *molares*, of which there are ten in each jaw, are so called because from their size and figure they are adapted for grinding the food. The last grinder of each jaw, from its coming latest, sometimes not appearing till the individual is advanced in life, is called *dens sapientiæ* or wisdom tooth.

TEE-TOTALLERS. A whimsical denomination, assumed by those abstinents who professedly eschew all liquors stronger than tea and coffee, or who are pledged to abstain wholly from spirituous liquors. This is *tee-totalism*. The origin of the word *tee-total* is not well ascertained. It was formerly used by soldiers, &c., as a slang term for *total*. "He was *tee-totally* puzzled." "He got a *tee-total milling*" (beating, flogging). "He was *tee-totally* budged" (drunk). It probably originated with some notoriously incorrect articulator, who instead of pronouncing *total*, at once, said *te-te-tee-total*. Some, who are apparently not aware that the word is old, suppose it to be a corruption of *tea-total*, the *tee-totallers* confining themselves to tea and coffee.

TEINDS. In *Scotland*, the same as *tithes* in England.

TEI'NOSCOPE, from τεινω, to extend, and σκεπτω, to see. An optical instrument for observing objects in a state of extension in one direction.

TELAMO'NES, τλαω, I bear up. In *architecture*, figures of men used for supporting entablatures.

TEL'EGRAPH, from τηλε, distantly, and γραφω, to write. A machine adapted for communicating intelligence rapidly at a considerable distance, by means of certain signals previously arranged. Galvanic telegraphs are now coming rapidly into use, instead of the old plan of elevating signals on towers, &c., to be seen and recorded at some other similar establishment. The following will give some idea of the nature of the galvanic telegraph: if a magnetised needle be freely suspended by a fibre of untwisted silk, it will place itself in a direction nearly due north and south; and it will return with a certain force to that direction if it be drawn aside from it. When such a needle is suspended within a coil of copper wire or ribbon, the direction of the length of the coil coinciding with that of the needle, and if one end of the coil be connected by a wire of any length with a copper plate, while the other end is connected by a similar wire with a zinc plate, so soon as the copper and zinc plates are immersed together into a diluted acid, the needle in the coil will change its direction, and place itself across the coil. The needle will then be more or less east and west, instead of north and south. The instant that the zinc and copper plates are taken out of the acid, the needle returns to its original position. This deviation of the magnetic needle is caused by the copper wire and coil being thrown into a peculiar state by the electricity excited when the copper and zinc plates are immersed in the acid. The species of electricity thus produced is known by the name of galvanism; and the copper wire and coil which unite the zinc and copper plate may be said to be galvanised. The greater the extent to which the wire and coil are thus galvanised, the greater will be the extent to which the needle placed in the coil will deviate from its natural position. The deviation of the needle is therefore used as a measure of the amount of galvanism; and the needle and coil thus constitute what is called a Galvanometer. It is this little instrument, the galvanometer, or magnetic needle suspended in a copper coil, which, in connection with a copper and zinc plate immersed in weak acid, and called a galvanic battery, forms a principal element in the construction of every galvanic telegraph. As has been already said, the wires by which the coil of the galvanometer is connected with the galvanic battery may be of any length, and as each wire becomes

galvanised throughout its whole length at the same instant, there is no appreciable interval of time between the connection being made at the one end, and the needle being affected at the other, at least for all terrestrial distances. The effect of distance is not to diminish perceptibly the rapidity with which the effect on the needle is produced, but merely to lessen the quantity of that effect. This latter effect of increased distance, however, may be compensated by increasing the thickness of the wire, which forms the medium of communication, or by making the galvanometer more sensitive, and the battery more powerful. By such means this peculiar influence could be made sensible at the greatest terrestrial distances. The further improvement of this instrument, and a more familiar acquaintance with its use, may ultimately lead to connections being made between the most distant countries in the world for the transmission of intelligence; and posterity may perhaps witness the receipt of news from India, by means of a galvanic telegraph, in as many minutes as there are weeks now occupied in the conveyance of a despatch.

Teleosau'rus. A new genus of fossil saurians, thus named by M. Geoffroy St. Hilaire, from τηλε or τηλος, and *saurus*.

Tel'escope, from τηλε, at a distance, and σκοτεω, to see. An optical instrument employed in viewing distant objects, as the heavenly bodies It assists the eye in two ways; first, by enlarging the visual angle under which a distant object is seen, and thus magnifying the object; and secondly, by collecting and conveying to the eye a larger beam of light than could have been collected by the naked organ, and thus rendering the object more distinctly visible. Telescopes are divided into two general kinds, *refracting* and *reflecting*. A *refracting telescope* consists of several lenses through which the objects are seen by rays *refracted* by them to the eye. A *reflecting telescope*, besides lenses, has a metallic speculum within its tube, by which the rays proceeding from an object are reflected to the eye. The forms of both sorts have been frequently varied, and they are sometimes distinguished by the names of their inventors, as the Galilean and Newtonian telescope; sometimes by the particular use for which they are best adapted, as the *land* telescope, the *night* telescope, the *astronomical* telescope, &c.

Telesco'pium. The telescope. A constellation situated south of the Centaur and Sagittarius. It contains nine stars, all, except one, less than the fourth magnitude.

Te lescopium Herschelii. Herschel's Telescope. A new asterism, inserted in honour of Dr. William Herschel, the astronomer.

Teller. An officer in the Exchequer (in ancient records called *tallier*), whose duty is to receive all sums due to the Crown, and to give the Clerk of the Pells a bill to charge him therewith. There are four tellers in the Exchequer.——2. A person in a bank, whose business is to receive and pay money for bills, orders, &c.

Telli'na. The simpin: a genus of marine and fresh-water bivalve shells, inhabited by a tethys. The shells of this genus are known by the irregular fold on the forepart; in the one valve the fold being convex, and in the other concave. About 100 species are known, upwards of 20 of which are found in the seas of our coasts. Some species are also found fossil in alluvial deposits.

Tel'luretted Hydrogen. A singular elastic fluid, consisting of hydrogen holding tellurium in solution. It is soluble in water, forming a claret-coloured solution it combines with alkalies, and burns with a bluish flame, depositing oxide of tellurium. Its smell is strong and peculiar, not unlike that of sulphuretted hydrogen.

Tellu'ric Acid. The peroxide of tellurium which combines with many of the metallic oxides acting the part of an acid, and producing a class of compounds called *tellurates*.

Tellu'rium, from *tellus*, the earth. 1. The name given by Klaproth to a metal extracted from several Transylvanian ores. It is of a tin-white colour, verging on lead-grey, with a high metallic lustre, has a foliated fracture, and is so brittle as to be easily pulverised. It is oxidised and dissolved by the principal acids.——2. *Tellurium* is also the name of a machine for illustrating the motions of the earth.

Tel'lurous Acid. The protoxide of tellurium, which, if precipitated from its solutions by an alkali, carries down with it a portion of the precipitate, forming with it a compound termed a *tellurite*.

Tem'perament, Lat. *temperamentum*, from *tempero*, to mix. 1. In the *ancient physiology*, the different mixture of the four cardinal humours, and the predominance of one or the other, gave rise to four distinct *temperaments*, viz., the *sanguine*, the *choleric*, the *phlegmatic*, and the *melancholic*. The constitution of every individual was supposed to be conformed to some one of those temperaments, or to a mixture of two or more of them. To the temperaments noticed by the ancients, modern physiologists add a fifth, viz., the *nervous*.——2. In *music*, the adjustment of the imperfect concords, in instruments whose sounds are fixed, so as to transfer to them part of the music of perfect concords.

TEM'PERATE ZONE. The space of the earth, between the tropics and the polar circles, where the temperature is lower than in the tropics, and higher than in the polar circles.

TEM'PERATURE, Lat. *temperatura*. The state of a body with regard to heat and cold, as indicated by the thermometer. Thus we say a *high* temperature to denote a manifest intensity of heat, and a *low* temperature to designate the reverse. The temperature of the human body while it lives (in health) is 98° F.; the temperature of boiling water at the level of the sea is 212° F., and at the top of Mont Blanc it is 189° F., giving a *range of temperature* between these two levels of 23°.

TEM'PERING. In *metallurgy*, the preparing of steel or iron, so as to render them harder or softer, as may be required.

TEM'PLARS. Knights of the Temple. A religious military order, first established at Jerusalem, in favour of pilgrims travelling to the Holy Land. The order originated with some persons who, in 1118, devoted themselves to the service of God, promising to live in perpetual chastity, obedience and poverty, after the manner of canons. In 1228 the order was confirmed, in the council of Troyes. It flourished, became immensely rich and insolent, and was in consequence suppressed by the council of Vienne in 1312. The order was denominated from an apartment in the palace of Baldwin II., in Jerusalem, near the Temple.

TEM'PLATE. A sort of mould employed in cutting and setting masonry and brickwork. It consists of a thin piece of iron, cut to the exact cross section of the moulding, or other feature to be worked.

TEM'PLE, Lat. *templum*. 1. A public edifice, erected in honour of or for the worship of some deity. Originally, temples were open places, as the Stonehenge in England. At ancient Rome, the open temples were called *sacella*, and those which were roofed were called *ædes*.——2. In *England*, the *temples* are two inns of court, so called because they were anciently dwellings of the knights templars. *See* INN.——3. In *anatomy*, the *temples* are the lateral and flat parts of the forehead, so called because the ravages of time are often first perceptible by the hair on these parts becoming grey.

TEM'PLET. 1. A short piece of timber placed in a wall (chiefly brick-walls), to receive the end of a girder.——2. The same as *template* (q. v.)

TEM'PO. The Italian word for *time*. Applied in music.

TEM'PORAL. In *anatomy*, appertaining to the temples, as the *temporal artery*, a branch of the carotid, which gives off the frontal artery; the *temporal bones* situated on each side of the head, and all of a very irregular figure; the *temporal muscle* is a muscle of the lower jaw, situated on the temple.

TENAC'ULUM. A surgical instrument, with a hooked extremity, for seizing and drawing out the mouths of bleeding arteries, to secure them by ligaments.

TENA'IL, Fr. *tenaille*. In *fortification*, an outwork resembling a hornwork, but, having only in front a re-entering angle without flanks; a *double* or *flanked* tenail has two re-entering angles.

TENAI'LLON, from *tenail*. In *fortification* a work constructed on each side of the ravelins, like lunettes, but having one of the faces in the direction of the ravelin, whereas that of the lunette is perpendicular to it.

TEN'ANT, Fr. from *tenir*, to hold. In *law*, a person holding land, or other real estate, under another, either by grant, lease, or at will: one who has temporary possession of lands, &c., the titles of which are in another, as *tenant* in tail, *tenant* in common, *tenant* by courtesy, *tenant* in parcenary, &c. A *tenant in capité* is a tenant in chief, or one who holds directly of the Crown. Tenants in capite have the fee of the land, and permanent possession.

TEN'DER. 1. A small vessel employed to attend one or more larger ones to supply stores, &c.——2. A waggon built for the purpose of accompanying a locomotive engine for the conveyance of fuel, water, &c.——3. In *law*, an offer either in money to pay a debt, or of service to be performed, in order to save a penalty which would be incurred by non-payment or non-performance.

TEN'DO ACHILLIS. The large tendon which passes from the muscles of the calf to the heel.

TEN'DON, from *tendo*, to extend or stretch. The white and glistening extremity of a muscle.

TENE'BRIO. The name of a genus of heteromerous coleoptera. The species are very numerous, and are very common under the bark of trees, on old walls and the uninhabited parts of houses. The *T. molitor* is the favourite food of the nightingale in its captive state.

TEN'EMENT. In *law*, any species of property which may be held by a tenant. In common parlance, the term means a building for habitation.

TENNE'. In *heraldry*, tawny or brusk. A colour made by red and yellow mixed together, and is expressed in engraving by lines diagonal from the sinister chief and traverse. In blazoning by celestial things, it is called the dragon's-head, and by precious stones, the hyacinth.

TEN'ON. In *carpentry*, &c., the square end of a piece of wood which is fitted to a mortise for insertion, or inserted for

fastening two pieces of timber together The term is from French *tenir*, or Lat. *teneo*, to hold.

TE'NOR, Ital. *tenore*. A term in *music*, implying the natural pitch or *tenor* of a person's voice in singing.

TENSE, corrupted from Fr. *temps*, from Lat. *tempus*, time. In *grammar*, time, a particular form of a verb, or a combination of words, used to express the time of action, or of that which is affirmed. The primary or simple tenses are three, *past*, *present*, and *future*; but these admit of modifications which differ in different languages.

TEN'SION BRIDGE. Another name for a bowstring bridge.

TEN'SOR. In *anatomy*, a muscle, the office of which is to extend the part to which it is fixed.

TEN'TACLES, } Feelers. The exploring
TEN'TACULA. } organs of various animals. The term was originally applied to those organs or appendages of the mouth which have no articulation, but it is now understood as applicable to organs in its vicinity, used as precursors or feelers and antennæ. The tentacula are only motive organs of the fixed polypi, as in the cephalopods; they are used as arms for prehension, as legs for locomotion, as sails for wafting their possessors over the boundless deep, as oars for passing through its waves, as a rudder for directing their course, and as an anchor for fixing themselves.

TENTER. 1. A hook for stretching cloth on a frame.——2. In *factories*, a manager of the works of a floor or particular department.

TENTH. In *music*, the octave of the third, comprehending ten sounds diatonically divided.

TEN'THREDO. The saw-fly. A very extensive genus of hymenopterous insects belonging to the family *Securifera*, Cuv. Named from the serrated ovipositor of the female. The larvæ live on the leaves of the plants on which they feed.

TENTHS. The tenth part of the yearly value of all benefices, which was anciently paid, with the first fruits, to the pope.

TENTO'RIUM. In *anatomy*, a process of the dura mater, separating the cerebrum from the cerebellum.

TENUIROS'TRES. A family of passerine birds comprising those which have a long slender beak, whence the name, from *tenuis*, slender, and *rostrum*, a beak.

TE'NURE, from *teneo*, to hold; a holding. All the species of ancient tenures may be reduced to four; (1.) Tenure by knight service, which was reckoned the most honourable; (2.) Tenure in socage, which was either free and honourable, or villain and base; (3.) Tenure by copy or court-roll, or copyhold tenure, (4.) Tenure in ancient domain. The tenure of free and common socage has now in great measure absorbed the others.

TEREBEL'LA. A genus of *annulata* belonging to the order *Tubicola*, Cuv. These animals are found in shallow water on the coasts. They inhabit artificial tubes composed of grains of sand and fragments of shells. Name from *terebellum*, dim. of *terebra*.

TEREBEL'LUM. The name of an oblong shell with a narrow aperture, without plicæ or wrinkles, and increasing regularly in width to the end opposite the spire; hence the name *terebellum*, a little auger. The animal is unknown. Cuvier places the genus in the class *Gasteropoda*; order *Pectinibranchiata*; family *Buccinoida*.

TER'EBRA, Lat. from τιρέω, to bore. 1. In *surgery*, a trepan or trephine; also an instrument called a *perforator*.——2. In *conchology*, a genus of turreted marine univalve shells. Two species are found fossil in the environs of Paris.

TEREBRAN'CHIA, Lat. *terebro*, I bore. A section of hymenopterous insects, provided with an anal instrument for making perforations.

TEREBRAT'ULA. The name given by Bruguières to a genus of Brachiopoda. The shell is bivalvular; the valves are unequal and united by a hinge; the summit of the one is more salient than the other, and perforated to permit the passage of a fleshy pedicle, which attaches the shells to rocks, madrepores, other shells, &c. Hence the name from *terebratus*, pierced. Many terebratulæ are found fossil.

TERE'DO. A genus of testaceous acephala, belonging to the family *Inclusa*, Cuv., and *Tubicolaria*, Lin. Name *teredo*, a worm which perforates wood: τιρηδών, from τιρέω, to bore; and the species when quite young penetrate and establish their habitations in submerged pieces of wood, such as piles, ships' bottoms, &c., perforating and destroying them in all directions. The *T. navalis*, Lin., is justly celebrated. It is thought to have been imported into Europe from the torrid zone. It is highly destructive in our ports, and has more than once threatened Holland with ruin, by the destruction of its dikes. It is upwards of six inches in length.

TERGEM'INOUS, Lat. *tergeminus*, doubly twin-forked. Applied to a leaf-stalk when it has two leaflets at the end of each, and two more at the fork.

TERM, Lat. *terminus*, from τέρμα, a limit. 1. In the *arts*, &c., a word, which, besides its popular and grammatical meaning, has a peculiar force or import in the language of some particular art, science, trade, &c. A word becomes a term when

the idea it expresses is rendered more insulated and peculiar.——2. In *geometry*, a point or line that limits: a point is the *term* of a line, a line is the *term* of a surface, and a surface is the *term* of a solid.——3. In *architecture*, a kind of statues or columns, adorned on the top with the figure of a head, either of a man, woman, or satyr. Terms are sometimes used as consoles, and sustain entablatures; and sometimes as statues to adorn gardens, &c.——4. In *algebra*, a member of a compound quantity. Thus *a* and *b* are the terms of *a* + *b*.——5. In *logic*, a syllogism consists of three terms, the major, the minor, and the middle.——6. In *law*, the time during which a court is held or open for the trial of causes: the rest of the year is called vacation. In England there are four terms, viz., *Hilary term*, which begins on the 23rd of January, and ends on the 21st of February; *Easter term*, which begins 18 days after Easter, and ends on the Monday next after Ascension day; *Trinity term*, which begins on the Friday after Trinity Sunday, and ends the Wednesday fortnight after; and *Michaelmas term*, which begins on the 6th November, and ends on the 28th of November.——2. In *agreements*, the *terms* are the conditions; propositions stated or promises made, and when assented to or accepted by another, settle the contract and bind the parties.

Ter'mes. In *entomology*, the *Termites* form an extensive genus of neuropterous insects. They inhabit the countries situated between the tropics, or which are adjacent, and are known by the name of *white ants*, *poux de bois*, *caria*, &c., from their manner of living in communities, destructive habits, &c. They live under cover in the ground, and destroy trees and all sorts of ligneous articles, as furniture and the planks, timbers, &c., of houses. The larvæ are the *working termites* or *labourers;* another sort are the *neuters* or *soldiers*, which defend the domicile and compel the labourers to work. The perfect insects leave their original retreat, flying off during the night in incalculable numbers. At sunrise they lose their wings, which are dried up, fall to the ground, and are mostly devoured by birds, lizards, and their other enemies.

Ter'minal, Lat. *terminalis*, growing at the *terminus* or extremity. Applied, in *botany*, to flowers and umbels which proceed from the extremity of the stem or branches.

Ter'mini, pl. of *terminus*, limit. In *architecture*, columns having a head for a capital, and ending below in a sort of sheath or scabbard. *See* Term.

Ter'minthus. In *surgery*, a black ardent pustule, which attacks the legs; so named from its resemblance to the fruit of the τερμινθος or turpentine tree

Ter'minus (Lat.), termination. Applied technically to the extreme point at either end of a railway.

Terms of Equa'tions. The parts of which they are composed.

Ter'na Folia. In *botany*, leaves growing three together in a whorl.

Ter'nary, Lat. *ternarius*, proceeding by threes; consisting of three. Applied to things arranged in order by threes, as a flower having three sepals, three petals, three stamina, &c., or twice or thice as many.

Ter'nate. 1. Lat. *ternatus*, from *terni*, three. Applied to a leaf which has three leaflets, as that of the trefoil.——2. Lat. *ternus*, by threes. Applied to leaves when there are three together.

Ter'ra-cot'ta (Latin). Baked earth. Many ancient temples were built of terra-cotta; and it was very generally adopted for statues and architectural ornaments, as those of friezes. It is still used for similar purposes. The materials are potter's clay, and fine white sand, as that of Reigate, with pulverised potsherds.

Ter'ra Sien'na. A brown bole or ochre from Sienna in Italy, used as a pigment.

Ter'race, Fr. *terrasse*, from Lat *terra*. 1. In *architecture*, a balcony; also the flat roof of a house.——2. In *gardening*, a raised bank of earth with sloping sides, laid with turf, and gravelled on the slope for a walk.

Terre'-plein (French). In *fortification*, the top platform or horizontal surface of the rampart on which the cannon are placed.

Terres'tres, Lat. *terra*. A section of the class *Aves;* also of a family of pulmonated gasteropods, and of a division of isopodous crustaceans.

Terre'verte (French). Green earth: an earth of a green colour, found in Germany, France, Italy, and North America. It is ground with oil, and used as a pigment.

Ter'rier, from *terra*, earth. 1. A little dog used to hunt animals which burrow.——2. In *law*, originally, a collection of acknowledgments of the vassals or tenants of a lordship, containing the rents, services, &c., they owe to the lord. At present, a book or roll, in which the lands of private persons, corporations, &c., are described by their sites, boundaries, extent, &c.——3. From *tero*, to bore, an auger.

Ter'tiary, third; *tertius*, three. Applied in *geology* to those formations which have been deposited subsequently to the chalk formation. The most remarkable feature of the tertiary strata is that they consist of repeated alternations of marine deposits and those of fresh water.

TERUN'CIUS. An ancient Roman coin, one-fourth of an *as*.

TERZA RIMA, It. *triple rhyme*. A complicated system of versification borrowed by the early Italian poets from the Troubadours.

TES'SERA, from τισσαρες, four. A name of the four-sided or cuboid bone. In *Roman antiquities*, a six-sided die, like modern dice.

TES'SULAR. A term applied to a system of crystallisation in which the form is unalterable and determined, as the cube, &c.

TEST, from *testor*, to try. In *chemistry*, any substance which being added to a substance indicates by special characters the chemical nature of that substance simple or compound. Tests are usually called re-agents.

TESTA'CEA. A name given by Linné to that order in the class *vermes*, wherein the animals are furnished with true shells: distinct from *crustacea*. The shells of the testaceans are carbonate of lime; those of the crustaceans are phosphate of lime. Linné divides the testaceans into 36 genera, all of which are popularly known as shell-fish.

TESTACEL'LUS, Lat. *testa*. A genus of slugs, provided with a small shell, which acts as shield to the heart.

TEST'ING. In *metallurgy*, the operation of refining gold and silver.

TES'TONE. A silver coin of Italy (Papal States) worth 1*s*. $3\frac{2}{5}d$.

TES'TOON. A silver coin of Portugal. The testoon of 1799 is worth fully sixpence; that of 1802 is worth rather less: in the one case $6\frac{1}{10}d$.; in the other $5\frac{9}{10}d$.

TESTU'DO. 1. The Tortoise: a genus of reptiles, comprising the terrestrial species of the order *chelonia*. According to Linné, the genus comprised also the aquatic species, which are much more numerous than the land tortoises. *See* CHELONIA and TRIONYX.——2. In *surgery*, a melicerous tumour of the scalp, of a flattened shape, fancifully supposed to resemble a tortoise.

TET'ANUS, τετανος, from τεινω, to stretch. In *nosology*, a disease characterised by general spasmodic rigidity of the muscles.

TETRACAU'LODON. An extinct animal allied to the mastodon, discovered at Epplesheim in Germany. It is referable to the miocene period.

TETRA'CHORD, from τετρα, four, and χορδη, chord. A term in the *ancient music* denoting a series of four sounds, of which the extremes constitute a fourth.

TETRADAC'TYLOUS, τετραδακτυλος. Having four toes.

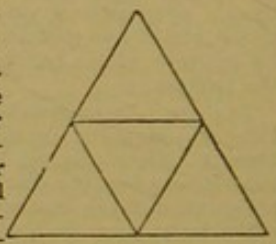
TETRADIAPA'SON, from τετρα, four, and *diapason* (q. v.). Quadruple diapason or octave; a musical chord, otherwise called a quadruple eighth or twenty-ninth.

TETRA'DORON, Gr. In *ancient architecture*, a brick used by the Greeks in private buildings, of four palms in length.

TETRADRACHM. A silver coin of the ancient Greeks—four drachms.

TE'TRADYNAM'IA, from τετρα, four, and δυναμος, power. The name of the fifteenth class of plants in the Linnæan sexual system; comprising such plants as have six stamens in one flower, two shorter than the rest, indicating the superiority of four stamens over the other two. The orders are: (1.) *Siliculosa*, of which colewort is an example; (2.) *Siliquosa*, of which the cuckoo-flower and worm-seed are examples.

TETRAE'DRON, TETRAHE'DRON, from τετρα, four and ἑδρα, a side. In *geometry*, one of the five regular bodies. It is comprehended under four equilateral and equal triangles. It is therefore a pyramid.



TETRAETE'RIS. In *Grecian chronology*, a cycle of four years, invented by Solon to make the lunar year equal to the solar.

TET'RAGON, from τετρα, four, and γωνια, an angle. 1. In *geometry*, a figure having four angles.——2. In *astrology*, an aspect of two planets with regard to the earth, when they are distant from each other 90°, or one fourth of a circle.

TETRAGYN'IA, from τετρα, four, and γυνη, a wife. The name of an order of plants in several of the classes of the sexual system of Linnæus, consisting of plants which to the classic character, whatever it is, add the circumstance of having four pistils.

TETRAM'ETER, from τετρα, four, and μετρον, measure. A verse consisting of four measures.

TETRAN'DRIA, from τετρα, four, and ανηρ, a male. The name of the fourth class of plants in the sexual system of Linnæus, comprising such as have four stamens. The orders are: (1.) *Monogy-*

nia, of which the teasel and scabious are examples; (2.) *Digynia*, of which the dodder is an example; (3.) *Tetragynia*, of which the holly and pondweed are examples.

TET'RAO. An extensive genus of gallinaceous birds. Name Plin. 10, 12. The genus is characterised by a naked and most generally red band, which occupies the place of the eyebrow. The sub-genera are the grouse (*Tetrao*, Lath.), the ptarmigan (*Lagopus*, Cuv.), the partridges (comprising *Perdix*, Briss., and *Francolinus*, Tem.), and the quails (*Coturnix*).

TETRAPET'ALOUS, Lat. *tetrapetalus*, four-petalled. Applied to flowers which consist of four single petals.

TETRAPHYL'LOUS, Lat. *tetraphyllus*. Four-leaved.

TE'TRAPLA. The name of a bible containing four Greek versions, arranged by Origen.

TE'TRARCH, Lat. *tetrarcha*. Among the ancient Romans, the governor of the fourth part of a province.

TETRASPER'MOUS, Lat. *tetraspermus*. Four-seeded.

TET'RASTYLE, from τετρα, four, and στυλος, a column. A portico consisting of four columns.

TET'RODON. In *ichthyology*, a genus of branchiostigious fishes, which have the power of inflating the body at pleasure. The sun-fish is an example.

TEU'TONIC. 1. Pertaining to the Teutons, a people of Germany, or to their language.——2. As a noun, the language of the Teutons, the parent of the German, Dutch, and Anglo-Saxon or native English.——3. The *Teutonic order* was a military religious order of knights, established towards the close of the twelfth century, in emulation of the Templars and Hospitallers, and so called because it was composed chiefly of Teutons or Germans, who marched to the Holy Land during the crusades.

TEXT, Lat. *textus*. 1. In *logic*, that on which a comment is written or spoken. ——2. In *old theology*, the four gospels, by way of eminence.——3. Text or *text-hand* is large hand in writing, so called because it was formerly the practice to write the text of a book in a large hand and the notes in a smaller hand.

TEX'TURE, Lat. *textura*, from *texo*, to weave. Disposition of the parts of bodies. A texture means anything which is woven, and is therefore aptly enough applied metaphorically to various solids of the living body, as the cellular membrane, bone, muscular fibre, &c.

THAL'AMUS, θαλαμος. A bed, 1. In *anatomy*, a part of the brain, from which the optic nerve derives its origin.——2. In *botany*, the receptacle of the parts of fructification of plants.

THALIC'TRUM. The Meadow Rue. A genus of perennial plants. *Polyandria—Polyginia*. Name from θαλλω, to flourish. The poor man's rhubarb, the great, small, and alpine meadow rue, are the British types of the genus.

THAL'LUS, θαλλος. A green leaf or olive bud. A term, in *botany*, for the foliage or frond of a lichen, whether of a leafy, scaly, or crustaceous nature.

THAM'MUZ. 1. The tenth month of the Jewish civil year. It contains 29 days, and answers to a part of our June and July.——2. The name of a deity among the Phœnicians.

THANE, Sax. *thægin*, a minister, *thenian*, to serve. The thanes of England were formerly persons of some dignity. Of these there were two orders; the king's thanes, who attended the Saxon and Danish kings in their courts, and held lands immediately of them; and the ordinary thanes, who were lords of manors. At the Conquest, the title was superseded by *baron*.

THAUGHTS, } The benches of a boat on
THWARTS. } which the rowers sit.

THAU'MATROPE, θαυμα, a wonder, and τρεπω, I turn. An optical toy, the principle of which is the *persistence* of vision. This principle is exemplified by the rapid whirling round of a burning stick, which produces an *apparent* circle of fire.

THAUMATUR'GUS, θαυμα, a wonderful thing, and εργον, work. A miracle-worker. A title given by the Roman Catholics to some of their saints.

THE'A. The Tea-tree or plant. A genus of shrubs. *Monadelphia—Polyandria*. Natural order, *Columniferæ*. Name Latinised from tea. There are two species; the *T. bohea*, which produces the black tea; and *T. viridis*, the green tea. China, Assam. *See* TEA.

THE'BAN YEAR. The Egyptian year, of 365 days 6 hours, was so called.

THE'CA, from τιθημι, to place. A case, sheath, or box. 1. In *anatomy*, the canal of the vertebral column.——2. In *botany*, the capsule or dry fructification, adhering to the apex of a frondose stem.

THECADAC'TYLI. A genus of saurians belonging to the family *Geckodita*. Name from *theca*, a furrow, and *dactylus*, a toe, the toes being widened throughout, and furnished beneath with transverse scales, divided by a deep longitudinal furrow, in which the nail is concealed.

THEFT-BOTE. In *law*, the receiving of a man's goods again from a thief, or com-

pensation for the same: *bote*, compensation.

THEI'NA, } A saline base, consisting of
THEI'NE. } snow-white acicular crystals, of a beautiful silky lustre, extracted from tea. It appears, however, to be identical, in its composition and characters, with caffeine.

THE'ISM, from Θεος, God. The belief or acknowledgment of the existence of a Supreme Being; opposed to *atheism*, and differing from *deism*, which, though it acknowledges the existence of a God, denies revelation, which theism does not.

THE'NARD'S BLUE. Cobalt Blue. A blue pigment, of which arseniate or phosphate of cobalt and alumina are the bases.

THEOBRO'MA. A genus of shrubs. *Polyadelphia—Decandria*. Name from θεος, a god, and βρωμα, food, on account of the deliciousness of its fruit. The Chocolate-nut-tree, or tree which affords the Cocoanut, is the best known species. South America.

THEOC'RACY, Θεος, God, and κρατεω, I rule. The government of a state immediately by God.

THEOC'RASY, Θεος, God, and κρασις, mixture, anciently signified the intimate union of the soul with God in contemplation.

THEOD'OLITE. An instrument used in surveying, for measuring angles. It is mostly used in determining particular stations, and in running base lines, being the most perfect of all the angular instruments.

THEOG'ONY, Θεογονια. The generation of the Gods. That branch of heathen theology which taught the genealogy of the deities.

THEOL'OGY, from Θεος, God, and λογος, doctrine. Divinity: the science which treats of the existence, character, and attributes of God, his laws and government, the doctrines we are to believe, and the duties we are to practise. It consists of two parts, *natural* and *revealed*.

THEOR'BO, Ital. *tiorba*. A musical instrument, like a large lute, except that it has two necks, the second and longer of which sustains the four last rows of chords, which are to give the deepest sounds. The theorbo has 8 bass or thick strings, twice as long as those of the lute, which excess of length renders the sound exceedingly soft and long continued.

THE'OREM, θεωρημα, from θεωρεω, to see. A demonstrative proposition: a proposition in which some property is asserted, and the truth of it required to be proved. It differs from a *problem*, which requires something to be done.

THE'ORY, θεωρια, from θεωρεω, to see. A collected view of all that is known on any speculative subject. A *theory* is properly a collection or set of theories, established on independent evidence: an *hypothesis* is a proposition assumed to account for certain phenomena, and has no other evidence of its truth than that it affords a satisfactory explanation of those phenomena. These terms are very frequently confounded, both in speaking and writing, but should be kept perfectly distinct, as they are both required in these speculative days.

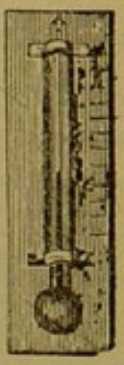
THEO'SOPHISTS, θεος and σοφια, wisdom. Those who pretend to derive their knowledge of God from direct inspiration.

THERAPEU'TICS, θεραπευτικη, from θεραπευω, to cure. A branch of pathological science, which considers the application of the remedies and means employed, with a view to prevent and to cure diseases.

THER'MAL, from *therma*, a warm spring: θερμος, warm. A term chiefly applied to warm springs, as the Geysers.

THER'MO-ELECTRIC'ITY. Electricity developed by heat (θερμη).

THERMOM'ETER, from θερμη, heat, and μετρον, a measure. An instrument for measuring the variations of the sensible heat of bodies. It consists essentially of a hollow glass tube, hermetically sealed, and blown at one end in the shape of a small globe. This bulb part of the tube is filled with mercury, which is the only fluid that expands equally at all temperatures between 39° and 600°. When, for instance, the bulb is immersed in boiling water, the mercury expands, and rises in the tube to a height which, in the common thermometer, is denoted by 212°; when again it is immersed among pounded ice, the mercury contracts, and falls in the tube to a point in like manner marked 32°. The space between these points is divided into 180 equal degrees, and these points, with any others that may be wanted, being marked upon a scale (usually ivory), and the glass tube being attached to it, a Fahrenheit's thermometer is made. In England, Fahrenheit's thermometer is commonly used, but on the Continent, particularly in France, the *Centigrade thermometer* is almost exclusively used. In this instrument, the interval between the freezing and boiling points of water is divided into 100°, so that a degree on the scale of Fahrenheit's thermometer is equal to 5-9ths of a degree on that of the Centigrade. *Réaumur's thermometer* is in use in Germany:



the scale contains 80° between the freezing and boiling points of water. The Centigrade thermometer is decidedly the most convenient.

Ther'moscope, from θέρμη, heat, and σκοτέω, to view. An instrument for exhibiting the effects of heat.

Thermo'stat, from θέρμη, heat, and στατος, standing. The name of an apparatus for regulating temperature in distillation, hot baths, hothouses, &c., patented by Dr. Ure in 1831. It operates on the well-known principle, that when two metallic bars, differently expansive, are rivetted or soldered faceways together, any change of temperature in them will cause the compound bar to bend in one direction or the other; and these movements are made to operate in regulating valves, stop-cocks, stove-registers, &c., so as to regulate the temperature of the media in which the compound bars are placed.

The'sis, Θέσις. 1. A position or proposition, which a person advances and offers to maintain.——2. In *logic*, a subject is divided into *thesis* and *hypothesis*; thesis contains the thing affirmed, and hypothesis the conditions of the affirmation or negation.——3. In *music*, the depression of the hand in beating of time

The'thys. The name given by Linn. to a genus of gasteropods, of the order *Nudibranchiata*, Cuv. The *T. fimbria*, Lin., a beautiful species from the Mediterranean, is well known.

The'urgy, θεὸς and ἔργον, work. The working of miracles.

Thim'ble. In *nautical language*, an iron ring, with a hollow or groove round its circumference, to receive the rope which is spliced round it.

Thin-out. A term in geology for the gradual thinning of a bed or stratum, till it wholly disappears.

Third. In *music*, an interval containing three diatonic sounds; the major composed of two tones, and the minor consisting of a tone and a half.

Thirl'age. In *law*, a contract or power to prevent the tenants of certain districts from carrying their corn to be ground any where else than at a particular mill.

This'tle. 1. In *botany*, (*see* Carduus, Serratula, Centaurea, and Carlina).——2. A Scottish order of knighthood.

Thlas'pi. The Bastard-cress: a genus of herbaceous plants: *Tetradynamia—Siliculosa*. Name from θλάω, to break, because the seeds appear as if they were bruised. There are four British species, of which the penny-cress or treacle mustard (*T. arvense*) is the best known.

Tholes, } Sax. *thol*, a peg. 1. The
Thowles, } pins inserted into the gunwale of a boat to keep the oars in the rowlocks when used in rowing.——2. The handles of a scythe.

Tho'mists. Followers of Thomas Aquinas, in opposition to the Scotists.

Thor. In *mythology*, the god of thunder; a deity worshipped by the northern nations, and from which our *Thursday* derives its name. By our Saxon ancestors he was believed to have extensive dominion in heaven, and that all nations of the earth owed him divine honour and service; that he governed the winds and clouds, and showed his displeasure by causing lightnings, thunders, and tempests, with excessive rains, hail, and stormy weather; but being well pleased by adoration and sacrifice, he bestowed upon his supplicants fair and seasonable weather, and caused plenty of corn and fruits to grow

Thora'cic. 1. Appertaining to the thorax or chest. Thus the trunk of the absorbents is named the *thoracic duct* from its position.——2. In *ichthyology*, belonging to the order *Thoracici*.

Thora'cici. The third order of bony fishes in the system of Linné, respiring by means of gills only, and having the ventral fins under the pectoral, *i. e.* under the thorax.

Tho'rax. The chest, or that part of the body between the neck and abdomen: from θορέω, to leap, because in it the heart leaps. The thorax is divided by imaginary lines into certain regions. These are the right and left *humeral*, a right and left *subclavian*, a right and left *mammary*, a right and left *axillary*, a right and left *subaxillary*, a right and left *scapulary*, a right and left *intrascapulary*, and a right and left *subscapulary*.

Thor'ina. A primitive earth discovered in 1828 by Berzelius, in the mineral *thorite*, of which it constitutes 58 per cent. It is a fine white powder, the basis of which is *thorinum*.

Thor'inum. The metallic basis of thorina. It is obtained in an iron-gray powder, the particles of which have a metallic lustre. Like aluminum it appears to be malleable, and is not oxidised by water, even when heated; but when heated in the open air it takes fire, burns with much splendour, and is converted into thorina. The earth thus formed is snow-white, and exhibits no traces of fusion.

Tho'rite. A black mineral, like obsidian, discovered by Esmark of Christiana, in Norway, and thus named by Berzelius, who analysed it. It occurs in the syenite of the isle of Löy-ön, near Brevig, in Norway, and is very scarce.

THORN'BACK. A fish, the *Raia clavata*, Cuv. and Yarr.; the maiden skate of Scotland. It grows to about two feet long, is very voracious, feeding on every kind of small flounder, herrings, sand-eels, and crustaceous animals, as crabs and lobsters. It is common in some of the British rivers and on the coasts.

THO'ROUGH. Among *builders*. *See* PERBEND.

THO'ROUGH-BASE, THO'ROUGH-BASS. In *music*, the *basso continuo* of the Italians, and the *accompaniment* of the French. *Thorough base* on the harpsichord, organ, &c., consists in the execution of a complete and regular harmony, by seeing only the notes of one part of the harmony; and this part is called the *base*, being in reality the basis of the whole composition. This base is played with the left hand, and the harmony with the right.

THRALL. The Saxon word for *slave*: whence *thraldom*, slavery.

THRAVE. Threave of corn. Twenty four sheaves or four shocks (*stooks* in Scotland), of six sheaves to the shock.

THREAD, Sax. *thred*, *thraed*. 1. A small line made up of a number of fibres of some vegetable or animal substance, such as flax, cotton, or silk, whence its name of linen, cotton, and silk thread.——2. The filament of any fibrous substance, as of bark; the filament of a flower.——3. The prominent spiral part of a screw.

THRIPS. The name given by Linnæus to a genus of homopterous hemiptera, from θρίψ, a moth, from τρίβω, to bore. The species live on flowers, plants, and under the bark of trees.

THROAT'WORT. In *botany*, (1.) The throatwort of Britain is a species of the bell-flower, the *Campanula trachelium*, a perennial of several varieties; (2.) The trachelium of two species. *See* TRACHELIUM.

THROS'TLE. 1. In *cotton-spinning*, the machine otherwise called the *water-frame*, because it requires considerable power to put it in motion, and could only be worked, before the application of the steam-engine as a moving power, in such factories as had water-power. It takes the name *throstle* from the peculiar noise (like the singing of a *throstle* or thrush!), which it makes in working. The yarns spun by it are much harder than those spun by the jenny, and on that account it is better adapted to the spinning of warps. It is now, however, in a great measure superseded by the mule.——2. In *ornithology*, the song-thrush or mavis (*Turdus musicus*, Lin.), the finest of our native singing birds.

THROT'TLE-VALVE. In *steam-engines*, a valve contrived to regulate the supply of steam in the cylinder. It is brought into operation by the action of the governor, and takes its name from its enlarging or diminishing the *throat* of the engine so as to allow a wider or narrower passage for the steam, as a greater or less velocity is required.

THRUM'MING. A nautical term, signifying the inserting in a sail, mat, &c., through small holes made by a bolt-rope, needle, or a marlin-spike, a number of small pieces of rope or spun-yarn.

THRUSH. 1. In *ornithology*, *see* TURDUS.——2. In *nosology*, small ulcerations which appear first in the mouth, but often affect the alimentary duct: technically called aphthæ.

THUGS. A numerous class of professed assassins and robbers among the Hindoos. They form a society, proceed upon fixed principles, and are with difficulty detected.

THUM'MIM. A Hebrew word denoting perfections. *See* URIM and THUMMIM.

THUN'DER, Sax. *thunder*, Pers. *thondhor*. The sound which follows an explosion or discharge of electricity in the atmosphere. The snapping noise which the electric spark makes in passing through a portion of the atmosphere, is due to the sudden compression of the air; and there can be no doubt that the awful *thunder-clap* itself is produced by the same action. The report is in this instance modified by a variety of circumstances, such as distance, echo, &c.; and the sudden dying away and return of the sound may be accounted for on well-known principles. Sound travels in air at a velocity of only 1130 feet in a second, but light at the rate of 195,000 miles in the same period of time. The time in which the flash of lightning reaches us from the different parts of its course may therefore be taken as instantaneous; but the time which the explosion occupies will be very appreciable, and will vary with the distance of the several parts of the long zig-zag which the discharge traverses. By a calculation, founded upon the interval between the flash and the sound, and the duration of the thunder-clap, it has been found that a flash of lightning frequently traverses a space of nine or ten miles, and when we take into account the irregular course which it follows, its alternate approach and recession will account for the phenomena in question. Such would be the effect produced upon an observer, placed at the end of a long file of soldiers, who were to discharge their muskets at the same instant. He would not hear a single report but a succession of reports, which would produe an irregular rolling sound.

THUN'DER-BOLT. 1. The lightning of an electric discharge in the atmosphere.——2. In *mineralogy*, thunder-bolts are crys-

tals of iron pyrites, of a cylindrical form, found in the chalk beds: also fossil echinites, of the family Cidaris.

THUN'DER-HOUSE. An instrument employed in electrical experiments, to illustrate the manner in which buildings receive damage by lightning.

THURLS. Short communications between the adits in mines.

THURS'DAY. The fifth day of the week. *Thor's-day*, the day consecrated to *Thor* (q.v.).

THUS. In *pharmacy*, frankincense, from θυω, to sacrifice. *See* BALSAM and FRANKINCENSE.

THWARTS. Among *seamen*, &c., the benches of a boat, on which the rowers sit.

THYM'ELE, Θυμελη. The place in the Greek theatres where the musicians were seated. These were called *Thymelici*, in consequence.

THYM'IAM. Musk-wood, from θυμα, odour, because of its odoriferous smell. Thymiam is a bark (supposed to be of the liquid storax-tree), brought in small brownish-grey pieces from Syria, and some other oriental parts. It has an agreeable balsamic smell, not unlike liquid storax, and a subacid, bitterish taste.

THYM'US. Thyme. 1. A genus of plants. *Didynamia—Gymnospermia*. Name from θυμα, odour, because of its fragrant smell. The wild and the basil thyme are the only two species indigenous to Britain: our garden thyme belongs to the south of Europe. The exotic species, of which there are 23 known, are mostly hardy and permanent, though small plants.——2. In *surgery*, a small, fleshy, indolent tubercle, like a wart, arising about the anus, resembling the flower of thyme.——3. In *anatomy*, a glandular body, situated behind the sternum, in the duplicature of the mediastinum. It is large in the fœtus, but constantly diminishes after birth till it wholly disappears (generally) in the adult. Its use is unknown. In calves this is called the *sweetbread*.

THYN'NUS. In *ichthyology*, the Tunny, a fish of the Mediterranean, which attains the length of from 15 to 18 feet. From its abundance it constitutes a great source of wealth to Provence, Sardinia, Sicily, &c. It is considered by Cuvier a subgenus of the genus *Scomber*, Lin. The name is Latin, from the Greek name θυννος.

THYR'OID, from θυρεος, a shield, and ειδος, like. Resembling a shield. Applied, in *anatomy*: 1. The *thyroid cartilage* constitutes the anterior, superior, and largest part of the larynx, forming the *pomum Adami*, or Adam's apple, in man.——2. The *thyroid gland* is situated upon the cricoid cartilage, trachea, and horns of the thyroid gland. Its use is not known.

THYRSE, Lat. *thyrsus*, a young sprout. A name, in *botany*, for a species of inflorescence, consisting of a dense and close panicle, bunch, or cluster, more or less of an ovate form.

THYSANOU'RA. The name of an order of apterous insects, supported by six feet, experiencing no metamorphosis, and having, besides, particular organs of motion, either on the sides or the extremity of the abdomen. The order comprises the *Lepismenæ* and *Podurellæ* of Latreille.

TIA'RA, Τιαρα. 1. An ornament of dress for the head, worn by the ancient Persian kings, nobles, and priests.——2. The pope's triple crown. The tiara and the keys are the badges of the papal dignity: the tiara marks the civil rank of the pope, and the keys his ecclesiastical jurisdiction. It was originally a round high cap, encompassed first by one crown, and then by another.

TIB'IA. In *anatomy*, the largest bone of the leg. The term is supposed to be a corruption of *tubia* from *tuba*, a tube, on account of its pipe-like shape.

TIB'IAL. Belonging to the tibia, as the *tibial* arteries, which are the principal branches of the popliteal artery.

TIC DOLOUREU'X. A French term signifying a painful spasm, and used to designate facial neuralgia.

TICK. 1. In *entomology*, *see* ASCARUS. ——2. In *manufactures*, Tick or Ticken is a strong textile fabric, used as covering to hold the feathers, down, or other materials of which beds are made.

TIDES. In *hydrography*, the alternate ebb and flow of the sea, which takes place twice in 24 hours, 56 m., 28 sec. of solar time. The tides depend on the action of the sun and moon, but their explanation is one of the most difficult of astronomical problems. The hypothesis of Sir I. Newton is by no means satisfactory.

TIDE-GAUGE. A mechanical contrivance for registering the state of the tide continuously.

TIDE-LOCK. Guard-lock. A lock situated between an entrance-basin and a canal, harbour, or river, and forming a communication between them. It is furnished with double gates, whereby craft can pass them either way, at all times of the tide.

TIDE-MILL. A mill consisting of a water-wheel connected with other machinery, and moved by the ebbing and flowing of the tide. Tide-mills admit of great variety in the essential parts of their construction. 1st. The water-wheel may turn one way when the tide rises, and the contrary way when the tide falls. 2nd. The water-wheel may be made to turn always in one direction. 3rd. The water-wheel may be made to rise and fall as the tide ebbs and flows. 4th. The

axle of the water-wheel may be so fixed that it shall neither rise nor fall, though the rotary motion shall be given to the wheel, while at one time it is only partly, at another time completely, immersed in the fluid.

TIDE-WAITER. An officer who has charge of the landing of goods, for securing the payment of the custom duties on the same.

TIE. 1. In *architecture*, a piece of timber or metal, placed in any direction, to bind together two parts which have any tendency to separate.—2. In *music*, an ancient character ⌣ for connecting syncopated notes divided by a bar.

TIER. 1. A rank or row, particularly when two or more rows are placed one over another.——2. The *tiers* of a cable are the ranges of fakes or windings of the cable, laid one within another when coiled.

TIERCE, Fr. from *tiers*, three. 1. A liquid measure, equal to the third part of a pipe.——2. A weight by which provisions are sold, particularly in Ireland. The tierce of beef for the navy is 304 lbs., and for India 336 lbs.——3. In *heraldry*, applied to the field when divided into three parts.

TIERCE'LET, dim. of *tierce*, a third. A name used by falconers to distinguish the male hawk as being a third less than the female.

TI'GER. In *zoology*, the *Felis Tigris*, Buff., an animal as large as the lion, is the most cruel of all quadrupeds, and the scourge of the East Indies. The body is longer than that of the lion, and the head rounder. The skin is a lively fawn-colour above, a pure white below, irregularly crossed with black stripes. Such is the strength of the animal, and the velocity of his movements, that, during the march of armies, he has been seen to seize a soldier while on horseback, and bear him to the depths of the forest without affording a possibility of rescue. He is moreover a coward.

TILES. Plates of clay baked in a kiln, and used instead of slates for covering the roofs of houses. They are named according to their shape and especial uses; as *plane* or *crown-tiles*, of a rectangular form; *ridge*, *roof*, or *hip-tiles*, formed cylindrically to cover the ridges of houses; *gutter-tiles* are about the same size and shape as the ridge-tiles, used for making gutters; *pan-tiles* have a rectangular outline, with a surface both concave and convex, so that the edge of the one tile may overlap the edge of that next to it in the process of *tiling*.

TIL'IA. The lime-tree: a genus of nine species. *Polyandria—Monogynia*. Name from πτιλια, the elm-tree. There are five British species of the lime or linden-tree.

TILL. 1. In *botany*, the *Sesamum orientale*, an East India oil plant.——2. A kind of clayey earth, forming the sub-soil of some inferior lands; called in some parts *tilt*.

TIL'LER. The bar or lever used to turn the rudder in steering a vessel. The *tiller-rope* forms a communication between the tiller and the wheel.

TIL'MUS, τιλλω, I pluck. A picking of the bed-clothes: a symptom of the approach of death in some disorders.

TILT. A small canopy or awning extending over the stern-sheets of a boat, as a defence against rain, &c. Also a like covering over a cart or other vehicle.

TILT-BOAT. A boat protected by a tilt or tarpawling against the inclemency of foul weather.

TILT-HAM'MER. A large hammer, used in iron-works, and put in motion by a water-wheel or steam-engine.

TILT'ING (of steel), is the process by which blister-steel is rendered ductile. This is done by beating with the tilt-hammer.

TIM'BER. A term used to designate any large tree squared or capable of being squared, and fit for being employed in carpentry. A load of unhewn timber is 40 cubic feet; of square timber 50 cubic feet.

TIM'BERS. In *ship-building*, the ribs of a ship, branching outwards from the keel in a vertical direction.

TIM'BRE. In *heraldry*, denotes the crest of an armory, or whatever is placed at the top of the escutcheon, to distinguish the degree of nobility, as a coronet, mitre, &c.

TIM'BREL. *Tambour de Basque*. A musical instrument. *See* TAMBOURINE.

TIME. 1. A portion of infinite duration.——2. In *music*, an affection of sound, by which we denominate it long or short with regard to its continuance.

TIMOC'RACY, from τιμη, worth, and κρατεω, to govern. Government by men of property, who are possessed of a certain amount of income.

TIM'OTHY-GRASS. In *agriculture*, a grass cultivated in America, and said to be a species of phleum or cat's-tail grass.

TIN (Saxon). A beautiful white metal, closely resembling silver: the *stannum* of the Latins, and the *Jupiter* of the alchemists. It is one of the few metals known in the time of Moses; and it appears to have been dug from the mines of Cornwall before the time of Herodotus. It is there, and in Devonshire, that tin is yet procured in greatest abundance; though it is also met with in the mines of Bohemia, Saxony, in Malacca, and some parts of the East Indies. Tin is considerably harder than lead; scarcely at all

sonorous; very malleable; but not very tenacious. Sp. gr. 7·29. Melting point 442° F. It enters into fusion with other metals; as with lead, forming *pewter*, and with copper, forming the various sorts of *bronze*, and *bell-metal*.

TIN'AMUS, TIN'AMOUS. A genus of American birds remarkable for a very long and slender neck, covered with feathers, the tips of whose barbs are slender and slightly curled, which gives a very peculiar air to that part of the plumage. Order *Gallinaceæ*, Cuv. The species vary in size from that of a pheasant down to that of a quail, or even smaller. They either perch on low trees, or hide among long grass. The generic name is Latinised from the native name *tinamou*.

TIN'CAL. A name of crude borax, as it is imported from the East Indies, in yellow greasy crystals.

TINC'TURE, Lat. *tinctura*, from *tingo*, to dye. A term used by apothecaries to designate a solution of any substance in dilute alcohol, or alcohol impregnated with the active principle of a vegetable or animal substance.

TI'NEA. The name of a genus of nocturnal Lepidoptera. The caterpillars of the true tinea construct portable sheaths or habitations from the materials on which they reside. Name τεινια, a moth-worm.

TIN'FOIL, from *tin* and *folium*, a leaf. Tin extended under the hammer into thin leaves.

TIN-GLASS. A name of bismuth.

TIN-PLATE. White iron. Thin sheet-iron coated with tin. In this case the tin forms in some measure an alloy with the iron.

TIN-PYRI'TES. A native sulphuret of tin, containing usually some copper and sometimes iron. This ore of tin is of a yellowish-gray colour, metallic lustre, and a fibrous structure.

TIN-STONE. A native oxide of tin, found only in Cornwall. This is perhaps the richest ore of tin, yielding sometimes 80 per cent. of the metal. It occurs both massive and crystallised.

TIP'ULA. The Crane-fly: a genus of dipterous insects of the family *Nemocera*. The *tipula* of the Latins was a species of aquatic spider. The legs of the tipulæ are disproportionably long, as is well seen in the *T. silvestris* or Father-long-legs.

TIRE. In *mechanics*, a band or hoop of iron, used to bind the fellies of wheels, to secure them from wearing and breaking.

TIRO'NIAN NOTES. The short-hand of Roman antiquity.

TIS'RI. The first Hebrew month of the civil year, and the seventh of the ecclesiastic: it answered to a part of our September and October.

TIS'SUE, Fr. *tissu*, woven, from *tisser*, to weave. 1. Cloth interwoven with gold and silver, or brilliant-coloured yarns.—2. A term introduced by the French into anatomy, to express the textures which compose the different organs of animals.

TITAN'IC ACID. A name for the peroxide of titanium, which exists combined with a little oxide of iron and manganese, is the mineral known by the names of *titanite* and *rutile*.

TITA'NIUM. A rare metal discovered by the Rev. Mr. Gregor, in menachanite, in 1791, and by Klaproth, in red schorl, in 1795. Gregor named it *menachine*, from the mineral in which he discovered it, and Klaproth named it *titanium*, from τιτανος. The metal may most readily be procured from its chloride, by passing a continuous stream of ammoniacal gas over it. When thus prepared it is a fine powder, which, on being heated in the air, takes fire. It is sometimes observed crystallised in small cubes, in the slag of the hearth in the great iron smelting furnaces. These crystals are very brittle, and so hard as to scratch steel. Sp. gr. 5·3. Traces of titanium may be discovered in many irons, wrought as well as cast.

TITHE. The tenth part of anything: appropriately the tenth part of the increase annually arising from the profits of land and stock, allotted to the clergy for their maintenance. Tithes are *personal*, when accruing from labour, art, trade, and navigation; *predial* when issuing from the earth; and *mixed* when accruing from beasts fed on the ground The term is Sax. *teowa*, from *teogewa*, a tenth.

TI'THING. In *law*, a decennary: a company of ten householders, who, dwelling near each other, were held free pledges to the king for the good behaviour of each other. The institution of tithings in England is ascribed to Alfred.

TIT'ULAR. In *ecclesiastics*, a person invested with the title to a benefice.

TME'SIS, from τεμνω, I cut. In *grammar*, a figure by which a compound word is separated into two parts by the intervention of one or more words, as *quæ mea cunque*, for *quæcunque mea*.

TOAD'STONE. A provincial name for a variety of trap rock, found very abundantly in Derbyshire. It takes this name from a supposed resemblance in its general aspect to the exterior of a toad It may, however, be a corruption of the German *todstein*, which in mining language means a rock unproductive of mineral treasure: a character applicable to toadstone.

TOBAC'CO. The dried leaves of the *Nicotiana tabacum*, a plant indigenous to America, but which may be advanta-

geously cultivated in many parts of the Old World. It takes its name from *Tobago*, the island whence it was first brought. The green leaves possess very little odour or taste, but when dried their odour is strong and narcotic, their taste bitter and acrid. When distilled they yield an essential oil, on which their virtue depends, but which is highly poisonous.

Toc'cata, Ital. from *toccare*, to touch. In *music*, a prelude.

Toc'sin. An old French word signifying an alarum-bell.

Tod. A weight used in weighing wool. It contains 28lbs. avoirdupois.

Tod'dy. 1. A sweetish juice drawn from various palms in the East Indies, and which acquires intoxicating qualities by fermentation.——2. A mixture of spirits and water sweetened.

To'ga. A sort of woollen gown or mantle worn by the Romans.

Tog'gel. A small wooden pin, from four to six inches in length, and usually tapering from the middle towards the ends; used in *ships* instead of a hook in fixing tackle, &c.

Toise. A long measure in France equal to six French feet.

To'kay. A sort of wine produced at Tokay, in Hungary, from white grapes. It is distinguished from other wines by its aromatic taste.

To'la. A weight for gold and silver in India. It differs in different parts.

Tolu'. Tolu balsam. A brownish-red balsam, extracted from the stem of the *Toluifera balsamum*, a tree of South America, which grows in the province of Tolu. It is brought to us in little gourd-shells. *See* Toluifela.

Toluif'era. The generic name of the tree which affords the tolu balsam. *Decandria—Monogynia.* Name from *tolu* and *fero*, to yield.

Toma'to. A name of Indian origin, applied to the love-apple or *Solanum lycopersicum*.

Tombac'. A white alloy of copper and arsenic.

To'ment, from *tomentum*, a flock of wool. A term used to designate: (1.) In *anatomy*, the small vessels on the surface of the brain; (2.) In *botany*, a species of pubescence, very soft to the touch, and giving the surface a downy appearance.

Tomento'se, Lat. *tomentosus*. Downy, woolly, cottony. Applied to stems, leaves, &c.

Tom'pions. In *gunnery*, wooden cylinders put into the mouths of cannon to keep the inside dry and clean.

Ton, Sax. *tunna*. An English weight of 20 cwt.

Tone, from τονος, sound. A modification of sound 1. In *music*, an interval of sound. Tones are distinguished into major and minor. The major tone is in the ratio of eight to nine, and results from the difference between the fourth and fifth. The tone minor is in the ratio of nine to ten, and results from the difference between the minor third and fourth. ——2. In *pathology*, from τονος, extended; the healthy and natural tension of the muscular fibre.

Ton'ic. 1. In *pathology*, from τονικος, from τεινω, to draw. A rigid contraction of the muscles, which lasts for some time without relaxation, is termed a *tonic spasm*.——2. In *medicine*, from τονοω, to strengthen. A term applied to medicines which increase the tone of the muscular fibre, and impart vigour to the system. The *mineral tonics* are iron, zinc, copper, arsenic, silver, bismuth, mercury, and the mineral acids. The *vegetable tonics* consist chiefly of bitters.

Ton'ka Bean, Ton'quin Bean. } The fruit of the *Dipterix odorata*, a shrubby plant of Guiana. By digestion in alcohol it affords a crystalline volatile oil called stearoptine and *coumarine* by the French. This bean has a peculiarly agreeable smell, and is employed in the scenting of snuff.

Ton'nage. In *commercial navigation*, the number of tons which a ship can carry; also an impost on ships according to their tonnage or burden.

Ton'sil, Lat. *tonsilla*. In *anatomy*, the tonsils are two oblong, sub-ovate glands, situated on each side of the fauces, and opening into the cavity of the mouth by a great many excretory ducts.

Ton'sure, Lat. *tonsura*, from *tonsus*, shaved. In the *Romish Church*, (1.) the first ceremony used for devoting a person to the service of God and the Church: the first degree of clericate given by a bishop, who cuts off a part of the hair, uttering prayers and benedictions. (2.) The corona or crown which priests wear as a mark of their order, and of their rank in the church.

Tontine' (Fr.), from *Tonti*, an Italian, who invented the scheme. An annuity or survivorship; a loan raised on life annuities, with the benefit of survivorship. Thus the annuity is shared among a number, on the principle that the share of each at his death shall go to the benefit of the survivors, until at length the whole goes to the last survivor and his heirs, or to the state.

Tooth'ing. In *architecture*, bricks or stones left projecting at the end of a wall, that they may be bonded into a continuation of it when required.

Top. In *ship-building*, a sort of platform, surrounding the head of the lower

mast, and projecting on all sides. It serves to extend the shrouds.

Top Armour. A rail extending the width of the top of a ship, on the after-side, supported by stanchions, and equipped with a netting.

To'paz. A gem; different, however, from the τοπαζιον of the Greeks, a name derived from Topazos, an island in the Red Sea, where the ancients used to find precious stones. The topaz passes from pale wine yellow to yellowish white, greenish white, mountain green, and sky blue: from deep wine yellow into flesh red, and crimson red. Sp. gr. 3·46 to 3·64. The highly crystallised and transparent varieties are termed precious topaz. The finest varieties are obtained from the mountains of Brazil, and the Uralian Mountains; and the topaz generally occurs in primary rocks. General constituents—alumina, silica, and fluoric acid, coloured with oxide of iron.

Topaz'olite, from *topaz*, and λιθος, stone. A pale yellow sub-variety of garnet, so named because it resembles the topaz in colour.

Top-chains. Chains used in action, by which the lower yard is hung, in case the slings be shot away.

Top-cloth. In a *ship*, a large piece of canvass, used to cover the hammocks, which are lashed to the top when the ship is prepared for action.

Top-gallant-mast. The mast next above the top-mast. On this are extended the *top-gallant-sails*.

Toph. A word originally from the Hebrew. Used, in *surgery*, to denote (1) a soft swelling on a bone; (2.) a concretion in the joints. It is also used, in *mineralogy*, to designate any calcareous deposition, resembling, in lightness of texture, the *tophus*, or material thrown out of volcanoes,

To'phet. A polluted, unclean place, near Jerusalem, into which the Jews used to throw dead carcases, &c.

Top-lan'tern. A large lantern, placed in the after-part of a top in any ship where an admiral's flag or commodore's pendant is flying.

Top-mast. The second division of a mast, or that part next above the lower mast.

Top'ping. In *nautical language*, the act of putting one extremity of a yard higher than the other.

Top'ping-lift. A large strong tackle, employed to suspend or top the outer end of a gaff, or of the boom of a mainsail, in a brig or schooner.

Top-rope. In a *ship*, a rope to sway up a top-mast, or top-gallant-mast, to fix it in its place.

Top-sails. Large sails extending across the topmasts by the *top-sail-yards* above, and by the lower yards beneath.

Top-tac'kle. In *ships*, a large tackle hooked to the lower end of the topmast top-rope, and to the deck, in order to augment the mechanical power in hoisting the topmast.

Toreumatol'ogy, from τορευμα, sculpture, and γραφω, I describe. The science or art of sculpture, or a description of it.

Tormentil'la. Tormentil or Septfoil. A genus of indigenous perennial plants. *Icosandria—Polygynia*. Name from *tormentum*, pain, because it was supposed to relieve pain in the teeth. There are two species; the officinal or upright, and the creeping. The root of the former is still admitted into pharmacopeias, and has been used as a substitute for bark in the process of tanning, it being a powerful astringent.

Tormen'tor. In *agriculture*, an instrument something like a harrow, but supported on wheels, and each tine is furnished with a hoe or share, that enters and cuts up the ground.

Torna'do, Sp. and Port. *tornada*, a return. A violent gust of wind, rising suddenly, and distinguished by its veering round all the points of the compass, like a hurricane. Tornadoes are usually accompanied by much thunder and rain, but are of short duration, and have a narrow compass.

Torpe'do. The Electric Ray, or Cramp-fish. A subgenus of fish of the genus *Raia*, Lin. Name Latin, from *torpeo*, to benumb, on account of the peculiarly powerful galvanic shock which the fish communicates when touched. The body is smooth, and the teeth small and sharp. It is taken on the coasts of France and England, and in the Mediterranean, in about 40 fathoms water. The space between the pectorals, head, and branchiæ is fitted on each side with a peculiar apparatus, formed of little membranous tubes, placed close together like a honeycomb, subdivided by horizontal diaphragms into small cells, filled with a sort of mucus, and traversed by numerous nerves, proceeding from the eighth pair. It is in this apparatus that resides the electric or galvanic power, which has rendered the torpedo so celebrated.

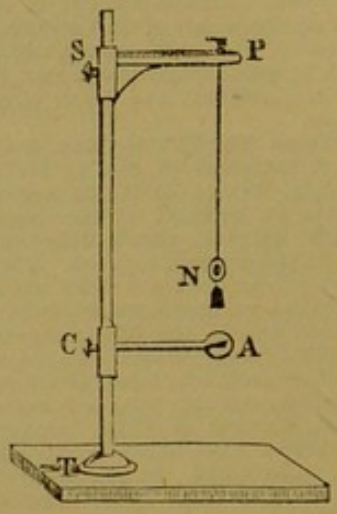
Torricel'lian. Pertaining to Torricelli, an Italian philosopher, who discovered the true principle of the barometer. The tube of this instrument is named after him the *Torricellian tube*; and the vacuum produced in such a tube by filling it with mercury, and allowing it to descend till it is counterbalanced by atmospheric pressure, is called the *Torricellian vacuum*.

Tor'rid. Parched. *torridus*, from *torreo*,

to roast. The *Torrid Zone* is that broad belt of the earth included between the tropics about 23° 28′ on each side of the equator, called also the *Tropical Zone*.

Tor'sion, from *torqueo*, to twist. The *force of torsion* is the term used by Coulomb to denote the effort made by a wire or thread which has been twisted, to untwist itself. On this principle Coulomb constructed his *torsion-balance*, of which the *torsion-electrometer*, and the *torsion-galvanometer* of Dr. Ritchie, are merely modifications, for particular purposes.

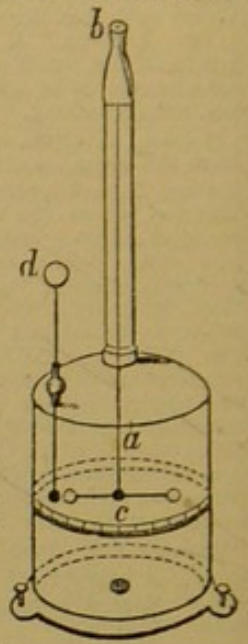
(1.) Tor'sion-bal'ance. This consists of a stand T supporting a hollow vertical rod, ST, which, in the balance of Coulomb, was of pewter, that all magnetic and electric influence might be avoided. On this rod there are two sliding-pieces, CA, and SP; the lower of which carries a plate A with a circle, divided like a dial-plate, upon it; and the upper a piece P, to which the torsion wire or thread is to be fixed: N is a small bar-piece, with a screw which clips the extremity of the wire whose torsion is to be experimented on, to which a weight, or an index, or



TORSION-BALANCE.

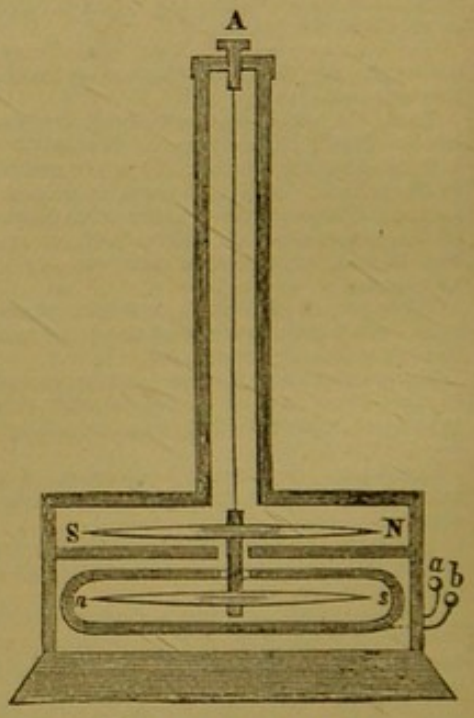
both, may be attached. The following are the results:—1. The wire, being loaded with different weights, did not rest in the same position of the index, but in a different position, with every different weight. 2. The oscillations of the index were isochronous, whether the deflection was great or small.

(2.) Tor'sion-electrom'eter, or Electric-balance. This consists of a thread, *a b*, of silk or spun glass, from which a needle of shell-lac, *c*, is suspended. It is attached to a screw *b*, by which it can be twisted round its axis. The needle carries a gilt ball of pith, or a disc of paper, at one extremity, which is balanced by a counterpoise at the other; *d* is a metallic wire, passing through the glass-shade, and terminated by a metallic ball at each end. The ball of the needle, and the interior brass ball of the wire, are brought into contact by turning the screw *b*, and the index then points to 0 on the scale, which is marked upon the circumference of the glass.



TORSION-ELECTRO-METER.

(3.) Tor'sion-galvanom'eter. *n s* is the lower needle, surrounded by a coil of wire, and connected with the upper needle NS by a piece of straw



TORSION-GALVANOMETER.

which passes through the upper part of

the horizontal coil, and through a circular card placed above it, on which a graduated circle is drawn. It is then attached to the torsion filament, which is fixed to a screw A, supported by the frame of the instrument. The filament may be of glass, and the angle of torsion may be easily measured upon the graduated card. The wires of the coil are to be connected with the plates of the circuit by means of small mercury cups, *a b*.

Tor'so, Fr. *torse*. A name given by artists to all mutilated statues, of which nothing remains but the trunk. The term is also applied by architects to columns with twisted shafts.

Tort. In *law*, a personal injury done to another.

Tor'toise. All tortoises are placed in one genus, *Testudo*, by Linnæus, but Brongniart and others have subdivided them, chiefly according to the forms and teguments of their shell, and their feet. The land tortoises form the genus *Testudo*; the fresh-water tortoises, the genus *Emys*; and the sea tortoises, the genus *Chelonia*. Merrem has further distinguished by the name of *Sphargis* those cheloniæ whose shell is destitute of plates, and merely covered with a sort of leather. The *Testudo fimbria*, Gm., found in Guiana, has been placed in a subgenus, *Chelys*, by Dumeril; and the soft-shelled tortoises have been arranged in a genus, *Trionyx*, by Geoffroy. To this belongs the tyrse of Egypt; and the soft-shelled tortoise, which inhabits the Carolinas, Georgia, the Floridas, and of Guiana, so highly esteemed for its flesh.

Tor'toise-shell. The yellowish-brown scales of the *Testudo imbricata*, Lin., a species of the tortoise, which inhabits tropical seas. It is extensively used in the manufacture of combs, snuff-boxes, &c., and in several kinds of ornamental work. It is worth in the London market from forty to sixty shillings per lb.

Tor'tulous, Lat. *tortulosus*. Bulged out at intervals, like a cord having several knots on it. Applied in Natural History.

To'rus. In *architecture*, a large semicircular moulding, used in the bases of columns, &c.

To'ties Quo'ties. So often as a thing shall happen. A legal phrase.

Totipalma'tæ, from *totus*, complete, and *palmatus*, palmate. A family of palmipede birds, remarkable for having the thumb united with the toes by one single membrane, a mode of organisation which renders their feet complete like ours. They nevertheless perch on trees. The pelican is an example.

Touch. In *naval affairs*, sails are said to *touch* when the wind comes edgeways upon them.

Touch-nee'dles. Small masses of gold silver, and copper, each pure, and in all the different combinations, proportions, and degrees of mixture, prepared for the trial of gold and silver, on the touchstone, by comparison of the mark they respectively leave on it.

Touch'stone A variety of extremely compact siliceous schist, almost as close as flint, used for ascertaining the purity of gold and silver by the streak impressed on the stone by the article tried.

Tour'maline. A mineral of the gem order, of many varieties, which occurs imbedded in granite, gneiss, mica-slate, &c., in Scotland, Sweden, Spain, France, Siberia, and many parts of America, as Massachusetts and Brazil. The fundamental form of the crystal is a rhombohedron. Lustre, vitreous; colour, brown, green, blue, red, white, frequently black, generally dark, and scarcely ever bright. Streak white. Transparent. Hardness 7 to 7·5. Sp. gr. 3·1. Constituents, silica, alumina, soda, coloured by oxide of manganese when red, and with oxide of iron when black. The green, blue, &c. varieties contain usually both these oxides. Plates, particularly of the brown tourmaline, if cut parallel to the axis, absorb one of the polarised pencils of light. The name is a corruption of the Ceylonese name *tournamal*.

Tour'niquet, Fr. from *tourner*, to turn A surgical instrument, used for stopping the flow of blood into a limb, by compression of the main artery.

Tow. (Sax.) 1. The coarse and broken part of flax or hemp, separated from the finer part by the hatchel or swingle.—— 2. A rope.

Tow'ing. Drawing a vessel forward in the water by means of a rope or *tow* attached to another vessel or boat. Steam-vessels are often employed to *tow* sailing vessels up rivers, &c.

Toxicol'ogy, from τοξικον, a poison, and λογος, a discourse. The study of poisons, a treatise on poisons.

Tox'otes. The generic name given by Cuvier to a fish characterised like the *Chætodon rostratus*, by spurting water on insects which frequent aquatic plants, to beat them down, and thereby bring them within its reach.

Trabea'tion, Lat. *trabes*, a beam. In *architecture*, the same as *entablature*.

Trab'icule, Lat. *trabicula*. A little beam. A term applied by anatomists to designate the thread-like processes in the longitudinal sinus of the dura mater.

Trache'a, τραχια. 1. The windpipe. ——2. In *natural history*, the air-tubes of plants are by botanists called *tracheæ*, and the same term is applied by entomologists to those vessels which receive the arterial fluid, and distribute it to every

part of the interior of the body, and thus remedy the want of circulation.

TRACHEA'RIA. An order of Arachnides, characterised by radiated or ramified *tracheæ*, so that the organs of respiration receive air through two stigmata, in the absence of an organ of circulation. The order comprises the *Pseudo-scorpiones*, *Pycnogonides*, and *Holetra*.

TRACHEOCE'LE, from *trachea*, and κηλη, a tumour. An enlargement of the thyroid gland: bronchocele or goitre.

TRACHEOT'OMY, from *trachea*, and τεμνω, to cut. *See* BRONCHOTOMY.

TRACHI'NUS. The name given by Linnæus to a genus of acanthopterygious fishes of the percoid family. There are several species from the Atlantic, &c., of which the dragon-weever (*T. draco*, Lin.), is best known. The flesh is esteemed.

TRA'CHYTE, from τραχὺς, rough. The name of a kind of volcanic porphyry, which usually contains crystals of glassy felspar, and is exceedingly rough to the touch.

TRAC'TION, from *traho*, to draw. In *practical mechanics*, the amount of power necessary to overcome the resistance to a carriage upon a road; a boat upon a canal, &c. The power applied is termed the *tractive power*.

TRAC'TORS, METALLIC. Small bars of metal, supposed to possess certain magnetic powers of curing painful affections and tumours, by being drawn over the affected parts.

TRAC'TORY or TRAC'TRIX, Lat. *traho*, I draw. In *geometry*, the curve having the property that the tangent is always equal to a given line.

TRADE-WINDS. The monsoons or periodical winds between the tropics, supposed to favour *trade*.

TRAG'ACANTH, from τραγος, a goat, and ακανθος, a thorn. A species of gum, the produce of the *Astragalus tragacantha*, a thorny shrub, which grows in Persia, Crete, &c. *See* GUM.

TRA'GEDY, τραγωδια. A dramatic poem representing some signal action, performed by illustrious personages. A tragedy must necessarily have a fatal issue, and commonly one or more of the dramatis personæ is a villain, by whose machinations the catastrophes are brought about.

TRA'GICUS. A muscle of the ear which pulls the tragus forward.

TRAG'US. In *anatomy*, the small cartilaginous eminence at the entrance of the external ear.

TRAJEC'TORY, from *trajectus*. A curvilinear path described by a body, as the orbit of a comet.

TRAM. A local name given to coal-waggons in the neighbourhood of Newcastle-upon-Tyne: hence the word *tramway* was given to the road prepared to receive them.

TRAM'MEL. A sort of large net either for fishing or catching birds.

TRAM'MELS. 1. In *mechanics*, a joiners instrument for drawing ellipses. One part consists of a cross, with two grooves at right angles; the other is a beam carrying two pins, which slide in those grooves, and also the describing pencil.——2. A kind of shackles for a horse.

TRAM' ROAD, } A plate-railway. A de-
TRAM'WAY. } scription of railway, consisting of narrow track-plates, or rails of wood or iron, the same being prepared to receive the wheels of carriages, or *trams*, as waggons were formerly called, whereby the transit of the latter is much facilitated.

TRANSCEN'DENTAL, from *trans*, beyond, and *scando*, to climb. Surpassing; rising above. In *geometry*, a *transcendental curve* is one which cannot be defined by any algebraic equation. *Transcendental quantities* are indeterminate ones, which cannot be expressed by any constant equation.

TRAN'SEPT, from *trans* and *septum*. An open passage across the body of a church, in the direction of north and south, either on the eastern or western side of the nave, and sometimes on both.

TRANSFU'SION, from *trans* and *fundo*. The transmission of blood from the veins of one living animal into those of another, by means of a canula; an operation which has often been performed with success and singular advantage on the human subject.

TRAN'SIT, Lat. *transitus*, from *trans*, beyond. In *astronomy*, the passing of one heavenly body over the disc of another and larger one, as Mercury and Venus over the face of the sun. The reverse, or the passage of the small body behind the larger body, is an *occultation*.

TRAN'SIT-IN'STRUMENT. A telescope formed at right angles to a horizontal axis, which axis is so supported that the line of collimation may move in the plane of the meridian. This instrument is used for observing the transits of Venus and Mercury over the discs of the sun, and a modification of it, bearing the same name, is employed in the formation of tunnels, for the purpose of ranging the shafts straight together.

TRANS'ITION ROCKS, series or formations. *See* ROCKS.

TRAN'SITIVE, Lat. *transitivus*. In *grammar*. A verb transitive is that which signifies an action, conceived as having an effect upon some object.

TRANSLU'CENCY, from *trans*, through, and *luceo*, to shine. A term used in mineralogy, &c. to express the property which

some bodies possess of permitting the passage of rays of light, but without sufficient transparency to perceive the definite outline of objects through them.

Transmuta'tion, from *trans* and *muto*, to change; change into another nature or substance. The great object of Alchemy was the transmutation of base metals into gold.

Tran'som, Lat. *transenna*. 1. A beam across a double-lighted window.——2. The lintel over a door.——3. A timber extending athwart the stern-post of a ship, to fortify it and give it form.——4. The vane of the instrument called a cross-staff.

Transposi'tion, from *trans* and *position*. A changing of the place of things, as, 1. In *algebra*, the bringing of a term of an equation to the other side. Thus $ax + x^2 - b = bx - d$ by transposition becomes $x^2 + (a - b)\ x = b - d$.——2. In *grammar*, a change in the natural order of the words of a sentence.——3. In *music*, a change in the composition, either in the transcript or performance, by which the whole is removed into another key

Transubstantia'tion, from *trans* and *substance;* change of substance. In the *Romish theology*, the supposed conversion of the bread and wine in the eucharist into the body and blood of Christ. The doctrine of the *real presence* assumes that the body and blood of Christ are really present with the bread and wine.

Transuda'tion, from *transudo*. Passing off through the pores of a substance. This term should be distinguished (in *physiology*), from perspiration, which implies a function by which the perspired fluid is secreted from the blood, whereas by transudation a fluid merely oozes through unaltered.

Trans'verse Axis. In *conic sections*, the diameter which passes through both foci.

Transver'sal. In *geometry*, a line which intersects any other lines.

Trap. Trap Rocks. A name given by Kirwan, from Sax. *trapp*, a stair, to basaltic rocks, on account of the stair-like appearance which their vertical edges exhibit. All the rocks of the trap-family are of igneous origin, and bear a close analogy, in their nature and composition, to the products of the active volcanoes erupted in our own time, and especially to the beds of old lava.

Trap'ezium, τραπεζιον, a little table. 1. In *geometry*, a quadrilateral figure, whose four sides and angles are unequal, but two of its sides parallel.——2. In *anatomy*, a bone of the second row of the carpus, so called from its shape.

Trape'zius. A trapeziform muscle, which serves to move the scapula in different directions. It is situated under the integuments of the posterior part of the neck and back.

Trap'ezoid, from *trapezium* and ειδος, like. An irregular figure, which has all its four sides and angles unequal, and none of its sides parallel.

Trap'pists. A religious order still extant in Normandy.

Trap-tuff. A variety of trap. A considerable portion of Arthur's Seat, near Edinburgh, is formed of this rock.

Trau'mate. The name given by the French geologists to Grauwacke.

Traumat'ic, from τραυμα, a wound. In *surgery*, relating to wounds, hence traumatic balsams

Trav'eller. In *navigation*, a description of thimble, whose diameter is much larger in proportion to the breadth of its surface than the common ones. The travellers are intended to facilitate the hoisting and lowering of the top-gallant-yards at sea.

Tra'verse, from *transverse*. 1. In *geometry*, the same as *transverse*.——2. In *fortification*, a trench, with a little parapet, sometimes two, one on each side, to serve as a cover from the enemy that might come in flank.——3. In *architecture*, gallery of communication in a church, or other large building.——4. In *law*, traverse denotes the denial of some matter of fact, alleged to be done in a declaration or pleading; upon which the other side maintaining that it was done, issue is joined, for the cause to proceed to trial. To *traverse an indictment*, is to deny some chief point of it, and take issue thereon.——5. In *navigation*, traverse sailing implies a compound course, in which several different courses and distances are made and known. To find the real course in this case, *traverse tables* have been calculated, where all the differences and departures are given for any distance in 100 miles.

Traver'tino. An Italian name for a calcareous tufa, deposited by water holding bicarbonate of lime in solution. In Italy, immense masses of this substance are constantly being formed, and the process appears to have been in operation since a very early period of the world's physical history. The Coliseum, St. Peter's, and indeed most of the public buildings of Rome, are composed of travertino.

Traves'tie, Fr. *travestir*, to disguise. A word synonymous with parody.

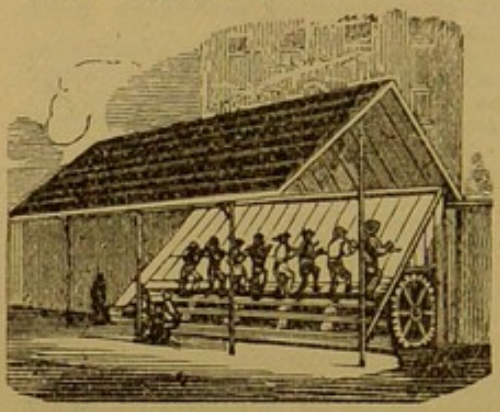
Trea'cle, Lat. *theriaca*. The brown viscid syrup which drains from sugar-refining moulds.

Tread. In *architecture*, the horizontal surface of a step.

Tread'le, } That part of a loom, turn-
Tred'dle. } ing-lathe, or other analogous machine, on which the foot is set to put it in motion.

Tread'mill, } A wheel exactly simi-
Tread'wheel. } lar in its principle to

an over-shot water-wheel, but having *tread-boards*, of considerable length, upon its circumference, to allow of sufficient standing-room for a row of from 10 to 20 persons, by whose weight the wheel is moved round. It is an invention of the Chinese, who use it to raise water for the irrigation of their fields. It has been introduced into some of the prisons of England, for the exercise of criminals condemned for short periods to hard labour. The engraving exhibits that erected at Brixton for grinding corn.



TREA'SURE TROVE. In *law*, money, or other treasure, found hidden, and the owner unknown, in which case it belongs to the crown. *Trove* is from the French word *trouver*, to find, *trouvé*, found.

TREAS'URY, BOARD OF. The board which has charge of the sovereign's civil list, or other revenues.

TRE'BLE, Lat. *triplex*. In *music*, acute: the highest and most acute of the four parts in symphony. This is divided into *first* or *high treble*, and *second* or *base treble*.

TRECK'SCHUYT. A Dutch track boat.

TREE-NAILS, is now commonly written *trenails* (q. v.).

TREE-TOAD. A species of Rana, found in North America, often on trees.

TRE'FOIL, from *trifolium*, *tres* and *folium*, a leaf. 1. In *botany*, *see* TRIFOLIUM and LOTUS.——2. In *Gothic architecture*, an ornament, consisting of three cusps in a circle, like the leaf of the trefoil plant.

TREMAN'DO. In *music*, one of the harmonic graces, from the Italian, *trembling*.

TREMEL'LA. A genus of algæ, of which the only species is the *T. nostoc*, an indigenous greenish jelly, which is edible. Name from *tremo*, to tremble, being a tremulous substance.

TREM'OLITE. A variety of hornblende, or straight-edged augite, so named from its having been first found in Tremola, a valley of St. Gothard. There are several sub-varieties of this mineral, as the common glassy and fibrous tremolite and baikalite. It is found only in primary rocks.

TRE'NAILS, } (A corruption of *tree-*
TREN'NELLS. } *nails*.) A name for such wooden pins as are employed to connect the plank of a ship's sides and bottom to the corresponding timbers; and also for those hollow oak pins, or *plugs*, usually driven into blocks of stone, when anything is to be secured to them.

TRENCH'ES. In *fortification*, are ways hollowed in the earth, and in form of a fosse, having a parapet towards the place besieged, called *lines of approach*, or *lines of attack*; or a work raised with fascines, gabions, wool-sacks, &c., to cover the men from the fire of the besieged.

TREND. In *navigation*, to trend is to lay in a perpendicular direction.

TREPAN, Lat. *trepanum*, from τρυταω, to perforate. A surgical instrument, bearing some resemblance to a wimble, and worked in the same manner. It is used for sawing a circular portion of bone out of the skull. *See* TREPHINE.

TRE'PHINE. An instrument generally used by English surgeons, instead of the trepan, which is used on the continent. It consists of a circular saw, with a handle placed transversely, like that of a gimlet, and has a perforating or central pin, which is fixed into the skull, and forms an axis on which the circular edge rotates.

TRES'PASS. In *law*, unlawful entrance on another's grounds.

TRES'SLE-TREES, } In *ship-building*, two
TRES'TLE-TREES. } strong bars of timber, fixed horizontally on the opposite sides of the lower mast-head, to support the frame of the top, and weight of the top-mast.

TRES'SURE. In *heraldry*, a border running parallel with the sides of the escutcheon.

TRET, } In *commerce*, an allowance to
TRETT. } purchasers, for waste or refuse matter, of 4 per cent. on the weight of some commodities.

TRI'AD. In *music*, a compound of three sounds, which has received the name of the *harmonic triad*. It is formed of a third, a fifth, and the bass.

TRIAN'DRIA, from τρεις, three, and ανηρ, a male. 1. The third class of plants in the sexual system of Linnæus, comprising plants which have hermaphrodite flowers, with three distinct stamens. The orders are monogynia, digynia, and trigynia. ——2. The name of several orders of plants in the Linnæan sexual system, which, besides their classic characters, have three stamens.

TRI'ANGLE, from *tres* and *angulus*. 1 In *geometry* a figure bounded by three lines, and having consequently three

angles.——2. In *astronomy*, a constellation in the northern hemisphere.——3. In *music*, a small steel triangular instrument of percussion, open at one of its corners, and struck with a small steel rod.

TRIAN'GULAR COMPASSES. Compasses having three legs, which open so as to take off any three points.

TRIBOM'ETER, from τριβω, to rub, and μετρον, measure. An instrument for measuring the amount of friction in rubbing surfaces.

TRIBU'NAL. A judgment seat in the forum at Rome: applied to any judgment seat.

TRI'CEPS, Lat. from *tres* and *caput*; three-headed. Applied to muscles.

TRI'CHECUS. The morse: a genus of amphibious mammalia of the order *Carnaria*. Name invented by Artedi. Only one species is known, the Sea Cow (*T. rosmarus*, Lin.), which inhabits the Arctic seas, and surpasses the largest ox in size. It lives on fucus and animal matters, and is much sought after for its oil and tusks. *See* SEA COW.

TRICHI'ASIS, from τριξ, hair. 1. A disease of the eyelashes, in which they are turned inwards.——2. A disease of the hair: plica.

TRICHIU'RUS. A genus of acanthopterygious fish, belonging to the family *Tænoides*. Name from τριξ, a hair, and ουρα, a tail: the tail being drawn out into a long slender filament like a hair. The species resemble beautiful silver ribands.

TRICHOP'TERANS, from θριξ and πτερον, a wing. The name of an order of insects having four hairy membranous wings.

TRICHO'SIS. Τριχωσις, from τριξ, hair. A generic name for all diseases of the hair.

TRICHU'RIS. A genus of intestinal worms: named *le ver à queue* by the French, two-thirds being tail.

TRICOC'CÆ. A natural order of plants, comprising such as are three-seeded (*tricoccus*.)

TRI'COLOR. The national French banner of three colours, blue, white, and red, adopted on the occasion of the first Revolution.

TRICOC'COUS, Lat. *tricoccus*, three-seeded.

TRICUS'PID, TRICUS'PIDATE. Lat. *tricuspidatus*, three-pointed.

TRICUS'PID VALVE. The right ventricle of the heart.

TRIDAC'TYLOUS, Lat. *tridactylus*, three-toed.

TRI'DENT, from *tridens*, three-toothed. The three-forked sceptre of Neptune.

TRI'ENS. A Roman copper coin, worth one-third of an *as*

TRIETE'RIS. A Grecian cycle, consisting of 12 months of 30 days each.

TRIF'ID, Lat. *trifidus*, three-cleft.

TRIFO'LIATE, Lat. *trifoliatus*, three-leaved.

TRIFO'LIUM. Trefoil. A genus of papilionaceous plants. *Pentandria—Monogynia*. Name from *tres* and *folium*, because it has three leaves on each stalk.

TRIFO'RIUM. In *Gothic architecture*, an arched story, between the lower arches and the clerestory, in the aisles of a church.

TRIG'AMOUS, from τρεις, three, and γαμος, marriage. Plants containing three sorts of flowers in the same head.

TRIGEM'INI. *Nervi innominati*. The fifth pair of nerves.

TRIG'LYPH, from τριγλωφος, a three-sculpture ornament. An ornament of the Doric frieze, consisting of three parallel niches, and supposed by some to represent the ends of beams.

TRI'GON. Τριγονον. A triangle.

TRIGONEL'LA. Fenugreek. A genus of papilionaceous plants. *Diadelphia—Decandria*. Temperate and cold climates Name dim. of *trigona*, in allusion to its little triangular flower.

TRIGO'NIA. The name given by Bruguières to a genus of testaceous acephala of the oyster family. Living trigoniæ are nearly related to the cockle, but the fossil species differ considerably. Named from the trigonal shape of the shell.

TRIGONOCEPH'ALUS. Serpents which have a horny conical process at the tip of the tail.

TRIGONOMETRY, from τριγονος, a triangle, and μετρον, measure. The science which teaches the mensuration of triangles, whether plane or spherical.

TRIGY'NIA, from τρεις, three, and γυνη, a female. The name of an order of plants in the Linnæan system, distinguished by the flowers having three styles or pistils.

TRI'HILATE, Lat. *trihilatus*. Having three *hila* or scars. Applied to seeds.

TRILAT'ERAL, from *tres* and *latus*, a side. Having three sides.

TRILL, Ital. *trilla*. In *music*, a plain shake upon a simple note.

TRILLO, Ital. In *music*, to beat quickly on two notes, in conjoint degrees, alternately one after the other.

TRI'LOBATE, Lat. *trilobatus*. Three lobed.

TRI'LOBITES. A family of fossil crustaceans, long confounded under the name of *Entomolithus paradoxus*, and still named by some naturalists *Entomostracites*. Brongniart has divided them into five genera: *Agnostus*, *Calymene*, *Asaphus*, *Ogygia*, and *Paradoxides*. They are, according to Cuvier, the original stock of

the articulata, and were annihilated by some ancient revolution of our planet. They take their name from being divided into three lobes, or rather three ranges of parts or lobes, by longitudinal sulci. They are found in various parts of the world.

Tri'locular, Lat. *trilocularis*. Three-celled.

Tril'lion, from *tri-million*. The product formed by multiplying a million twice by itself: the third power of a million. Thus, 1,000,000 × 1,000,000 × 1,000,000 = 1,000,000,000,000,000,000. In the French notation, however, the square of 1,000,000, or 1,000,000,000,000, is named a trillion.

Tril'ogy, from τρεις, three, and λογος, discourse. The plays of Æschylus and Shakspeare's Henry VI., are examples of a trilogy.

Trim. The position of the keel of a ship with respect to the horizontal line.

Trim'mer. In *carpentry*, a small beam, into which are framed the ends of several joists. The two joists, into which the ends of the trimmer are framed, are called *trimming joists*.

Trine, from *trinus*. Three-fold. A term in *astrology*, for an aspect of the planets, distant from each other 120°, forming the figure of a trigon or triangle.

Triner'vate, Lat. *trinervis*. Three-nerved.

Trin'gle, French. A term in *architecture* for a small member, fixed exactly upon every triglyph, under the platband of the architrave, from whence hang the guttæ in the Doric order: called also a *ringlet* or *listel*.

Trinity. The three persons in the Godhead, comprising Father, Son, and Holy Ghost.

Trin'ity House. A kind of college, incorporated by Henry VIII., in 1515, for the promotion of commerce and navigation, by licensing pilots, ordering and erecting beacons, light-houses, &c.

Trino'mial, from *tres*, and *nomen*, a name. A term in *algebra* for any expression having three terms, as $a+bx-cx^2$.

Tri'o, Terzetto. } A vocal composition in three principal parts, exclusive of accompaniment.

Trioc'tile, from *tres* and *octo*. A term in *astrology* for an aspect of two planets, when they are three octants or eighth parts of a circle apart, i.e., 135 degrees.

Triœ'cia, from τρεις, three, and οικος, a house. The name of the third order of plants in the class *Polygamia*, comprising plants with unisexual and bisexual flowers on three separate plants; or having flowers with stamens only on one, pistils on another, and bisexual flowers on a third. The fig-tree and fan-palm are examples.

Tri'olet. A stanza of eight lines, the first of which is thrice repeated.

Trio'nes. In *astronomy*, the seven principal stars in the constellation Ursa Major.

Trion'yx. A sub-genus of *Testudo*, Lin., comprising the soft-shelled tortoises. *See* Tortoise.

Trip'artite, Lat. *tripartitus*. Divided into three parts.

Tripetaloi'deæ. The name of the fifth natural order of plants established by Linné, comprising plants having tripetalous flowers.

Tripet'alous. Three-petalled: *tres* and *petalus*.

Triph'thong, from τρεις, three, and φθογγη, sound. A coalition of three vowels in one compound sound, or in one syllable, as in *adieu*.

Triphyl'lous, Lat. *triphyllus*. Three-leaved.

Tripin'nate, Lat. *tripinnatus*. Triply pinnate. Applied to a pinnate leaf of which the secondary petioles produce tertiary petioles, on which the leaflets are implanted.

Trip'le Time. In *music*, is that in which each bar is divided into three measures or equal parts, as three minims, three crotchets, three quavers, &c.

Trip'le Salts. In *chemistry*, these are formed by the combination of an acid with two bases; e.g., microcosmic salt.

Trip'let. 1. In *poetry*, three verses rhymed together.——2. In *music*, three notes sung or played in the time of two.

Trip'licate Ratio. The ratio which cubes bear to each other.

Trip'oli. Rotten-stone. A mineral of an earthy fracture, and yellowish-grey colour, brought from Tripoli, in Barbary. M. Ehrenberg has shown that it consists almost entirely of the siliceous exuviæ of microscopic animals of the genera *Coccoonema*, *Gonphonema*, &c. It is found at Billen, in Bohemia, at Santaflora in Tuscany, in the Isle of France, &c.

Trip'ping. In *nautical language*, loosening an anchor from the ground.

Trique'trous, Lat. *triquetrus*. Three-sided.

Tri'reme, Lat. *triremis*. An ancient galley with three banks of oars.

Trisec'tion, Lat. *trisectio*. Dividing anything into three parts. The *trisection of an angle* was a problem of great celebrity among ancient geometricians. It cannot be accomplished by plane geometry, and requires the use of conic sections or some other curve.

Trisep'alous, Lat. *trisepalus*. Having three sepals.

Tris'mus. Lock-jaw, from τριζω, to gnash.

Trisyl'lable, from *tres*, three, and *syllabus*, syllable. A word of three syllables.

TRITER'NATE, Lat. *triternatus*. Having three biternate leaves: a species of super-decompound leaf.

TRIT'ICUM. Wheat. An extensive genus of grasses. *Triandria—Digynia*. Name from *tero*, to thrash. The awned and the rush-leaved wheat, and the couch-grass, are the indigenous species of this genus; but the species cultivated are the *T. hybernum* or winter-wheat, the *T. æstivum* or summer wheat, and the *T. spelta* or spelt. *See* WHEAT.

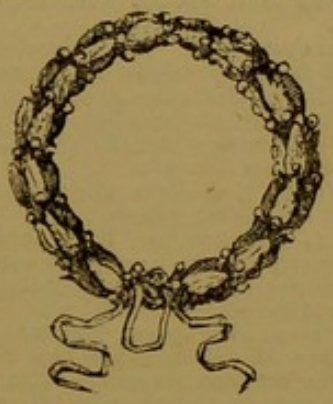
TRI'TON, TRITO'NIA. 1. In *mythology*, a demi-sea-god, the trumpeter of Neptune.——2. A genus of gasteropods of the order *Nudibranchiata*, shell spiral.——3. A genus of perennial plants. *Triandria—Monogynia*. Cape of Good Hope.

TRI'TONE. In *music*, an interval of four degrees, containing three tones between the extremes.

TRITOX'IDE, from τριτος, third, and oxide. An oxide of the third degree.

TRIUM'PHAL ARCH. An architectural monument in the form of an arch, erected in honour and to the memory of some successful commander. The archivault of the Roman triumphal arch was usually adorned with figures of victory holding palms, crowns, &c.

TRIUM'PHAL CROWN. A crown usually



awarded by the Romans to their victorious generals. It was first made of wreaths of laurel, and afterwards of gold.

TRIUM'VIRI (of Rome), were three men who jointly obtained the sovereign power. The first of these were Cæsar, Crassus, and Pompey. Their government was a *triumvirate*.

TRIV'IAL NAME. A *specific* name: that which is added to the generic name to distinguish species.

TRO'CAR. The name of a surgical instrument used in tapping for the dropsy, corrupted from French *un trois quart*, a three quarters, in allusion to the three sides from which the point is made.

TROCHAN'TER, from τρεχαζω to run. A name in *anatomy* for two processes of the thigh-bone, distinguished into the greater and less. The muscles inserted into these processes perform the office of running.

TROCHE, from τροχος, a wheel. The name in *pharmacy* for a medicine composed of powders, made up with glutinous substances into little cakes and afterwards dried: troches are now called *lozenges*.

TRO'CHEE, τροχαιος. A rhythmical measure, consisting of two syllables, a long and a short.

TRO'CHILUS, τροχιλος, a small bird. A name applied by Linnæus to the genus of *humming-birds*.

TROCHIT'ICS, from τροχος, a wheel. A term in *mechanics* for the science of rotatory motion.

TROCH'LEA, τροχλεα, a pulley, from τρεχω, to run. In *anatomy*, a kind of cartilaginous pulley, through which the tendon of one of the muscles of the eye passes. This muscle is named the *musculus trochlearis*, and the nerve which serves it, the *trochleator*.

TRO'CHOID, from τροχος, a wheel, and ειδος, like. Wheel-like. In *geometry*, a figure which is described by a circle that rolls in a straight line, with a pointer pin in the circumference, on a fixed plane parallel to or in the plane of the moving circle.

TROCHO'IDES, from τροχος, a wheel, and ειδος, like. A species of moveable connection of bones, in which one bone rotates upon another.

TRO'CHUS. The name given by Linnæus to a genus of gasteropods of the family *Trochoida*, from *trochus*, a top, in allusion to the conical shape of the shell. About 150 species are known, many of which are fossil. The recent species are generally found near coasts.

TROG'LODYTES, from τρωγλη, cave, and δυω, I enter. Men who dwell in subterraneous caverns.

TRO'GON. The generic name given by Linné to the *Couroucoui*: scansorian birds which build in the hollows of trees, feed on insects, and live solitary in marshy forests. Some part of the plumage is usually of a metallic lustre. Found in both Continents.

TROM'BONE. In *music*, a wind instrument blown by the mouth, resembling in form the military trumpet, of which it is the base. The name implies *great trumpet*.

TRO'NA. A native sesqui-carbonate of soda, found at Lukena, in Africa.

TRON'AGE. Formerly a duty paid for weighing of wool.

TROPÆ'OLUM. Indian cress. A genus of herbaceous plants. *Octandria—Monogynia*. Name dim. of τροπαιον, or τροπαιον,

a warlike trophy. South America. This fanciful but elegant name was chosen by Linnæus for this singular and striking genus, because he conceived the shield-like leaves and the brilliant flowers, shaped like golden helmets, pierced through and through, and stained with blood, might well justify such an allusion.

Trope, Lat. *tropus*, Gr. τροπος, from τρεπω, to turn. In *rhetoric*, an expression used in a different sense from that which it properly signifies. Tropes are of four kinds, metaphor, metonymy, synecdoche, and irony.

Trop'ics, from τροπη, a turning. 1. In *astronomy*, the circle of the sphere which bounds the sun's declination, south or north: the line drawn through the two solstitial points, at which the sun returns back. The northern extremity is termed the tropic of *cancer*, and the southern the tropic of *capricorn*.——2. In *geography*, the two circles of the globe drawn parallel to the equator, through the beginning of cancer and of capricorn, 23° 28′ north and south of the equator.

Trou'badours, Fr. *trouver*, to find. A school of poets who lived from the 11th to the end of the 13th century, in the south of France, Catalonia, Arragon, and the north of Italy.

Trough of the Sea. The hollow between two waves.

Trout. A well-known fish, the *salmo fario*, which grows to about a foot in length. It is much modified by the kind of stream or water in which it lives, and hence has arisen an opinion that a great many species exist. The *Lochleven trout* (the *salmo cælifer*, Parn.), is a distinct species, as is also the *salmon trout* (the *salmo trutta*, Lin.). The Northern charr (*salmo umbla*, Cuv., Yarr.), is also sometimes confounded with the *salmo fario* or common trout. *See* Salmo.

Tro'ver, Fr. *trouver*, to find. In *common law*, an action which a man has against one that having found any of his goods, refuses to deliver them up.

Troy Weight. One of the most ancient of the different weights used in Britain, said to have been named from *Troyes*, in France, where it was first adopted in Europe, being brought from the East during the Crusades. The English Troy pound contains 12 ounces of 480 grains each. Used for weighing gold, silver, &c., and in the compounding of medicines.

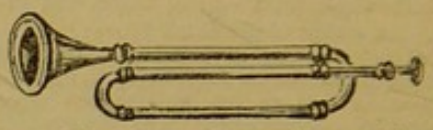
Truce of God. *Treuga Dei*. A suspension of arms, which occasionally took place in the middle ages, putting a stop to private hostilities.

Truck. 1. In *navigation*. a circular piece of elm, with a small sheave on each side, fixed upon the upper end of a flagstaff, and used to reeve the halliards.——2. In *gunnery*, a round piece of wood, formed like a wheel, and fixed on the axle of a carriage, to move heavy ordnance.——3. As applied to *railways*, a step or platform, running upon wheels, and used for the conveyance of ordinary stages, coaches, and carriages, which are placed upon it.

Truck-system. A name given to a practice in mining and manufacturing districts, of paying the wages of workmen in goods instead of money.

Truf'fle. The root of the *Lycoperdon tuber*, which grows abundantly in the warmer parts of Europe. Truffles are reckoned a great delicacy.

Trum'pet, Germ. *trompete*. A wind instrument of music, much used in martial exercises. It is the loudest of all wind instruments. It is commonly made of



brass. There are also speaking and hearing trumpets, which are simply tubular bodies, with a trumpet-shaped mouth.

Trun'cate, Lat. *truncatus*, lopped. Appearing as if cut off with a pair of scissors.

Trunca'tipennes. In *entomology*, a tribe of Carabici, consisting of *Anthia*, *Graphipterus*, *Aptinus*, *Brachinus*, *Casnonia*, &c. They are so called, because the extremity of their elytra is almost always truncated. *See* Carabus.

Trun'dle. 1. A little wheel.——2. A low cart with little wheels.

Trunk, Lat. *truncus*. 1. In *architecture*, the same as shaft.——2. In *animals*, that section of the body between the head and the abdomen.

Trun'nion, Fr. *trognon*. The trunnions of a piece of ordnance are two knobs, which project from the opposite sides, and serve to support the piece on the cheeks of the carriage. The *trunnion-plates* are the two plates in travelling-carriages, mortars, and howitzers, which cover the upper parts of the side-pieces, and go under the trunnions. The *trunnion ring* is the next before the trunnions.

Truss. 1. In *surgery*, a bandage for hernia.——2. In *carpentry*, when girders are very long, or the weight which a floor is destined to support is very great, they are *trussed:* that is, for a simple beam is substituted a frame so constructed that the pressure is thrown more upon the walls, and the possibility of the beam being broken is prevented. This frame is called a *truss*. A *truss-partition* is one formed by a truss.——3. In *navigation*, a truss is a machine to pull a lower yard

close to its mast, and retain it firmly in that position.——4. In *botany*, a truss is a tuft of flowers formed at the top of the main-stalk of some plants.

Trus'sing. In *carpentry* and *ship-building* a series of diagonal braces, disposed in triangles, the sides of which give to each other a mutual support or counteraction.

Trust. In *law*, an estate held for the use of another.

Trus'tee. In *law* (1.), one who holds an estate in trust; (2.) one to whom is confided the management of some property, in trust for the benefit of others.

Truth. In the *fine arts*, a faithful adherence to the models of nature.

Try-sail. Strain-sail. A sail used by a ship in a storm.

Tub'ber. The name given in Cornwall to a mining instrument, called in other parts a *beele*.

Tu'ber, Lat. from *tumeo*, to swell. 1. An excrescence.——2. In *botany*, a round turgid root, as that of a turnip. Also the name of a genus of fungi, now included in the genus *Lycoperdon* (q.v.).

Tu'bercle, Lat. *tuberculum*, dim. of *tuber*. In *pathology*, a peculiar morbid production, which occurs in various textures of the body, in connection with scrofula. It occurs in isolated roundish masses. The matter is unorganised.

Tuber'cular, Lat. *tuberculari*s, } Tuber'culate, Lat. *tuberculatus*. } Tubercled. Having small warts or tubercles. Applied, in *natural history*.

Tu'berose. 1. Tuberous.——2. A plant. *See* Polyanthus.

Tu'berous, Lat. *tuberosus*. Knobbed. Applied to parts of plants.

Tubicinel'la. A genus of tubular shells, not spiral; placed by Lamarck among the sessile cirrhipedes. Name dim. of *tubicen*, a trumpeter. The species are found imbedded in the blubber of whales.

Tubic'ola. The name given by Cuvier to an order of Articulata, comprising Serpula, Sabella, Terebella, Amphitrite, Syphostoma, and Dentalium. The shell is a calcareous tube; whence the name, from *tuba*, and *cola*, an inhabitant.

Tubicola'riæ. The name given by Lamarck to a genus of *Infusoria*, of the order *Rotifera*. Name from *tuber*, and *cola*, a dweller, because the species secrete themselves in little tubes, which they construct of foreign molecules.

Tubicor'nia, Lat. *tubus cornu*, a horn. A family of ruminants, which have the horns composed of an axis enveloped in a sheath.

Tu'bipora, } Organ-pipe coral, consist-
Tu'bipore. } ing of parallel tubes of a strong substance, each containing a polypus. There are several species. Order *Coralliferi*; family *Tubularii*.

Tubula'ria. A genus of coralliferous polypi, which construct simple or branched tubes of a horny substance. The genus is now subdivided. The sub-genera are *Tubularia marina*, found in salt water; *Tibiana*, Lamour., inhabiting zigzag tubes; *Cornularia*, Lamar., of which the tubes are conical; *Anguinaria*, Lamar., of which the tubes are cylindrical; and *Campanularia*, Lamar., the tubes of which are bell-shaped.

Tu'bulated, *tubulatus*. Synonymous with *tubulous*. A retort which has a small tubular production, like the mouth of a phial, with a stopper adapted to it, is called a *tubulated retort*.

Tues'day. The third day of the week: Saxon *Tiwæsdaeg* or *Tuesdaeg*, from *Tuisco*, the Mars of our ancestors. Hence Tuesday is court or combat-day.

Tu'fa. Fr. *tuf*, It. *tufo*. 1. A calcareous deposit from water. *See* Calcareous Tufa.——2. *Tuf*, *tuff*, *volcanic tufa*, are names applied to several different substances, products of volcanic eruptions. Generally it is an aggregate of sand and volcanic ashes and fragments of scoria and lava.

Tuis'co. In *mythology*, the god of war or the Mars of the northern nations. Tuesday was appointed for his adoration.

Tu'la Metal. An alloy of copper, silver, and lead.

Tu'lipa, } An extensive genus of peren-
Tu'lip. } nial plants. *Hexandria—Monogynia*, Nat. order, *Coronariæ* The yellow tulip is the only indigenous species, but many others are found in the gardens.

Tum'ble home. Applied to the falling in of the upper timbers of a ship's side.

Tum'bril. In *gunnery*, a two-wheeled carriage, used in carrying the tools of the pioneers and miners, and occasionally the money and ammunition of the army.

Tu'mour, Lat. *tumor*, from *tumeo*, to swell. A swelling of a permanent kind, divided into *sarcomatous*, which are firm and fleshy, and *encysted*, which have a sac containing matter more or less fluid.

Tu'mulus (Latin). A small conical hill of earth, raised as a memorial over the remains of the dead, by the early nations of antiquity.

Tun. 1. A large cask.——2. A wine measure containing two pipes of 4 hogsheads, or 252 gallons. It varies, however, in different countries.

Tune, τονος. In *music*, the relation of notes to each other, and the distances between them, whence arises melody.

Tung'sten. } from Swed. *tung*,
Tungste'num, } heavy, and *sten*, stone. A greyish-white metal, very brittle and very hard, and fusible in the most intense heat only. The name was originally given by the Swedes to the ore of the

metal, which Scheele first analysed. The same ore has since been discovered in Cornwall and in Bohemia. The base is lime, and the metal combines with it in the form of an acid, the *tungstic acid*; a yellow oxide, differing from the brown in having three atoms of oxygen. Ores are also found of which the bases are manganese, lead, &c., sp. gr. of the metal 17·3. Tungsten is insoluble in acids, and unites with most other metals, but not with sulphur.

Tu'nic, Lat. *tunica*. A garment worn by the Romans under the toga, next to the skin.

Tu'nicaries. A class of acephalous mollusca, in Lamarck's arrangement. Animal gelatinous or leathery, and covered with a double tunic. The external one distinctly organized and provided with two apertures; the interior one analogous to the mantle, provided also with two apertures, the one oral and the other anal. These animals are found both single and aggregate, fixed and floating.

Tun'kers or Dun'kers. A subdivision of the Baptists, chiefly in Pennsylvania.

Tun'nel. A subterranean passage cut through hills, and sometimes under water, as in the case of the Thames tunnel.

Tu'nny. Spanish mackerel. A fish, the *Scomber thynnus*, Lin. *See* Thynnus.

Tur'ban. The usual head-dress of the Turks, Persians, and other eastern nations.

Tur'bidæ. A family of molluscs. Shell solid and spiral; aperture entire, closed by an operculum. Order *Phytophaga*. Named from *turbo*, a top.

Tur'binate, Lat. *turbinatus*. Of a spiral oblong form.

Turbinel'la. The typical genus of the turbinellinæ. Name dim. of *turbo*, a top, in allusion to the form of the shell, which is ponderous, smooth, or slightly nodulous; spire short, papillary; pillar with strong plaits in the middle.

Tur'bith Root, } The cortical part of
Tur'peth Root. } the *Convolvulus turpethum*, brought from several parts of India. Used in medicine. The name is of Indian origin.

Tur'bith Mineral, } The yellow sub.
Tur'peth Mineral. } or disulphate of mercury.

Tur'bo. A genus of mollusca. Order *Phytophaga*: family *Turbidæ*: sub-family *Turbinæ*. Shell turbinate. About 160 species are known, of which about 70 are British. The periwinkle is well known.

Tur'bot. A well-known and highly esteemed fish, the *Pleuronectus maximus*, Lin. There are large quantities caught on our coasts; yet the London market is almost entirely supplied by the Dutch.

Tur'dus. The thrush: a genus of passerine birds, belonging to the family *Dentirostres*. Regimen frugivorous, habits solitary. The name thrush is more particularly applied to the song thrush, or throstle (*T. musicus*, Lin.). The Mocking-bird of North America is also a well-known species.

Turf, Sax. *tyrf*. 1. The upper vegetable mould, with its grass and roots cut into parallelograms (of about 15 inches in length, 6 inches in breadth, and 3 inches in thickness,) with a common spade used to cope dikes, &c.——2. The upper stratum of mossy ground, pared off with a *turf-spade* and used for burning as peats are, but regarded as inferior.

Tur'key-red. A brilliant red dye produced on cotton by madder.

Tur'lupins. In *French ecclesiastical history*, one of the numerous by-names by which the sectaries of the 14th century were distinguished.

Tur'meric. Indian saffron. The root of the *Curcuma longa*, brought from Bengal, Java, China, &c. It is used in dyeing, affording a beautiful yellow, which however is extremely fugitive.

Tur'merite. A rare mineral, consisting of alumina, lime, and magnesia, coloured yellow by oxide of iron. It is so named because its colour approaches to the yellow of turmeric.

Turn'-plate, } On *railways*, a contri-
Turn'-table. } vance for removing carriages from one line of rails to another. It is composed of an iron framing, upon which iron grating or wood planking is laid, thereby forming a table or platform, two pair of rails being fixed to the upper surface, crossing each other at right angles, and of corresponding gauge with those laid down upon the line. The platform is further made to turn upon a centre pivot, which rests upon another iron framing set in masonry.

Tur'nip. 1. A well-known tuberous plant, the *Brassica rapa*, of which there are several varieties.——2. The *Swedish turnip* is the *Ruta baga*.

Turn'sole. Heliotrope. *See* Heliotropium.

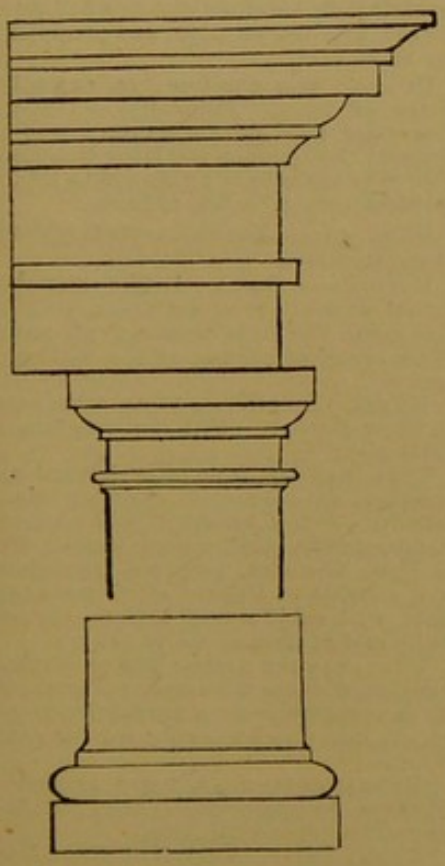
Tur'pentine, Lat. *terebinthina*; Fr. *terebenthine*; Ger. *turpenthin*. A resinous substance, obtained by making incisions in the stems of several species of pines. The common turpentine is obtained from *Pinus sylvestris*, or Scotch fir; the Venice turpentine from the *Pinus larix*, or larch; the Candian turpentine or balsam from the *Pinus balsamea*, or balsam pine of the cold parts of North America; the Chian or Cyprus turpentine is got from the *Pistacia terebinthus*, which is cultivated in Chios and Cyprus, and grows only in warm climates. All the turpentines dissolve in rectified spirits or pure alcohol, and by distillation give similar oils, which, from their being procured by distillation, are called *spirits* of turpentine. If the distil-

lation be performed with water, the product is an essential oil, the common *oil, essence*, or *spirit of turpentine* of the shops; and if the distillation be performed in a retort, without water, the product is very volatile and pungent, and is termed *ethereal spirit of turpentine*. It is hardly possible to obtain oil of turpentine pure from the shops. Sp. gr. when pure 0·870; as sold 0·876, and often higher.

Turquo'is, Fr. *turquoise*; Ger. *türkiss*. A gem of a greenish-blue colour, found in opaque and roundish masses, from the size of a pea to that of an egg. Sp. gr. 3·13. The finest specimens are found in Persia, in clay slate.

Tur'tle, Sax., from Lat. *turtur*. 1. The turtle dove is the *Columba turtur*, Lin., celebrated for its connubial constancy and affection.——2. The edible sea turtle is the green tortoise (*Testudo mydas*), Lin., found from six to seven feet in length, and weighing from 700 to 800 lbs. Its flesh and eggs are highly esteemed, and furnish a wholesome and palatable supply of food to the mariner in every latitude of the torrid zone. *See* Testudo and Tortoise.

Tus'can Order. An order of architecture which admits of no ornaments and



the columns are never fluted. It is not found in any ancient buildings.

Tusk. In *carpentry*, a bevel shoulder made above a tenon, to strengthen it.

Tussila'go. Colt's-foot. A genus of herbaceous plants. *Syngenesia — Poly. superflua*. The common and the bastard colt's-foot and the butter-bur are indigenous species. All the exotic species are, however, hardy. Name from *tussis*, cough, because it (*T. farfara*) relieves coughs, and is used as tea for diseases of the chest.

Tu'tenag. 1. In *commerce*, a Chinese word, used to designate the zinc or spelter of China.——2. The metallic compound brought from China, called Chinese copper, or *packfong*.

Tu'tia. A Persian name for the grey oxide of zinc: *Cadmia*, or *Cadmia factitia*, popularly *tutty* (q. v.).

Tut'ti, } An Italian term, used in *music*,
Tut'to. } to signify that all the parts are to be played together in full concert.

Tut'ty (from *tutia*). The grey oxide of zinc, generally formed when zinc, blende, &c., are subjected to a high heat in a furnace: the tutty sublimes and encrusts in the chimney.

Twice'-laid Cor'dage. In *ship-rigging*, cordage made of the cast rigging worked up again.

Twine. A strong thread composed of three strands twisted together.

Tym'bal. In *music*, a kettle-drum. This consists of two metallic globes, covered with parchment, and beaten with two round mallets.

Tym'pan. Tympanum. 1. A drum: hence the barrel or hollow part of the ear, behind the membrane of the tympanum.——2. In *architecture*, the area of a pediment, being that part which is on a level with the naked of the frieze. Also the part of a pedestal called otherwise the trunk or dye. The *tympan of an arch* is a triangular tube or space, placed in its corners, usually hollow, and enriched with ornaments as foliage, &c. ——3. In *printing*, a frame covered with parchment, on which the blank sheets are put in order to be laid on the form to be impressed.——4. In *botany*, a membrane stretched across the mouth of the theca of a moss.

Tym'pany. Tympanites. Drum-belly. An elastic distension of the abdomen, which sounds like a drum (*tympanum*) when struck; attended with costiveness and atrophy.

Type, Lat. *typus*; Gr. τυπος. A sign, symbol, or mark of something. 1. The term is applied in *natural history* to the most strongly characterised species or genus of a group of plants or animals.——2. In *printing*, letter-casting in *type-metal*. Types are named according to their sizes;

Double-pica, Paragon, Great-primer, English, Pica, Small-pica, Long-primer, Bourgeois, Brevier, Minion, Nonpareil, Ruby, Pearl, and Diamond. The first sort gives 41½ lines per foot, the last 205 lines.——3. In the *fine arts*, the model in nature of a pattern used; as a tree, which is the type of a column.

TYPE-METAL. A compound of lead and antimony, in the proportion of 3 to 1, used for making printing-types. Copper is sometimes added.

TY'PHLOPS. The name given by Schneider to a genus of serpents, from τυφλωψ, an earth-worm, because blind; the species being small, and resembling at first glance earth-worms.

TY'PHOID. Like typhus.

TYPHOMA'NIA, from τυφος, stupor, and μανια, madness. A term expressive of the delirium which accompanies typhoid fevers.

TYP'HOON. A violent hurricane in the Chinese seas.

TY'PHUS, from τυφος, stupor. A form of continued fever, characterised by extreme depression of the nervous powers, and imperfect re-action of the vascular system, giving rise to changes in the circulating fluids, and remarkable disorder of all the secretions.

TYPOL'ITES, from τυπος, a type, and λιθος, stone. An old, general name for fossil remains and minerals, having impressions of plants, &c. upon them.

U.

U is the 21st letter and the 5th vowel of the English alphabet.

U'BIQUITA'RIANS. A sect of Lutherans, who sprung up in Germany in 1590, and maintained that the body of Jesus Christ is omnipresent (*ubique*).

UKA'SE. In *Russia*, a proclamation or imperial order.

UL'CER, Lat. *ulcus*, eris, from ἑλκος. A purulent solution of continuity of the soft parts of an animal body. There are many kinds.

ULE-TREE. The name given to a Mexican tree, a species of *Castilla*, which affords an elastic gum, called *ule* in the country.

U'LEX. Furze. A genus of bushy shrubs. *Diandria—Decandria*. There are three species, two of which are natives of Britain.

UL'LAGE. In *commerce*, what a cask wants of being full.

UL'MIC ACID. A vegetable substance obtained first from bark of the elm-tree (*ulmus campestris*) by Dr. Thomson, and called by him *ulmin* (q. v.). It combines with different bases, which it neutralizes, forming *ulmates*. It constitutes the principal part of peat and umber, and is a constituent of vegetable manures.

UL'MIN, } This was the name given
UL'MINE. } originally by Dr. Thomson to the *ulmic acid* (q. v.), but it is now applied to a black insoluble matter, obtained by boiling the ulmic acid with one of the strong acids. There is a brown exudation found upon the bark of trees, and especially of the elm, hence called *ulmin*, which contains a matter similar to *humus* or *humine* (*moder* of the Germans, *géine* of Berzelius), combined with potash. The action of heat, acids, alkalis, and some other chemical agents upon a variety of organic products is attended by the production of more or less of a similar matter. Boullay represents ulmin or ulmic acid as a compound of 56·7 per cent. carbon, and 43·3 hydrogen and oxygen in the proportions to form water: he considers it the most important ingredient of the soil as regards its nutritive powers. The substance thus called *ulmin* and *ulmic acid* may be obtained by digesting rotten leaves, bog-earth, turf, and especially the brown exudation of the elm in a boiling or a weak alkaline solution, and precipitating by an acid.

UL'MUS. The elm-tree: an extensive genus of trees. *Pentandria—Digynia*. There are four species found native in Britain: the common elm is the *U. campestris*. The inner bark yields a juice highly useful as an application to burns.

UL'NA, ωλενη. The cubit: the large bone of the fore-arm.

ULTIMA'TUM (Lat.). 1. The ultimate, a final proposition or condition.——2. In *diplomacy*, the final propositions, conditions, or terms, offered as the basis of a treaty.

UL'TRA. In *politics*, those who carry to their farthest point the opinions of their party.

ULTRAMAR'INE, from *ultra*, beyond, and *marinus*, sea-colour. 1. Azure stone or lazulite.——2. A beautiful blue pigment, obtained from lazulite (*lapis lazuli*). This is now, however, prepared artificially, and consists of silicate of alumina, and soda, with sulphuret of sodium. It used to be sold at from 5*l*. to 10*l*. per oz.

ULTRAMAR'INE ASHES. The residuum of lazulite, after the ultramarine is extracted. It is comparatively a very inferior pigment, but was formerly used for coarse work.

UL'TRAMONTANE. A name applied by Italians to theologians and jurists of countries beyond the Alps.

UL'VA. Laver. A genus of *Algæ*. Name from *uligo*, oziness. Some of the species are edible, and are indeed regarded as

delicacies, as the oyster green laver and shield laver.

UM'BEL, } A species of inflorescence,
UMBEL'LA. } consisting of several flower-stalks, nearly equal in length, spread from one centre, their summits forming a level, convex, or even globose surface. It is called *rundle* by some authors.

UMBELLA'TÆ. One of Linnæus' natural classes of plants, comprising such as have the flowers growing in umbels. Parsley is an example.

UMBEL'LULE, } A partial or little umbel.
UMBEL'LULA. }

UM'BER. Brown ochre. 1. In *ornithology*, an African bird, the *Scopus umbretta*, Brisson, so named from its umber or brown colour.——2. An earthy mineral of a brown colour, found in Cyprus. It is used as a pigment.

UMBI'LICAL CORD. In *botany*, an elongation of the placenta in the form of a cord.

UMBIL'ICUS. 1. The navel.——2. In *botany*, formerly the generic name of the wall pennywort, and yellow navel-wort, now placed in the genus *Cotyledons*.——3. In *geometry*, synonymous with *focus*.——4. In *conchology*, the depression in the centre, round which the shell is convoluted.

UM'BO. 1. The pointed boss of a shield.——2. In *botany*, the knob in the centre of the pilus, or hat of the fungus tribe.

UM'BRA. A shadow. In *astronomy*, applied to the dark cone projected from a planet or satellite, on the side opposite the sun.

UMBREL'LA. 1. A well-known article of defence against rain, &c. The name is the Latin dim. of *umbra*, a shade.——2. A genus of sea-slugs.

UM'PIRE, Lat. *imperium*. 1. A person to whose sole decision a controversy or question between parties is referred.——2. A third person called in to decide a question submitted to arbitrators, when the arbitrators do not agree in opinion.

UN'CIA (Lat.). The twelfth part of anything. The term was formerly applied both to an ounce and an inch.

UN'CIFORM, from *uncus*, a hook, and *forma*, a likeness; hook-like. Applied to bones. The *unciform bone* is the last bone of the second row of the carpus.

UNCOM'MON CHORD, in *music*, is another term for the chord of the sixth.

UNCONFOR'MABLE. Not conformable. Applied in *geology* to strata lying in a different plane from the subjacent strata, upon which they rest.

UNDEC'AGON, from *undecim*, eleven, and *γωνια*, angle. A geometrical figure of eleven angles and sides.

UN'DERSHOT-WHEEL. In *hydraulics*, a wheel with a number of *flat boards* which receive the impulse of the water conveyed to the lowest part of the wheel by an inclined canal, in contradistinction to an *overshot wheel*.

UNDERPIN'ING. In *architecture*, bringing a wall up to the ground-sill. It usually denotes such alterations as are made on the foundations of walls as require them to be supported by strong timber shoars and needles.

UN'DERTOW. A current below the surface of water different from that above.

UN'DERWRITER. An insurer. *See* INSURANCE.

UN'DULATE, Lat. *undulatus*, waved. Having a waved surface. Applied to leaves whose margins are waved obtusely up and down.

UNDULA'TION. In *physics*, a species of motion transmitted successively through different parts of a medium, without tendency to continue that motion without renewed impulses. Sound proceeds by undulations in the atmosphere.

UN'DULATORY THEORY. In *optics*, the hypothesis according to which light is transmitted by the undulations of an elastic medium.

UN'FORMED STARS. In *astronomy*, such as are not included in any of the constellations.

UN'GUAL, from *unguis*, a nail or claw. An epithet applied to bones which have attached to them a nail or claw.

UNGUIC'ULATA. A primary division of the class mammalia, having the digits armed with claws.

UN'GUIS or CLAW. The narrow part of the base of a petal. A measure of length equal to half an inch.

UN'GULA, Lat. *hoof*. In *geometry*, a solid formed by cutting off a part of a cylinder, cone, &c., by a plane cutting the base obliquely.

UNGUL'ATA. An order of mammalia having the feet *ungulate* or enveloped in hoofs.

UN'GULATE. 1. Hoofed: *ungula*, a hoof.——2. Shaped like a hoof.

UNICAP'SULAR, Lat. *unicapsularis*, having one capsule to each flower.

U'NICORN. An animal with one horn: *unus*, one, and *cornu*, a horn. The unicorn is nowhere else to be found than as a supporter of the British arms.——2. The narwhal is sometimes named the *sea-unicorn*.

UNIFOR'MITY. The *act of uniformity* is an act of parliament by which the form of public prayers, administration of sacraments and other rites, is prescribed to be observed in all the churches.

U'NIO. 1. A pearl.——2. A genus of testaceous acephala belonging to the family *Mytilacea*, commonly called fresh-water muscles. The unios inhabit fresh water, preferring running streams. Numerous species, remarkable for size or form,

inhabit the lakes and rivers of the United States of America.

U'NION BY THE FIRST INTENTION. A phrase applied by surgeons to the healing of wounds by adhesion, without suppuration or granulation.

UNIP'AROUS, Lat. *uniparus*. Producing one only at a birth.

U'NISON, from *unus*, and *sonus*, sound. A term in *music*, implying that a string, &c. gives a sound coincident with another, proceeding from an equality in the number of vibrations made in a given time by the sonorous body. If two strings of the same material have equal length, thickness, and tension, their sounds will be in *unison*. The term is applicable whether the sounds be produced by instruments or the organs of the human voice.

U'NIT. 1. Lat. *unus*, one; *unitas*, unity. One.——2. Any determinate quantity, by the constant repetition of which any other magnitude of the same kind is measured.

UNITA'RIANISM. In *theology*, the doctrine of *Unitarians*, who contend for the unity (*unitas*) of the Godhead, in opposition to the Trinitarians, and who, of course, deny the divinity of Christ.

U'NITY. 1. In *mathematics*, the abstract expression for any unit whatsoever.——2. In *poetry*, the principle by which a uniform tenor of story, and propriety of representation, is preserved. In the *drama*, the unities are three; the unity of *action*, of *time*, and of *place*.

U'NIT JAR. A small insulated Leyden jar, placed between the electric machine and a larger jar or battery, to announce the number of discharges which have passed into the larger jar.

U'NIVALVE. 1. One-valved: univalvular.——2. A shell which is complete in one piece.

UNIVER'SALISM. In *theology*, the doctrine that all mankind will be saved or made happy in a future state.

UNIVER'SITY. An establishment for the purposes of instruction in science and literature, and having the power of conferring honorary dignities or degrees.

U'PAS. The name given in Java to several deadly poisons, of which the *Bohon upas* and the *upas tienté*, are the most celebrated. They belong to different genera, and owe their poisonous properties to different principles. The *Bohon upas* is a bitter gum-resin, which exudes from incisions in the bark of a large tree, called *antiar* or *antshar* by the Javanese, and *Antiaris toxicaria*, or *Ipo toxicaria* by botanists. It is a quick and rapid poison. The *Upas tienté* is the produce of the *Strychnos tienté*, and owes its deadly effects to strychnia. The natives of Java and the neighbouring islands used these poisons to render their arrows more deadly.

U'PUPA. The hoopoe: a genus of passerine birds belonging to the family of *Tenuirostres*. The species are characterised by an ornament on the head, formed of a double range of long feathers, which they can erect at will.

U'RANITE. Pechblende. One of the ores of uranium, in which the metal is combined with sulphur and a portion of iron, lead, and silex. Colour greenish-black. *See* URANIUM.

URA'NIUM. A very rare metal, discovered by Klaproth in uranite or pechblende, found in the mine near Johann-Georgen-Stadt, in Saxony. Another ore, called *green uranite*, *uran-mica*, *chalcolite*, &c., occurs in Cornwall. The ores are reduced by various devices; but the metal when procured has so little lustre, that its metallic nature can hardly be recognised by the naked eye. Sp. gr. about 9.

URANOL'OGY, from ουρανος, heaven, and λογος, discourse. The science of the heavens: astronomy.

URANOS'COPUS. The star-gazer: a genus of acanthopterygious fishes of the percoid family, so named from ουρανος, heaven, and σκοπεω, to view, because the eyes are placed on the superior surface of the nearly cubical head.

U'RANUS, from ουρανος, heaven. The name now generally adopted for the planet discovered by Dr. Herschel, and called by him the *Georgium sidus*.

URCE'OLATE, Lat. *urceolatus*. Pitcher-shaped: bellied out like a common jug.

UR'CHIN. 1. The hedge-hog (q. v.).——2. The name *sea-urchin* has been given to the *Echinus* (q. v.).

U'REA. A constituent of urine. It crystallises in four-sided prisms, which are transparent and colourless, with a slight pearly lustre.

U'RETER, from ουρον, urine. A name in *anatomy* for the membraneous canal which conveys the urine from the kidney to the bladder.

URE'THRA. The canal by which the urine is voided.

U'RIA. The guillemot: a genus of birds, separated from the genus *Colymbus*, Lin., by Brisson. The wings are shorter than those of the divers; but they are chiefly characterised by the absence of the thumb. They live among rocky precipices, and feed on fish.

U'RIC ACID. *See* LITHIC ACID.

URN, Lat. *urna*. 1. A sort of antique vase, which was chiefly used to preserve the ashes of the dead, and hence called *Cineraria*.——2. In *mosses*, it is the hollow urn in which the spores are lodged.

UROS'COPY. The judgment of diseases founded on an inspection of the urine.

UROPY'GIUM. ουρα, a tail, and πυγη,

behind. The base of the tail in animals and birds.

Ur'sa. The bear. In *astronomy*, the *Ursa Major*, or Great Bear, a constellation north by Camelopardalis and Draco, east by Canes Venatici, south by Leo Minor, and west by Lynx and Camelopardalis, popularly called *Charles's Wain*, and in some places the *Plough*. According to some, the Great Bear is Calisto, an attendant of Diana, the goddess of hunting. *Ursa Minor*, the Little Bear, called by the Greeks *Cynosura*, or the Dog's-tail, is the north-pole constellation, easily distinguished by 7 stars in the same form, but in a contrary position, to those of the Wain in the Great Bear.

Ur'sus. The bear. A genus of plantigrade mammalia, of the order *Carnaria*, and family *Carnivora*, Cuv. The bears are stout-bodied animals, with thick limbs, and a very short tail. They excavate dens, and construct huts, in which they pass the winter in a state of somnolency, more or less profound, and without food. It is in these retreats that the female brings forth her young. The species are not easily distinguished, yet the genus is much divided. There is the European Brown Bear, the North American Black Bear, the Polar Bear, the Thibet Bear, the Malay Bear, the Grisly Bear; and India has several species of Black Bears, among which is the Thick-lipped Bear, which is a great favourite among the Indian jugglers, on account of its ugliness.

Ur'tica. The nettle: an extensive genus of plants. *Monœcia—Tetrandria*. Name *ab urendo*, because it excites a painful heat like that of burning. The common, small, and Roman nettles, are natives of Britain.

Urtica'tion. The whipping of a benumbed or paralytic limb with nettle (*urticæ*), in order to restore its feeling.

U'sance. In *commerce*, a period of time after the date of a bill of exchange allowed for payment of the same: it answers to our *three days of grace*, but differs according to the custom or *usage* of different places, where the bill may be drawn.

Use. In *law*, imports a trust and confidence reposed in a man for the holding of lands granted and limited to A for the *use* or benefit of B. Stat. 27, Henry VIII., c. 10, unites the use and possession.

Ush'er, Fr. *huissier*, a door-keeper; *huis*, a door. The title of several officers, whose business it is to introduce strangers, execute orders, walk before persons of rank, &c. There are four *gentlemen-ushers* in the royal household, one in the exchequer, &c. Schoolmasters have assistants denominated *ushers*, probably because they are entrusted with the younger classes, and introduce them into the higher branches of scholarship.

Usquebau'gh. An Irish word, meaning *mad-water*, originally and appropriately used to designate the pure spirituous liquor distilled from malt, &c., and now generally known as *whiskey*, a term corrupted from usquebaugh. The term usquebaugh is, however, now applied technically to a strong compound spirit, distilled from cinnamon, coriander, nutmeg, mace, aniseed, citron, thyme, balm, savory, mint, rosemary, Spanish liquorice, sugar candy, raisins, and dates infused in brandy!

Usucap'tion, from *usus*, use, and *capio*, to take. A term in *civil law*, having the same meaning as prescription in common law; the acquisition of the title of right to property by the uninterrupted and undisputed possession of it for a certain term prescribed by law.

Ut. In *music*, the first of the musical syllables.

U'terine, Lat. *uterus*, belly. In *civil law*, an uterine brother or sister is one born of the same mother.

U'terine. Appertaining to the uterus or womb.

U'terus. The womb.

Utilita'rians. A sect of politicians, who would try the excellence of modes of government, &c. simply by their utility.

Uti Posside'tis. In *politics*, a treaty by which belligerent parties are left in possession of what they have acquired during the war.

U'tricle, } Lat. *utriculus*, from *uter*,
U'tricule, } a bottle. A little bag, bladder, or vesicle. Applied in *botany* to a sort of capsule which never opens, but falls off with the seed.

U'vea, from *uva*, grape. The black pigment of the eye on the back part of the iris.

U'vula, dim. of *uva*, a grape. The conical fleshy substance hanging over the root of the tongue.

U'vula-spoon. A surgical instrument, like a spoon, for conveying any substance into the cavity behind the uvula.

V.

V, the twenty-second letter of the English alphabet, as a numeral stands for 5, and with a dash over it, $\overline{V}$, for 5,000.

Va. An Italian word used in musical compositions as a direction to proceed, as *va crescendo*, go on increasing.

Vaccin'ium. A very extensive genus of permanent plants. *Octandria—Monogynia*. Name *quasi vaccinium*, in allusion to the berries produced by various of the species. The bleaberry, bogwhortle berry, and the bilberry are natives of Britain. Most of the species are hardy plants.

VADE ME'CUM (go with me). A Latin phrase, used as the title of a book that is very familiar and concise in its instructions or directions. The little *hand-book*, brought from the Greek *Enchiridion*, has been of late more fashionable than Vade Mecum.

VAGAN'TES, Lat. *vago*, I wander. A tribe of spiders, which run after and seize their prey with agility.

VAGI'NA, Lat. *sheath*. The leaf-stalk of those plants in which it rolls round the stem.

VA'GINATE, Lat. *vaginatus*. Sheathed.

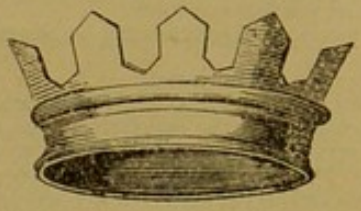
VAGINOPEN'NOUS, from *vagina*, a sheath, and *penna*, a wing. Sheath-winged.

VAIR. In *heraldry*, a kind of fur or doubling, consisting of divers little pieces, argent and azure, resembling a Dutch U or a bell-glass.

VALE'SIANS. An ancient sect of heretics.

VALHALLA. In *Scandinavian mythology*, the palace of immortality.

VAL'LAR CROWN. A crown bestowed, among the Romans, on him who first entered an enemy's camp.



VAL'LUM. The trench and parapet with which the Romans fortified their camps.

VALONIA. A modern Greek name, adopted in *commerce* for a species of acorn exported from the Morea and the Levant, for the use of tanners. The oak which produces it is named *velanida*. The acorns are worth, in London, from 12*l*. to 16*l*. a ton.

VALVE, Lat. *valvæ*, folding-doors. 1. In *mechanics*, a lid contrived to open one way to admit a fluid, gas, steam, &c., into a tube, but which shuts, when pressed from the other side, to prevent the return of the fluid. Valves are of various forms, as *hinge* valves, *conical* valves, *sliding* valves, *revolving* valves, &c.——2. In *anatomy*, a kind of membrane which opens in certain vessels to admit the blood, and shuts it to prevent its regress.——3. In *conchology*, the shell. When the whole shell is in one piece it is called a *univalve*, when in two pieces a *bivalve*, and when of more than two pieces, the shell is a *multivalve*.

VAM'BRACE. In *plate armour*, a protection to the arm below the elbow.

VAM'PIRE. 1. In *zoology*, a species of large bat, the *Vespertilio vampyrus*, Lin., called the Ternate Bat. It inhabits Guinea, Madagascar, the East India isles, New Holland, and New Caledonia. It attacks sleeping animals, piercing a vein so gently that they do not awake, and sucks their blood.——2. The same name is sometimes given to a large bat of South America, the *V. spectrum*, Lin.

VANA'DIUM. A scarce metal, recently discovered in Sweden, and thus named after Vanadis (an appellation of Freya), the principal female deity of ancient Scandinavia. It has only as yet been obtained from iron, and the scoriæ of iron furnaces, and in some of its properties bears some relation to chromium, and in others to uranium.

VANE. A weathercock. In *ships*, a piece of bunting is used for the same purpose, and has the same name.

VANGS. In a *ship*, braces to steady the mizzen-gaff.

VANIL'LA. A Spanish name, adopted in *commerce*, for the oblong narrow pod of the *Epidendrum vanilla*, a species of vine, extensively cultivated in Mexico, and some of the warm parts of America. It is aromatic, and is much used by chocolate-makers, confectioners, perfumers, distillers, &c.

VAN'ISHING FRACTIONS. In *algebra*, are those fractions which, by giving a certain numerical value to any variable quantity which enters into them, both numerator and denominator become zero, and consequently the fraction itself becomes $\frac{0}{0}$.

VA'POUR, Fr. *vapeur*. 1. The state of a fluid or solid rendered aeriform by application of heat, and capable of being condensed or brought back to the liquid or solid state, by reducing the temperature The vapour of water is particularised by the name of *steam* (q. v.).——2. In *meteorology*, all substances which impair the transparency of the atmosphere, are popularly named *vapours*, though this term is only applied technically to the invisible and condensible product of vaporisation.

VA'POUR-BATH. A place in which a body is subjected to the steam of hot water.

VA'RIANCE. A term in *law*, when there is a difference of statement between two material documents in a cause.

VA'RIABLE QUANTITIES. In *mathematics*, are such quantities as are continually increasing or decreasing. They are usually denoted by x, y, z, whereas the constant quantities are denoted by a, b, c, &c.

VARIA'TION. 1. Of the *compass*, the deviation of the magnetic needle from its parallel with the meridian, or east and west of the true north and south poles.——2. *Variation of curvature*, in *analytical geometry*, is the change which takes place in the curvature, in passing from one point of a curve to another.——3. *Variation*, in *music*, a difference in perform-

ing the same air, either by subdivision of its notes, or by the addition of graces. ——4. *Variation of the moon*, in *astronomy*, is an inequality of the moon's motion, depending on the angular distance of the moon from the sun.

VARICEL'LA, dim. of *variola*. The chicken-pox or water-pox. A well-known eruptive disease, consisting of vesicles scattered over the body.

VARI'CIFORM. Resembling a varix.

VARICO'CELE, from *varix*, and *κηλη*, a tumour. A swelling of the veins of the scrotum.

VARIETY. In *natural history*, a term used to designate animals, shells, plants, &c., which differ in some circumstances from others of the same species, but not so essentially or permanently as to warrant their being separated as distinct species.

VARI'OLA, from *varius*, changing colour. The small-pox.

VARI'OLOID, } Resembling variola or
VARI'OLOUS. } small-pox.

VARIO'RUM. In *literature*, an abbreviation of *cum notis variorum*, with the notes of different authors. Used in characterising an edition of a classic author, with annotations by different hands.

VA'RIX. In *surgery*, a permanent dilatation of a vein.

VAR'NISH, Fr. *vernis*, low Lat. *vernix*. A solution of resinous matter, which is made to be spread over the surface of any body, in order to give it a shining, transparent, and hard coating, capable of resisting, in a more or less degree, the influence of air and moisture. The common solvents are alcohol and turpentine; but the resins are numerous, as are consequently the sorts of varnishes.

VAS'CULAR, from *vasculum*, dim. of *vas*, a vessel. Consisting of vessels within which fluids are confined, and by which their course and their velocity are regulated.

VASE, Lat. *vas*. 1. In *architecture*, a name given to the bell or naked form of the Corinthian capital, on which the leaves are disposed.——2. An ornament of sculpture, placed on socles and pediments, representing such vessels as the ancients used in sacrifices. Antique vases are of great value among antiquarians, and many of them, both Etruscan and Grecian, have been dug up in Italy. The figure represents a Grecian vase.

VAS'SAL, Welsh, *gwâs*, a young man or page. The holder of a fief by fealty and service, of a feudal lord.

VAS'TUS. In *anatomy*, a name given to certain muscles of the thigh.

VATI'CAN. One of the hills on which the city of Rome is built; on this stands a celebrated palace of the Pope, that bears the same name; and at the foot of the hill is the Cathedral of St. Peter.

VAU'DEVILLE (Fr.). A species of song, in French poetry, frequently of a satirical turn, consisting of several couplets and a refrain, introduced into theatrical pieces.

VAULT, Ital. *volto*. An arched roof so contrived that the stones which form it sustain each other. There are numerous kinds of vaults, named according to their form, as cylindric, surmounted, rampant, conic, spherical, annular, simple, compound, cylindro-cylindric, and groined vaults.

VE'ADER. The 13th month of the Jewish ecclesiastical year.

VEC'TIS (Lat.). Synonymous with lever.

VEDAN'TA. A Hindoo sect, whose philosophy is founded on the Vedas.

VE'DAS. The Hindoo sacred writings.

VEDET'TE (Fr.). A sentinel on horseback.

VEER'ING. Wearing. A term in *navigation* for the operation to which a ship, in changing her course from one board to the other, turns her stern to windward: in opposition to *tacking*, wherein the bow is turned to the wind and the stern to leeward.

VEG'ETABLE EARTH. Soil in which decayed vegetable matter is much more prevalent than the primitive earths.

VEG'ETABLE KING'DOM. That department of nature which embraces the various organised bodies to which we indifferently give the names of vegetables and plants. The natural history of this department is *botany*, which, in its widest sense, embraces the anatomy, physiology, chemical composition, economical uses, and scientific classification of plants.

VEIL. The horizontal membrane in fungi, connecting the margin of the pileus with the stipes.

VEIN, Lat. *vena*. 1. In *anatomy*, a long membraneous canal, which continually becomes wider, does not pulsate, and returns the blood from the arteries to the heart.——2. In *geology* and *mineralogy*, fissures in rocks, filled up by mineral or metallic substances, differing from the rocks in which they are situated. It is in veins that metallic ores are commonly found.

VEIN-STONES, or GANGUES, are the mineral substances which accompany and often inclose the metallic ores.

VELA'NI. *See* VALONIA.

VELEL LA, Lat. *velum*, a sail. A genus of acalephes, possessing a vertical crest or sail, by which they are wafted along the surface of the ocean.

VEL'LUM, Fr. *velin*, from Lat *velo*. A fine sort of *parchment* (q. v.).

VELO'CE, It. *swift*. In *music*, signifies a rapid manner of performing.

VELO'CIPEDE. A vehicle consisting originally of a piece of wood resting on two wheels, and so constructed, that an individual might seat himself upon it as upon horseback, yet so that the rider could propel the machine by pressing his feet slightly against the ground. He could in this way travel at the rate of ten miles an hour. This rude first idea has now been completely superseded by the more modern BICYCLE, by which the front wheel is converted into a driving wheel or propeller, by means of a crank handle on each side of it, which the rider works with his feet. By this improved arrangement a greatly increased velocity may be achieved, with much more comfort and ease to the rider. Tricycles or vehicles with two wheels behind and a driving wheel in front, and capable of carrying luggage, may be also used on this improved principle; or even four wheels and a driving wheel might be employed and made useful for the conveyance of infantry with their personal baggage in time of war, and they might be armed with a rifle-proof shield, and provided with a bed of Mackintosh cloth, to be either swung or laid on damp ground with impunity, saving soldiers both fatigue and exposure.

VELO'CITY. In *dynamics*, the ratio of the quantity of linear extension that has been passed over in a certain portion of time; or it is the ratio of the time that has been employed in moving along a determinate extension.

VEL'VET, Ital. *velluto*, from Lat. *vellus*, hair or nap. A rich silk stuff, covered on the outside with a close, fine, short shag or nap. The same name is also given to cotton stuffs manufactured in the same way.

VE'NA CAVA. Hollow vein. A large vein (the largest in the body), which transmits the blood from the extremities to the heart.

VE'NA POR'TA. A great vein, so named from its being situated at the entrance of the liver. It receives the blood from the abdominal viscera, and carries it into the substance of the liver.

VENE'ER. In *cabinet work*, a thin piece of a more valuable kind of wood, for covering furniture, &c., which is made of a more common kind.

VENETIAN. Appertaining to Venice. *Venetian blind*, a peculiar blind for windows, formed of slips of wood set in a frame, each slip being moveable on endpins, and so disposed that they may be made to overlap each other when close, and show a series of open spaces, for admission of air and light in the other position. These movements are managed without trouble by means of two cords. *Venetian door*, a door which is lighted at each side. *Venetian window*, a window in three separate apertures. *Venetian chalk*, steatite.

VENE'TIAN SCHOOL. In *painting*, its distinguishing characteristic is colouring, and a consummate knowledge of chiaroscuro, in which all is spirit, grace, and faithfulness.

VE'NIAL SIN, Lat. *venia*, forgiveness. In *Romish theology*, a sin which does not destroy sanctifying grace.

VENI'RE FACIAS. A judicial writ, in *law*, directed to the sheriff, to cause a jury to *come* or appear in the neighbourhood where a cause is brought to issue, to try the same.

VENTA'YLE. The visor of a helmet.

VEN'TER (Lat.). In insects, the lower part of the abdomen.

VENTILA'TOR. In *mechanics*, a machine by which noxious air may be discharged from places where it is stagnant, as hospitals, gaols, &c., and replaced by fresh air.

VEN'TRICLE, from *venter*. A term applied by anatomists to the cavities of the brain and heart.

VEN'TRICOSE, Lat. *ventricosus*, bellied, *venter*, a belly. Distended, bellying. Applied chiefly in botany.

VENTRIL'OQUISM, from *venter*, the belly, and *loquor*, to speak. The formation of the voice within the mouth, in such a way as to imitate other voices than that which is natural to the person, and so as not to be seen to move the lips. This art depends on the organs of speech being very perfect, but requires no organisation different from that which is commonly found in man. A *ventriloquist* is a professor of ventriloquism.

VENU'E, Lat. *vicinetum*, neighbourhood. In *law*, the county in which an action is to be tried, which is specified in all material allegations in the pleadings.

VENUS. 1. In *mythology*, the goddess of beauty and love among the Romans; the Greeks called her Ἀφροδίτη.——2. In the *old chemistry*, copper.——3. In *malacology*, a genus of testaceous Acephala, belonging to the *Cardiacea*.——4. In *astronomy*, one of the planets, situated between the Earth and Mercury, and never distant from the Sun more than 45°. Diameter, 9330 miles; distance from the Sun, 68,891,436 miles: year, 224 days and 17 hours. Designated by ♀.

VEPRE'CULÆ. The 31st natural order of Linné, comprehending pliant shrubs, as the bramble (*vepres*), of trailing growth

VER'ATRIA, VER'ATRINE. An alkaline principle, extracted from the white hellebore (*Veratrum album*), and some other plants. It is white and pulverulent, has no smell, but is very acrid.

VER'ATRUM. A genus of perennial plants. *Polygamia — Monœcia.* Name probably from *verè atrum*, truly black, because the root is extremely of that colour. The white and the black hellebore are European species. The first is much used in medicine.

VERB, Lat. *verbum.* In *grammar*, a part of speech which expresses action, motion, being, suffering, or a request or command to do or forbear. The verb affirms, declares, asks, or commands.

VERBAS'CUM. Mullein. A genus of herbaceous plants. *Pentandria—Monogynia.* Name *quasi barbascum*, from its hairy coat. There are seven British species.

VERBA'TIM. A Latin word signifying "word for word;" used of translations.

VERBE'NA. Vervain. An extensive genus of herbaceous plants. *Didynamia—Angiospermia.* Name *quasi herbena*, a distinction for all herbs used in sacred rites. The only British species is the officinal vervain, formerly much used in medicine.

VERDE-AN'TIQUE. In *mineralogy*, an aggregate of serpentine and white crystallised marble, irregularly mingled. It takes a fine polish, and is much used for ornamental purposes.

VER'DICT. In *law*, the answer of a jury to the court on the matter of fact in any cause committed to their trial.

VER'DIGRIS, Lat. *viride æris.* A rust of copper, formed by the corrosion of the metal by an acid. It is chemically a diacetate of copper. Poisonous.

VER'DITER. *Terre vert.* A pigment of a blue or blueish green colour, called *Bremen green*, from its having been first manufactured at Bremen. Its base is copper.

VERGE OF THE COURT. The bounds of the jurisdiction of the lord-steward of the king's household; so named from the verge, or rod of office, of the marshal.

VER'GER, from *virga*, a rod. 1. He who carries the mace before the bishop, dean, &c.——2. An officer who carries a white wand before the justices of either bench in England.

VERGETTE'. In *heraldry*, 1. A pallet.——2. A shield divided with pallets.

VER'JUICE, Fr. *ver, jus*, the juice of green fruits. An acid liquor prepared from grapes or crabs; principally used in sauces and ragouts.

VER'MES. Worms. The sixth class in Linnæus's arrangement of the animal kingdom. It comprised all those invertebral animals divided into annular sections, without antennæ, legs, distinct head, true blood, or voice. The orders are Intestina, Mollusca, Testacea, Zoophyta, and Infusoria.

VERMICEL'LI, Ital., from Lat. *vermiculi*, little worms. A species of wheaten paste, formed into long, slender, hollow tubes or threads; used in soups. Vermicelli is the same substance as maccaroni, the only difference being that the latter is in larger tubes. It is prepared in greatest perfection at Naples.

VERMIC'ULAR, Lat. *vermicularis.* (1.) Shaped like or having the characters of a worm. (2.) Having a motion like that of a worm, as the peristaltic motion of the intestines performed by contraction from above downwards.

VER'MIFUGES, Lat. *vermifugus*, from *vermis*, a worm, and *fugo*, to drive away. Anthelmintic medicines.

VERMIL'ION. Cinnabar. A bi-sulphuret of mercury. It occurs in nature, as an ore of quicksilver, and is prepared by the chemist as a beautiful red pigment. The name is Italian, *vermiglio*, from Lat. *vermiculis*, from *vermis*, which has been applied to Kermes. The native bi-sulphuret of mercury is commonly called *cinnabar*, and the factitious *vermilion*.

VER'MIN. Quadrupeds, reptiles, worms, or insects, which are injurious to cultivators.

VERNA'TION, from *ver*, the spring. A term in *botany* for the manner in which the leaves are folded or wrapped up, and expanded in the spring.

VER'NIER. A graduated index, which subdivides the smallest division of any scale with greater accuracy than can be obtained by simple estimation of a fractional part, as indicated by a pointer. It is the same as the *uoninus*, and named *vernier*, from the inventor.

VER'RUCOSE, Lat. *verrucosus*, full of warts: *verruca*, a wart. Applied in natural history.

VERSED SINE (of an arc). The portion of the diameter of the arc intercepted between the sine and the commencement of the arc. *See* SINE.

VERST. A Russian measure of length, equal to 3500 feet or 1166⅔ yards.

VERT, Fr. *green.* In *heraldry*, one of the tinctures employed in blazonry.

VER'TEBRA, from *verto*, to turn. 1. A joint of the spine or back-bone of an animal.——2. In the plural, *vertebræ*, the term is often used to designate the whole spine.

VERTE'BRATA, Lat. *vertebra.* A primary division of the animal kingdom, including animals having a vertebral column connected to the brain.

VERTE'BRATE, Lat. *vertebratus.* Having an osseous spinal column.

VER'TICAL. Perpendicular to the plane of the horizon. In *astronomy*, the *verti-*

eal point is that point immediately over the head of the observer: it is the *zenith*. The *vertical circle* is a great circle passing through the zenith and nadir. The meridian of any place is a vertical circle, and these vertical circles are termed *azimuths*. The *prime vertical* is likewise a great circle of the sphere, perpendicular to the horizon, and passing through the zenith and the east and west points. In *perspective*, the *vertical plane* is a plane perpendicular to the geometrical plane, passing through the eye and cutting the perspective plane at right angles.

VERTICEL'LUS. A ring for organs of any kind placed round a stem upon the same plane, called also a *whorl*.

VER'TICIL, Lat. *verticillum*. A whorl. The botanical name of a species of inflorescence in which the flowers surround the stem in a sort of ring.

VERTICILLA'TÆ. The 42nd of the Linnæan natural orders of plants, including those whose flowers grow in the form of a whorl (*verticillus*) round the main stem, as the mint.

VERTICIL'LATE, Lat. *verticillatus*, whorled. Growing in rings or whorls. *See* VERTICIL.

VESA'NIÆ, Lat. pl. of *vesania*, madness. An order of diseases in the class *Neurosis*, comprising those in which the judgment is impaired, without coma or pyrexia.

VES'ICATORY, Lat. *vesicatorius*. Having the property when applied to the skin of raising a bladder (*vesica*), by causing a fluid to collect between the cuticle and cutis: blistering.

VES'ICLE, Lat. *vesicula*, dim. of *vesica*, a bladder. An elevation of the cuticle of an organised body, like a little bladder.

VES'PA, a wasp. A genus of hymenopterous insects, belonging to the family *Diloptera*, Cuv. Some of the vespariæ form communities, composed of three sorts of individuals, males, females, and neuters; the females and neuters are armed with an extremely powerful and venomous sting. All the larvæ and nymphs which cannot complete their metamorphosis before the month of November, are put to death and dragged from their cells by the neuters or labourers. These last perish along with the males on the approach of winter. Some of the females survive, and become the founders of new colonies. Wasps feed on insects, viands of various sorts, fruit, &c. Their habitations differ according to the species.

VES'PER. Hesperus. The evening star. The planet Venus when eastward of the sun, and consequently setting after him.

VES'PERS. In the *Romish church*, that part of the service which is rehearsed in the afternoon, answering to our evening prayers.

VESPERTIL'IO. The bat. A genus of mammalia: order *Carnaria*: family *Cheiroptera*. The arms, forearms, and fingers of the bats are excessively lengthened forming, with the membrane that occupies their intervals, true wings, possessing even a greater extent of surface than those of birds, and consequently enabling the animal to fly very high, and with great rapidity. The genus is numerous, and offers many subdivisions, as *Pteropus*, Bris., of which there are numerous species, found throughout the south of Asia; *Molossus*, *Noctilio*, *Vampirus*, &c., &c., distinguished by the absence or presence of a tail, &c.

VES'TA. 1. In *mythology*, a goddess of fire among the Romans, the daughter of Rhea and Saturn, and sister of Ceres and Juno.——2. In *astronomy*, a small planet, discovered by Dr. Olbers, in 1807. It revolves round the sun in 3 years and 66 days, and has the appearance of a star of the eighth magnitude.

VES'TAL VIRGINS. The six virgin priestesses of the goddess Vesta.

VES'TIBULE, Lat. *vestibulum*. 1. A porch. ——2. In *anatomy*, a cavity of the internal ear, between the cochlea and semicircular canals.

VEST'MENTS, or VES'TURES. Articles of dress or ornament worn by Roman Catholic priests during divine service.

VES'TRY, Lat. *vestiarium*. 1. A room appendant to a church, in which the sacerdotal garments and consecrated things are reposited.——2. A parochial assembly, commonly convened in the vestry.

VE'TERAN, Lat. *vetus*, old. An ancient Roman soldier, who had passed the legal age of military service, forty-six,—or, in later times, who have served in twenty-five campaigns.

VE'TO. I forbid: a prohibition. The sovereign has a *veto* upon every act of parliament. The General Assembly of the Church of Scotland passed a *veto act*, by virtue of which they pretend to have given power to congregations to prohibit the introduction of ministers presented by patrons. It has, however, been found that the assembly had no power to make such an act.

VEX'IL, Lat. *vexillum*. A standard applied to designate the upper large petal of a papilionaceous flower.

VEXILLA'RII. Veteran troops in the Roman army.

VEXIL'LUM, or STAN'DARD. In *botany*, the upper petal of a papilionaceous corolla.

VI'ABLE. A term adopted from the French, to signify that the organisation of a fœtus is sufficiently developed to sustain independent life.

VI'ADUCT, from *via*, a way, and *duco*, to

lead. A structure made for conveying a carriage-way from one road to another, either by perforating through hills, by levelling uneven ground, by a series of arches, or by raising mounds, &c., &c.

Vi'a Lac'tea. The milky-way.

Viat'icum (Lat.). Perquisites for a journey. In *ecclesiastics*, the sacrament given to a dying person.

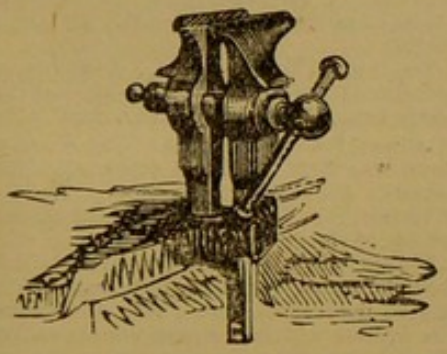
Vibra'tion (from *vibro*). Reciprocal undulation. In *mechanics*, a regular reciprocal motion of any body, such as a pendulum, occasioned by the force of gravity. In *music*, the undulation of any body by which sound is produced.

Vib'rio. The name given by Müller to a genus of *Infusoria*, of the order *Homogenea*. The body is round and slender, like a bit of thread. The vinegar and paste eels are examples.

Vibris'sa (Lat.). A whisker. In *mammalogy*, the stiff bristles which grow from the upper lip, and other parts of the head.

Vic'ar, Lat. *vicarius*. A substitute: the incumbent of a benefice.

Vice. 1. Lat. *vice*, in the turn or place of. A term used in composition to designate one *qui vicem gerit*, who acts in the place of another, as *viceroy*, a governor of a country who rules in the name of the king (*roi*) with regal authority.—— 2. Dut. *vijs*. A small iron press, with screws, used by workmen for holding an article, while it is being filed, &c.



Vi'ce Ver'sa. A Latin idiomatic phrase, signifying *on the contrary*.

Vic'ia. The vetch: an extensive genus of papilionaceous plants. *Diadelphia—Decandria*. Name from *vincio*, to bind. There are seven native species, among which are the common vetch, or tare; but the pea-vetch is a native of Germany; and the garden-bean, which is also a species, is a native of Egypt.

Videl'icet. Viz. A Latin word signifying *to wit; that is; namely*.

Vielle'. A musical instrument, the tones of which are produced by friction of a wheel, acting the part of a bow, against the strings, which are pressed by the fingers or keys. It has two strings which always sound like the drones of a bagpipe, and is familiarly named in consequence *Hurdy-gurdy*.

Vi'gil, Lat. *vigilium*, a watch. An ecclesiastical usage on the eve of a feast-day.

Vignette', Fr. from *vigne*, a vine. An ornament placed at the beginning of a book, preface, dedication, &c.: a head-piece.

Vigoro'so, It. vigorous. In *music*, signifies that a movement is to be performed with strength and firmness

Vil'la (Latin). 1. A country seat, or a farm of superior character.——2. The statute of Exeter, 14 Edward I., mentions *entire-vills*, *demi-vills*, and *hamlets*. In this sense the term is a contraction of *village*, a small assemblage of houses, not sufficient to make a town.

Vil'lage, or Vill, Lat. *villa*, a country house. In *law*, a subdivision of a parish; a whole parish; a manor; most commonly, the out-part of a parish, being a few houses separated from the rest.

Vil'lenage. A tenure of lands by base services. The ancient *villeins* were of two sorts, those annexed to the manor, and *villeins in gross*, who were annexed to the persons of their lords, and transferrable from one lord to another.

Villo'se, } Lat. *villosus*, shaggy. Ap-
Vil'lous, } plied in *anatomy* to a velvet-like arrangement of fibres or vessels, as the villose coat of the intestines; and in *geology* and *botany* to parts covered with a shaggy pubescence.

Vil'lus. In *botany*, a species of hairy pubescence of plants.

Vi'men. In *botany*, a slender and flexible twig: *vieo*, to bind.

Vin'culum (Latin). A bond or band. In *algebra*, a character in the form of a line or stroke drawn over an expression, when compounded of several letters or quantities, in order to connect them; thus, $\overline{a + b}\ x$ shows that the sum of a and b is to be multiplied by x. The expression is more neatly written $(a + b)\ x$.

Vine. In *botany*, *see* Vitis and Bryonia.

Vin'egar, from *vin*, wine, and *aigre*, sour. Dilute and impure *acetic acid* (q. v.), formerly prepared *only* from wine; now from an infusion of malt.

Vi'nous Fermentation. Under this name is comprehended every species of fermentation which terminates in the formation of an intoxicating liquid.

Vi'ol, Ital *viola*. A musical instrument of the same form as the violin, but larger, and having six strings. It is played also with a bow.

Vi'ola. Violet. A very extensive class of campanaceous plants. *Pentandria—Monogynia*. Named from Ion, because it

was first found in Ionia. There are seven indigenous species, of which the sweet-scented violet, with its seven or eight varieties, is the greatest favourite. The pansy or heart's-ease is also well known. ——2. In *music*, a viola is a tenor violin.

Viola'ceous, Lat. *violaceus*. An epithet designating a bluish purple colour like that of the violet.

Vi'olet. 1. In *botany*, *see* Viola.——2. *Violet colour*. A mixture of red and blue.

Viol'in. A common musical instrument, less than the viol.

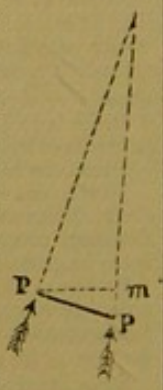
Violoncel'lo. The Italian name of our fifth violin, which comes between the *viola di braccio* (arm viol) and the double bass, both as to tone and size. The notes for the violoncello are written on the F or bass clef, and it generally accompanies the double bass.

Viol'one (Ital.). The English double bass viol, the largest musical instrument played with a bow. It is principally used to sustain the harmony.

Vi'pera, Viper. A genus of true serpents (*serpentia*). There are several species. The minute viper (*V. brachyura*, Cuv.), is celebrated for the intensity of its poison, and is truly one of the most terrible of the genus. The Asp of Egypt, or Cleopatra's asp, (the *Coluber naja*, Lin.), was held in great veneration by the Egyptians. The jugglers, by pressing on the nape of the neck with the finger, throw it into a kind of catalepsy, which renders it stiff, or turns it into a rod, as they term it.

Vir'go. Virgin. The sixth sign of the zodiac.

Vir'tual. 1. A term signifying *potential*, and understood of something which acts by a secret invisible cause, in opposition to what is sensible and palpable. ——2. In *mechanics*, if any number of forces applied to the different parts of a system be in equilibrium, and these points admit of *displacement*, the circumstances of their mutual relation and dependance remaining unaltered; and further, if the nature of the system, and the forces applied to it, be such that the points of application being thus altered according to certain conditions, the equilibrium *remains*; then there exists the following remarkable relation between the forces and the distances through which these points of application have been made to move. If from either extremity P of the line P P′ representing the *exceeding small* displacement of any point of application P, a perpendicular Pm be drawn from the direction P, of the force before its displacement; and the line P'm intercepted between the foot of the perpendicular m, and the point P, be called the *virtual velocity* of the force P; then, each force of the system being multiplied by its *virtual velocity*, similarly taken, the sum of these products in respect to the points of application which are made by the displacement of the system to move *towards* the direction of the forces impressed upon them, shall be equal to the sum of those taken in respect to those points which are made to move from that direction. This very important principle is called that of virtual velocities.——3. In *optics*, the point from which rays, having been rendered divergent by reflection or refraction, appear to issue.



Virtuo'so, (Ital.). A man skilled in matters of antique curiosity, fine arts, &c.

Vi'rus. A poison. The term applies in *pathology*, to designate the matter of a disease capable of producing that disease in a healthy individual by inoculation or absorption.

Vis. A Latin word for power. *Vis a tergo*, a moving power acting from behind. *Vis vitæ*, the vital power or energy. *Vis inertiæ*, the power of inertness; the force with which matter resists change of place. *Vis insita*, innate force essential to the natural state of a body.

Vis'cera, Lat. pl. of *viscus*. In *anatomy*, the organs contained in any of the three great cavities, especially the thorax and abdomen.

Vis'count, Lat. *vicecomes*. In *heraldry*, a title of nobility next to earl. In *law*, a sheriff.

Vis'cum. The mistletoe. A genus of parasitical plants. *Diœcia—Tetrandria*. Name from ἰξος or βισκος, the fruit of the *V. album*, found in Britain. The *V. quercinus* was held in high esteem by the Druids. *See* Mistletoe.

Vish'nu. In *Hindû Theology*, the second person of the Trinity.

Vis'ion, from *visus*. The function which enables us to perceive the magnitude, figure, colour, distance, &c., of bodies. The organs which compose the apparatus of vision enter into action under the influence of the particular excitant which we call *light*, generally regarded as an excessively subtle fluid, emanating from bodies denominated *luminous*, as the sun, fixed stars, bodies in a state of ignition, &c.

Vis'ual. In *perspective*, the *visual point* is that in the horizontal line in which all the ocular rays unite. *Visual rays* are then imagined to come from the object to the eye.

Vi'tal Ves'sels. Applied by Schultz to certain vessels in plants, especially near the surface, conveying latex, which he calls a vital fluid. Also, the milk-vessels of spurges.

VITILI'GO. Veal skin: from *vitulus*, a calf. In *nosology*, leprosy: a cutaneous disease in which the skin has a white and glistening appearance, like the flesh of a calf.

VI'TIS. The vine: a genus of hederaceous plants. *Pentandria — Monogynia.* The species cultivated for the sake of its fruit (*grapes*) is the *V. vinifera*, which appears to have a very wide geographical distribution.

VIT'REO-ELEC'TRIC. Exhibiting positive electricity, such as is exhibited by rubbing glass.

VIT'REOUS ELECTRI'CITY. *See* ELECTRICITY, POSITIVE, and NEGATIVE.

VITRIFAC'TION, } from *vitrum*, glass,
VITRIFICA'TION, } and *facio*, to make. Conversion of a substance into glass by the aid of heat.

VIT'RIOL. Oil of vitriol. Sulphuric acid. *Blue vitriol* or *Roman vitriol* is sulphate of copper; *green vitriol* is sulphate of iron; *red vitriol* sulphate of cobalt; *white vitriol* is sulphate of zinc; *sweet spirit of vitriol* is sulphuric ether.

VIT'RIOLATED AL'KALI. Sulphate of potash.

VITRIOL'IC ACID. Sulphuric acid.

VIT'TA. In *numismatics*, the diadem on a medal.

VIVA'CE, Ital. *lively*. In *music*, denotes a lively manner of performing.

VI'VA VO'CE. By word of mouth.

VIVER'RA. The Civet: a genus of digitigrade and carnivorous mammalia. The genus was established by Linné, but is now subdivided: *Viverra*, Cuv., comprehending the true civets, the civet of Africa and the zibet of India; *Genetta*, Cuv., comprising the genets; *Paradoxurus*, Fr. Cuv., formed on the pougouné of India; *Mangusta*, Cuv., or *Herpestes*, Ill., to which belongs the ichneumon of the ancients; *Ryzæna*, Ill., comprising the surikates, and *Crossarchus*, Fr. Cuv., allied to the surikates.

VI'VES. A disease of horses and some other animals, seated in the glands under the ear, where a tumour is formed, which sometimes suppurates.

VIVIP'AROUS, } 1. In *zoology*, an animal
VIVIP'ARUS. } which brings forth its young alive and perfect, is termed viviparous, in distinction to one which is *oviparous* or lays eggs.——2. In *botany*, viviparous is applied to stems or stalks which produce bulbs that are capable of vegetation.

VIX'EN. Fixen. The cub of a fox.

VIZ. A contraction of *videlicet* (q. v.).

VIZ'IER, Ar. *wazhâra*, to support. The chief minister of the Turkish empire.

VOCA'TION, Lat. *voco*, I call. In *theology*, the call of the Holy Spirit, by which persons are believed to be initiated into the clerical order.

VOC'ATIVE CASE. In *grammar*, the case used in calling, relating, &c.

VOIRE DIRE, Fr., corrupted from *vrai dire*, to speak truth. In *law*, an objection to the competency of a witness, in a trial at common law, could only be taken according to the ancient practice, on a preliminary examination, in which the witness was sworn to speak the truth, and then examined respecting his interest in the cause at issue.

VO'LANT. Flying. Applied in *heraldry* to a bird drawn with the wings spread.

VOL'ATILE, Lat. *volatilis*, flying; *volo*, to fly. In *chemistry*, substances, the particles of which have a tendency to evaporate, or diffuse themselves through the air, at ordinary temperatures, are called *volatile* substances, as ammonia, ether, and essential oils.

VOLCA'NO, Ital. from *Vulcan*. An opening in the earth's surface, whence issue vapour, smoke, flame, stones, lava, and other products, ejected by internal fire. Such are Etna and Vesuvius in Sicily and Italy, and Hecla in Iceland. Volcanoes are perhaps to be regarded in the light of safety-valves.

VO'LENS NO'LENS. Willing or not willing.

VOL'TA. In *Italian music*, denotes that the part is to be repeated.

VOL'TA-ELEC'TRIC INDUCTION. The electricity induced by a proximate electric current.

VOLTA'IC. Galvanic (q. v.). The *voltaic pile*, a column formed by successive pairs of metallic discs, as copper and zinc, or silver and zinc, with moistened cloth between each contiguous pair. *Voltaic battery*, *see* GALVANIC BATTERY.

VOL'TAISM. Galvanism is sometimes so called, from Volta, whose experiments so successfully conduced to establish this department of science.

VOLTAME'TER, from *volta*, and μετρον, measure. An instrument contrived by Mr. Faraday, for measuring the amount of electricity passing in a current through it. It consists of two platinum plates, immersed in water acidulated with sulphuric acid, and the quantity of the mixed gases (oxygen and hydrogen) evolved, that is the quantity of water decomposed, is a measure of the current. In the smaller forms of the instrument the gases are received in a graduated glass tube; if the instrument be of a larger form, they are conveyed to a separate vessel, graduated, as in the case of the tube, to indicate the quantity.

VOL'TATYPE. *See* ELECTROTYPE.

VOL'TI SU'BITO, in *Italian music*, is a direction to turn over the leaf quickly.

VOL'UBLE, Lat. *volubilis*. Easy to be rolled, twining. Applied to stems of plants which twine round other plants.

VOL'UME. 1. The apparent space occupied by a body: bulk.——2. A book.

VOL'UNTARY. Relating to the will. Some of the animal functions are *voluntary*, or dependent on the will; others are *involuntary*, or independent of the will. In *music*, an extemporary performance on the organ.

VOLU'TA. A genus of Gasteropods. Order *Pectinibranchiata*; family *Buccinoida*. The genus was established by Linnæus. From it Brugueir first separated *Oliva*, and the remainder was afterwards separated into five genera by Lamarck; they are *Volvaria*, *Voluta*, *Marginella*, *Mitra*, and *Canellaria*.

VOL'UTE, from *volvo*, to roll. In *architecture*, a spiral scroll, which forms the principal characteristic of the Ionic and composite capitals.

VOL'VA, for *valva*. In *botany*, the curtain, wrapper, or covering of the fungus tribe of plants. It is of a membraneous texture, conceals the parts of fructification, and in due time bursts forth and forms a ring upon the stalk.

VOL'VOX. A genus of globular animalcules. To the presence of some of the species stagnant waters owe their green colour.

VOL'VULUS, Lat., from *volvo*, to roll up. Convolution. A term in medicine synonymous with *iliac passion*. Applied to a vomiting of bilious and fecal matter, in consequence of obstruction of the intestinal canal.

VO'MER, Lat. for *ploughshare*. The name given by anatomists to the slender thin bone which separates the nostrils from each other.

VOMITO'RIA, Lat., from *vomo*. In *ancient architecture*, the openings of gates, and doors of the theatres, and amphitheatres, which give ingress and egress to the public.

VOR'TEX, Lat., from *verto*. An eddy or whirlpool; a body of water running rapidly round, and concave within the circle of motion, towards the centre. Also a whirlwind. In the *Cartesian philosophy*, a system or collection of particles of matter, moving the same way, and round the same axis.

VORTICEL', VORTICEL'LA. A microscopic animalcule, which derives its name from its being provided with vibratile organs, by the rotatory action of which they produce around them little whirlpools, into which are drawn any particles of food within reach.

VO'TIVE MEDALS. In *numismatics*, such medals as were struck in grateful commemoration of some auspicious event. Votive medals of several of the Roman emperors are still preserved.

VOUCH'ER. In *law*, (1.) a witness; (2.) one called in to make good his warranty of title: more correctly a *vouchee*; (3.) a document which serves to vouch the truth of accounts; (4.) the tenant in a writ of right; sometimes written *vouchor*.

VOUSSO'IRS. In *architecture*, vault-stones, or those which immediately form the arch of a bridge, vault, &c., and are cut somewhat in the shape of a truncated pyramid. Their undersides form the intrados or soffit. The middle voussoir is called the keystone.

VOW'EL. In *grammar*, a letter which can be uttered by itself, as, *a*, *e*, *i*, *o*, *u*.

VUL'CAN. In *Latin mythology*, the god of fire, and the divinity who presided over the working of metals, answering to the Hephæstus of the Greeks. He was the son of Jupiter and Juno, and the husband of Venus. In *sculpture*, he is represented as bearded, with a hammer and pincers, and a pointed cap, but not lame as the poets describe him.

VULCAN'IC THE'ORY, of the earth. *See* PLUTONIC THEORY.

VUL'GATE. An ancient translation of the Bible, rendered almost verbatim from the Septuagint, for the use of the Latins, soon after their conversion to Christianity. It is called also the *Old Italic*, or *Vulgar Latin Bible*, and is the only version acknowledged to be authentic by the Church of Rome.

VUL'PES (Lat.), a fox. A subgeneric name, distinguishing the foxes from the dogs and jackals. *See* CANIS.

VUL'TUR (Latin), a vulture. A genus of accipitrine birds, placed among the *Diurnal* by Cuvier. The vultures are a cowardly genus, feeding oftener on carrion than living prey. Their strength and their talons do not correspond in power with their size, and they must make more use of their beak than their claws. The most known species are the Condor of South America, famous for exaggerated reports of its size, though it is really the largest flying animal; the Turkey-buzzard; the Urubu, or Carrion Crow; and the Læmmergeyer, which last is the largest bird of prey on the eastern continent.

W.

W, a letter found only in the alphabets of modern languages. It is formed of the letter V doubled, and is identical with U in the Latin, and in the early form of the English language. When it commences a syllable it is a consonant, and a vowel in all other positions.

WACKE'. A massive mineral, intermediate between indurate clay and basalt, and included among the trap-rocks. The *wacké* of the Germans, from whom we have borrowed the term, is a soft earth variety of basalt.

WAD, WADD. A provincial name of plumbago, in Cumberland, and of

an ore of manganese in Derbyshire and Devonshire, consisting of peroxide of the metal associated with oxide of iron. Sometimes called *Black-wadd*.

WAD'DING. In *manufactures*, a soft spongy web, made with a fleece of cotton prepared by the carding-machine, for lining various parts of ladies' dresses, &c.

WA'DERS. In *ornithology*, the English name of the *Grallatores*, an order of birds remarkable for the length of their legs from the lower extremity of the tibia downwards. By this they are adapted for *wading* in the margins of rivers, low shores, and marshy places.

WAD'SETT, from Sax. *waed*, a pledge. In *Scotch law*, a species of mortgage of property, for the recovery of money borrowed.

WA'GER. In *law*, the *wager of battle* or *battel*, was a mode of trial by single combat, where, in appeals of felony, the appellee might fight with the appellant, to prove his innocence. This relic of barbarism has only been recently abolished. The *wager of law* is an offer, on the part of the defendant, in an action of debt by simple contract, to take an oath in court, in presence of eleven compurgators, that he owes the plaintiff nothing in the manner and form he has declared.

WAG'TAIL. A beautiful small bird which frequents the margins of ponds and watercourses, and takes its name from its continually elevating and depressing the tail. The Wagtails constitute the sub-genus *Motacilla*, Cuv., of the genus *Motacilla*, Lin. *See* MOTACILLA.

WAHABEES'. A Mussulman sect founded by Abd-el-Wahab, a learned Arabian.

WAIFS. *Bona waviata*. Goods stolen and thrown away by the thief in his flight, on which event they belong to the crown. The term now comprises all goods found of which the owner is not known.

WAIN, Sax. *waen*. A waggon. In *astronomy*, a constellation; *Charles' wain*.

WAIN'SCOT. In *carpentry*, the inner wooden lining of a wall, generally in panels. The wood originally used in this work was a foreign oak known by the name of *wagescote*, and hence the name by degrees came to be corrupted and applied to the work itself.

WAIST. In *ship-building*, the space between the quarter-deck and forecastle.

WAITS. These were formerly attendant musicians on great personages, mayors, and bodies corporate, generally furnished with appropriate dresses. They have fallen from their high estate, and sunk into itinerant musicians, who, in their nocturnal perambulations, give notice of the approach of Christmas.

WAIV'ER. A term in *law*, signifying that a person declines or refuses to accept or to avail himself of something.

WAKE. The track which a ship in motion leaves in the water.

WALDEN'SES. A religious sect named from Peter Waldo, who attempted to effect a reform in doctrinal matters about the year 1180. They still exist as a church, notwithstanding many severe persecutions; are strictly Calvinistic; adhere to the Presbyterian form of church government, and have given the right hand of fellowship to the new dissenting church of Scotland.

WALES. In *ship-building*, an assemblage of strong planks extending along a ship's side, serving to reinforce the decks, and forming the curves of the vessel. *See* CHAIN WALES.

WAL'LERITE. The name given by Cleaveland to a variety of clay found in compact masses about the size of a nut, white and opaque, or yellow and translucent.

WALL-EYE. An opacity of the cornea of the eye.

WALL-PLATES. In *carpentry*, pieces of timber which are so placed as to form the supports to the roof of a building.

WAL'RUS, from Ger. *wall*, and *ross*, a horse. The morse or sea-horse. *See* TRICHECHUS.

WALTZ. A modern dance and tune, the measure of whose music is triple: three quavers to a bar. The waltz is the national German dance. *Waltz*, says Hamilton, is the name of a riotous and indecent German dance, derived from *waltzen*, to roll, wallow, or welter in the mud, dirt or mire.

WAM'PUM. A sort of broad belt formed of strings of shells, and worn as an ornament or girdle by the North American Indians. This name has also been given to the interior parts of the clam shell, formerly used as money among them. The native name is *wampampeague* or *wampumpeague*.

WANGHEES'. Japan canes. Canes imported from China.

WAP'ENTAKE. A territorial division in Yorkshire. The name was applied by the Danish inhabitants, and is derived from *wapen*, a weapon.

WAR'BLES. In *farriery*, small hard tumours on the backs of horses, occasioned by the heat of the saddle in travelling, or by the uneasiness of its situation.

WARD'-MOTE. A court in each ward of the city of London, having the power to present defaults in matters of police, &c.

WARMTH. In *painting*, a tone of colour arising from the use of colours expressive of heat.

WARP. 1. In *manufactures*, the thread extended lengthways on the loom, across which the woof is passed by means of a shuttle.——2. in *naval affairs*, signifying rope laid out for the purpose of moving a ship.

WAR'PING, Fr. *guerpier*. 1. A mode of increasing the fertility of land on the banks of rivers liable to overflow, by allowing them to deposit their mud, called *warp*, upon the surface overflown. ——2. In *architecture*, *see* CASTING.

WAR'RANT. 1. In *law*, a writ conferring some right or authority.——2. A writ giving an officer of justice the power of caption.

WAR'RANT OFFICERS, in the *navy*, are the gunner, the boatswain, and carpenter.

WAR'RANTY. In *common law*, signifies a promise made in a deed by one man to another, for himself and his heirs, for the enjoying of anything agreed on between them.

WAR'REN. In *law*, a franchise next in degree to a park. A forest is the highest in dignity, and comprehends a chase, a park, and a free warren.

WASH. In *distillation*, a name by which *wort* is distinguished.

WASH'ER. In *mechanics*, an iron ring interposed between the surface of wood, &c. and the head or nut of a bolt to protect the wood from damage during the process of screwing up.

WASP. In *entomology*. *See* VESPA.

WASTE WEIR (of a canal). A cut constructed through the side for carrying off surplus water.

WATCH. 1. A well-known machine for measuring time.——2. The portion of a ship's crew on duty at a time.

WA'TER. Sir Isaac Newton defines water, when pure, to be a very fluid *salt*, volatile and void of taste and smell. Modern chemists regard it as an *oxide of hydrogen*, being a compound of oxygen and hydrogen in the proportion by weight of eight of the former to one of the latter. *Mineral waters* are those impregnated with foreign substances, as sulphuretted hydrogen and various salts.

WATER-BAIL'IFF. An officer in port towns, whose business in general is the searching of ships.

WATER-CLOCK. In *mechanics*, *see* CLEPSYDRA.

WATER-COL'OURS. In *painting*, are those which are diluted with gum water only, in contradistinction to *oil colours*. When water colours only are used, it is *limning*, when oil colours, *painting*.

WATER OF CRYSTALLIZA'TION. In *chemistry*, the proportion of water necessary to retain certain salts in a crystalline form.

WATER-LINE (of a ship). A horizontal line, supposed to be drawn above the ship's bottom, at the surface of the water. This line alters according to the depth of water necessary to float the vessel.

WATER-LOG'GED. In *nautical language*, a vessel is said to be *water-logged*, when, by leaking and receiving a great quantity of water into her hold, she has become so heavy as not to be manageable by the helm, but is tossed about like a log by the waves.

WATER-MEA'DOWS. Meadows on low flat grounds, capable of being fertilised by the overflowing of neighbouring streams.

WATER-MEL'ON. In *botany*, the *Cucurbita citrullus* and its fruit, which is highly valued in hot countries, where it grows to great perfection.

WATER-OR'DEAL. In *old law*, a sort of trial of persons accused of crimes, especially witchcraft. The person was thrown into the water, and if he floated he was adjudged guilty, but if he sank he was drowned and declared innocent.

WATER-SPOUT. At *sea*, a vertical column of water, raised from the surface of the sea and driven furiously by the wind.

WATER-STA'TION (on a railway). A small reservoir of water connected with a well, from which tanks may be replenished.

WATER-TA'BLE. In *building*, a string course, moulding, or other projection, placed to carry off water.

WA'TER-WAY. In a *ship's deck*, a piece of timber, forming a channel for conducting water to the scuppers.

WA'TER-WHEEL. A wheel moved by water. There are four distinct sorts of water-wheels: the *undershot*, the *overshot*, the *breast wheel*, and the *horizontal wheel*. The water acts vertically on the three first sorts, and horizontally on the last, which is very inferior and little employed. The "Barker's Mill" is also a description of water-wheel, much improved of late by Mr. Whitelaw, of Greenock.

WA'TER-WINGS. The walls erected on the banks of a river, next bridges, to secure the foundations from the action of the current.

WA'TER-WORKS. The name applied to all descriptions of works employed for raising or sustaining water, as water-mills, wheels, sluices, and various other hydraulic works; but it is not generally understood at the present time to refer to any other than works erected for the purpose of supplying cities and towns with water for the daily use of the inhabitants.

WAT'TLE. 1. The fleshy excrescence which grows under the throat of some fowls, as the turkey, and also of some fishes.——2. A twig; and hence a texture wrought with twigs.

WAVED. 1. In *heraldry*, an indented outline, indicating honours originally acquired at sea.——2. In *natural history*, variegated: undulated.

WA'VELLITE. A rare mineral, first discovered in Devonshire by Dr. Wavell. It is sometimes pure white, sometimes tinged with green, or yellow; lustre silky. It is strictly a hydrate of alu-

mina, with sometimes a trace of iron, silica, &c.

Wax, Germ. *wachs*. 1. The substance which forms the cells of bees.——2. *Mineral wax* is a solid brown substance, of various shades, and fusible like bees wax. Candles are made of it in the Levant.

Way. The sea term for the progress of a ship.

Ways and Means. In *parliament*, when a supply has been voted and the *quantum* determined, the House of Commons resolve themselves into a committee to consider the *ways and means* to raise the supply voted.

Weald-clay. A tenacious blue clay, containing subordinate beds of sandstone and shelly limestone, with layers of septaria of argillaceous ironstone. It forms the subsoil of the wealds of Sussex and Kent, and separates the Shanklin sand from the central mass of the Hastings beds.

Weal'den Stra'ta. These comprehend the Weald-clay, the Hastings sands, and the Purbeck beds, or Ashburnham beds.

Wear. To turn a ship round with her stern to the wind.

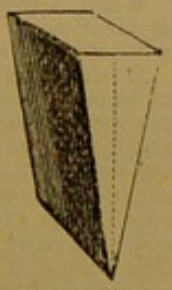
Weath'er. The sea term for that side on which the wind blows. *To weather*, is to pass to windward of an object.

Weath'er Board'ing. Feather-edged boarding, nailed upright, the boards lapping over each other to keep out rain, &c.

Weath'er-gage. In *navigation*, when a ship is to windward of another, she is said to have the *weather-gage* of her.

Weav'ing. The act of forming cloth in a loom by the intertexture of threads.

Wedge. In *mechanics*, a simple machine, which may be considered a modification of the inclined plane, differing only in this, that the body to be moved is drawn along the surface of the plane; but in the wedge, the plane is made to move by percussion beneath the body to be raised, or between the surfaces to be separated.



Wedn'esday, Sax. *Wodensdæg*, Woden's day. *See* Woden.

Wee'vil. In *entomology*, a small animal of the beetle tribe, rather larger than a louse, and very destructive in corn magazines. *See* Curculio.

Weft. The yarn or threads which run from selvage to selvage in a web.

Weigh. To take the anchor off the ground.

Weight. In *physics*, the gravity of bodies, or that property by which they tend towards the centre of the earth.

Weir. An erection carried across a river or rivulet, for the purpose of damming up the water for the convenience of irrigation, and for other purposes.

Weld, } Dyer's weed. A plant, the
Wold. } *Reseda luteola*, the flowers and leaves of which yield a yellow dye. It is, however, too expensive to be extensively used.

Weld'ing. In *metallurgy*, the process of joining two pieces of metal together, by the aid of heat. The capability of iron to be welded is one of its most important properties.

Well (of a ship). 1. A partition to inclose the pumps from the bottom to the upper decks, to render them accessible, and prevent their taking damage.——2. *See* Artesian Well.

Well-hole. A hole connected with some mechanical contrivance, and adapted for the reception of some counterbalancing weight, and for other purposes.

Welt'ing. In *manufactures*, a sewed border or edging.

Wen'lock Stra'ta. These comprise the *Wenlock limestone*, and the *Wenlock shale* or *slate*, which is the lowest member of the formation.

Werne'rian The'ory. *See* Neptunian Theory.

Wesley'ans. The chief denomination of the methodists, from John Wesley, their founder.

Wet Dock. *See* Dock.

Whale. In *ichthyology*, *see* Balæna. In *astronomy*, *see* Cetus.

Whale'bone. The name given, in *commerce*, to a substance of the nature of horn, adhering in thin parallel laminæ to the upper jaw of the whale; varying in size from three to twelve feet in length. When above six feet it is *size bone*.

Wheat. 1. The seeds of the *Triticum hibernum* and *æstivum*, which, when ground, constitutes bread-flour. *Turkey*, or *Indian wheat* is another name for *maize* (q. v.).——2. In *botany*, *see* Triticum and Polygonum.

Wheel. 1. An agent extensively employed in machinery. *Toothed-wheels* are generally described as *cog-wheels*; the cogs (originally made of wood) are supposed to be fixed upon the circumference; but when both are of one piece, the *cogs* are called *teeth*; the teeth of a pinion are again called *leaves*; and those of a trundle *staves*. The wheel which communicates motion to another, is termed the *driver*, or *leader*, and that acted upon, is the *drover*, or *follower*.——2. The wheel of a carriage is commonly a circular frame, consisting of three parts, the *nave*, which is the centre or *hub* into which the *spokes* or radii are fixed; and the *periphery*, or circumference, usually

formed of several circular pieces called *felloes*. The peripheries again are encircled by *tires* of flat bar-iron.——3. *Wheel and axle*, one of the mechanical powers.——4. In a *ship*, the wheel and axle by which the tiller is moved.

WHELPS. Short upright pieces placed round the band of the capstan, to afford resting points for the hawsers.

WHET'SLATE, } A massive mineral, of a
WHET'STONE. } greenish-grey colour, feebly glimmering, fracture slaty or splintery; occurs in beds of primitive slate and transitive slates. The finest varieties are brought from Turkey, called *honestones*, from their being much employed for sharpening steel instruments.

WHIMS. In *mining*, large capstans connected with the shafts of mines, and worked usually with several horses.

WHIN'STONE. A provincial name for the fine bluish-black species of trap rock.

WHIRL'ING-TABLE. A machine intended to represent the several phenomena in philosophy and nature; as the principal laws of gravitation, and of the planetary motions.

WHIRLS (for the spinning of yarn for ropes). Small hooks fastened into cylindrical pieces of wood, which communicate by means of a leather strap with a spoke-wheel, whereby three of them are set in motion at the same time.

WHIRL'WIND. In *meteorology*, a wind which rises suddenly, and is exceedingly rapid and impetuous when risen, but is soon spent. The whirlwind is of various kinds, distinguished by different names, as *prester*, which breaks forth with flashes of lightning; *typho*, a true whirlwind, called generally a hurricane; *exhydria* bursts forth with a deluging rain; *travado* is sudden and impetuous, and common in the Ethiopic sea, and particularly about the Cape of Good Hope. It is the *ecnephias* of the Greeks.

WHIS'KY, } Dilute alcohol, distilled
WHIS'KEY. } from the fermented worts of malt or grain. The name is a corruption of the Irish word *usquebaugh* (q. v.).

WHIST. A well-known game at cards, so called because it requires silence and attention.

WHITE-BAIT. In *ichthyology*, the *Clupea alba*, Yarr., found plentifully in the Thames. It is a small fish, and was long regarded by naturalists as the young of the shad.

WHITE COPPER. An alloy used by the Chinese under the name of Pakfong, composed of copper, zinc, nickel, and iron.

WHITE LEAD. Ceruse. A carbonate of lead, in general used for the painting of wood and plaster white. It is prepared for painting with boiled linseed oil.

WHITE PRECIP'ITATE. Carbonate of mercury.

WHITE PYRI'TES. A sulphuret of iron which sometimes occurs in the form of stalactites.

WHITE-STONE. Felspathic granite called by the French *Eurite*, and by the Germans *weiss-stein*.

WHITE-SWELL'ING. In *surgery*, a chronic enlargement of a joint, without alteration of the colour of the skin.

WHITE VIT'RIOL. Sulphate of zinc. *See* SULPHATE and VITRIOL.

WHI'TING. 1. In *ichthyology*, the *Merlangus vulgaris*, of Cuv. and Yarr., or the *Gadus merlangus* of Lin. and Penn. It grows to about two feet in length, is gregarious, and is distinguished from the cod, haddock, and brassy, by having no barbule on the chin. It is one of our most delicate and wholesome fishes.——2. The name is also given to the *Pollack* (q. v.), and the name *whiting-pout* is often conferred on the brassy, bib, blinds, or pout (*Morrhua lusca*, Yarr., *Gadus luscus*, Lin. and Penn.——3. Chalk purified of all stony matter, and made up into cakes.

WHIT'LOW. In *surgery*, an inflammation affecting one or more of the phalanges of the fingers, and generally terminating in an abscess.

WHIT'SUNTIDE. The feast or season of Pentecost, so named because the converts newly baptized appeared from Easter to Whitsuntide in white garments.

WHORL. 1. In *conchology*, each complete turn of the spire of a spiral shell is termed a *whorl:* the last, which terminates with the aperture, is the *body* or *basal whorl;* the rest are *spiral whorls*.——2. In *botany*, *see* VERTICIL.

WICK'LIFFITES. Followers of Wickliffe, the English reformer.

WILL. A testament. In *law*, the legal declaration of a man's intentions as to what he wills to be performed after death.

WIL'LOW. 1. In *botany*, *see* SALIX.——2. In *manufactures*, a machine for cleaning cotton-wool. Several sorts have been tried, but that in common use is made in the form of a cone, inclosed within a concentric case, with a row of spikes on each side of the case, and four rows on the cone placed at right angles to each other. The cotton is put in with the hand, by an opening right above the smaller end of the cone, and carried rapidly round, until it is thrown out of the larger by the centrifugal force. The machine is also called the *wool-mill*, but commonly *willy* or *willow*, probably a corruption of *winnow*. It is also the first machine to which all sorts of clothing wool are subjected.

WINCH. In *mechanics*, the crank-handle by which the axis of machines are turned.

WINCH'ESTER BUSHEL. The original English standard measure of capacity, given by king Edgar, and kept in the town-hall of Winchester. *See* BUSHEL

WIN'CING-MACHINE. The dyer's reel, which he suspends horizontally, by the ends of its iron axis in bearings, over the edge of his vat, so that the line of the axis, being placed over the middle partition of the copper, will permit the piece of cloth which is wound upon the reel, to descend alternately into either compartment of the bath, according as it is turned by hand to the right or to the left.

WIND'AGE. In *gunnery*, the difference between the diameter of the bore and that of the ball.

WIND'GAGE. An instrument for ascertaining the velocity and force of the wind.

WIND'-GALL. In *farriery*, a soft flatulent tumour, full of corrupt jelly, which grows on each side of the fetlock joints, and on hard ground makes a horse halt.

WIND'LAS, } 1. A machine for raising
WIND'LASS. } great weights, consisting of a cylinder moving on an axis, and turned by shifting levers, with a rope or chain attached to the weight and the cylinder.——2. A crank-handle is also sometimes called a *windlas*.

WIND'MILL, } A mill of any sort
WIND-EN'GINE. } which acquires its power from the impulse of the wind. Windmills are of two kinds, *vertical* and *horizontal*. The vertical are those almost invariably used. They have four cross vanes or arms, fixed at the extremity of an axis lying in a horizontal position. Horizontal windmills are worked by sails set horizontally, the axis being in a perpendicular position. These have not, however, above one-third or one-fourth the power of the vertical.

WIND'SAILS. In *ships*, a sort of ventilator, consisting of a wide tube of canvass, shaped like a funnel, to convey a stream of fresh air downwards to the hold and lower decks of a ship.

WINE. The fermented juice of the grape, or berries of the vine (*vitis vinifera*), a plant which appears to be indigenous to Persia and the Levant, but is now found in most temperate regions, and grows in every sort of soil. The ancient wines were the Lesbos and Chios among the Greeks, and the Falerian and Cecuban among the Romans. The moderns use Port, Sherry, Claret, Champagne, Madeira, Hock, Marsala, Cape, and many varieties of these. They also prepare several sorts of *berry wine*.

WINGS (of a ship). Narrow passages along the sides between the fore and aft cock-pit.

WI'PER. In *constructive mechanics*, a lever fixed upon, or intended to turn, a shaft which admits of revolving motion. The term is commonly applied to cooms, when these are long, as in fulling-mills, stamping-mills, and the like, where wipers are fixed upon a horizontal axle, and serve to raise the stampers to a certain height, when losing hold of them, the stampers descend by their own weight to be again thrown up by the next wiper brought in contact with them by the motion of the wiper-shaft.

WINE-STONE. Another name for argal or crude tartar, which settles on the sides and bottoms of wine-casks.

WINZE. In *mining*, a small shaft, sunk from one level to another, for the purpose of ventilation.

WIRE-DRAW'ING. The art of extending the ductile metals into wire.

WITH'ERITE. Native carbonate of baryta, first discovered at Anglesark, in Lancashire, by Dr. Withering. It is called also *barolite* (q. v.).

WITH'ERS. In *farriery*, the jointing of the shoulder-bones at the bottom of the neck and mane.

WITH'ER WRUNG. In *farriery*, an injury caused by a saddle, when the bows being too wide, they bruise the flesh against the second and third vertebræ of the back, which forms the prominence that rises above the shoulders.

WOAD. In *botany*, the *Isatis tinctoria*, an herbaceous plant which was formerly much cultivated for the sake of the permanent blue dye which it affords. It is now however well nigh superseded by *indigo*.

WO'DEN. In *mythology*, the chief deity of the northern natives from which Wednesday takes its name. He was the god of war, and had human sacrifices offered on his altars to propitiate his favour: to him all prayers were directed before battle, and when the victory was obtained the prisoners were his share of the booty.

WOLF'-FISH. The *Anarrhichas lupus*, Cuv., Yarr., called also sea-wolf, sea-cat, swine-fish, and catfish. It sometimes grows to the length of six feet, and is the most savage and powerful of all the British fishes.

WOLF'RAM In *mineralogy*, the native tungstate of iron and manganese, which occurs in primitive formations, along with ores of tin, antimony, and lead. The Cornish miners call it *mock-lead*.

WOLLAS'TONITE. Prismatic augite is thus named in honour of Dr. Wollaston.

WOLVER'ENE. In *zoology*, the *ursus luscus*, Lin., an animal of North America, which differs very slightly from the common glutton. *See* GULO.

WOM'AT, } In *zoology*, a little animal
WOM'BAT. } which is nearly allied to our opossums. It is found in New Holland.

WOOD-GROUSE. In *ornithology*, the *Tetrao urogallus*, Lin.; named also the cock of the mountain. It is now extinct in Britain, but is still kept by some in aviaries.

WOOD-OPAL. Opalised wood A variety

of opal, which occurs in various vegetable forms. It is in reality opalised vegetable matter. Found in Hungary.

Wood'rock. In *mineralogy*, a name for ligniform asbestos.

Wood'screw. An iron screw, of which the body tapers but the thread continues straight to the extremity.

Wood-tin. The fibrous oxide of tin, found only in Cornwall and Mexico. Its common colours are chesnut, brown, and reddish-brown, owing to the presence of peroxide of iron.

Woody-fibre. Slender membranous tubes, tapering at each end, in the tissue of plants: they form hemp and flax.

Woof. The threads thrown across the warp of a web by the shuttle in forming cloth.

Wool. Germ. *wolle*. A term applied to the fine hair of animals, and to fine vegetable fibres, as cotton. In general, however, it is confined to the wool of sheep.

Woold'ing. 1. Among *seamen*, the act of winding a piece of rope about a mast or yard.——2. The rope used for binding masts and spars.

Wool'sack. The seat of the Lord Chancellor of England in the House of Lords, from its being a large square bag of wool, without back or arms, covered with red cloth.

Woorara. Ourari. A very destructive poison of Guiana, which contains strychnia. The plant from which it is prepared is not ascertained, but it most likely belongs to the genus *strychnos*, or some one nearly allied to it.

Wootz. The Indian name for steel.

Worm. In *distillation*, a spiral tube, which makes a great many revolutions in a large vessel of cold water, called a *refrigeratory*, to cool and condense the vapour.

Worm'ing. The removing of a ligament from under the tongue of puppies, the effect of which is to break them of their habit of gnawing.

Worst'ed. In *manufactures*, woollen yarn twisted rather harder than ordinary. The name is taken from Worsted, a town in Norfolk.

Wort. 1. A termination to the names of many plants. Sax. *wyrt*, Fr. *vert*, answering to Lat. *viridis*, green. The word seems to have been a general name for an herb, especially of the cabbage tribe. ——2. The fermented infusion of malt or grain. It is the muddy liquor which remains in the distiller's mash-tun, after the grains have sunk to the bottom.

Woulfe's Apparatus. In *chemistry*, a series of vessels, connected by tubes, for the purpose of condensing gaseous products in water. Named after the inventor.

Wourali-poison. A peculiar poisonous composition prepared by the Macousni Indians. The juice of a species of vine called *wourali* is the fundamental ingredient; but snake-fangs, some bulbous roots, and other things, are also ingredients.

Wrack. In *botany*, a marine plant, the *Fucus vesiculosus*, called also sea-oak and sea-tangle. It is used in places near the sea-coast as a manure.

Wran'gler. A technical term, in the University of Cambridge, for the students who pass the best examination in the senate-house. The best is the *senior wrangler*, and those who make the second, third, and best appearances, are denominated *second*, *third*, &c. wranglers.

Wrasse, } A name common to several
Wrass. } fishes of the genus *Labrus*, Lin., as the red wrasse (*L. carneus*, Yarr. Cuv.); the ancient wrasse (*Labrus tinca*, Lin.) the ballan wrasse (*L. maculatus*, Yarr.).

Wren. In *ornithology*, a bird of several species forming the sub-genus *Troglodytes*, Cuv., of the genus *Motacilla*, Lin.

Writ. 1. Anything written: Scripture is called *sacred writ*.——2. In *law*, a judicial process or precept in writing issued from some court to the sheriff, &c.

Writer to the Signet. In *Scottish law*, a denomination equivalent to attorney in England. But the Scottish writers to the signet are under stricter regulation than the English attorneys.

Wrought. In *architecture*, any material brought to a fair surface.

Wy'vern. In *heraldry*, a kind of flying serpent, sometimes represented in coats of arms.

X.

X, the 24th letter of the English alphabet. It is found in Saxon words, but begins no word of the English language. X as a numeral stands for 10; when laid horizontally, thus ⋊, it stands for 1000; and with a dash over it, thus, $\overline{X}$, it denotes 10,000. As an abbreviation X stands for *Christ*, Xn for *Christian*, and Xm for *Christmas*.

Xan'thic Acid. An acid discovered by M. Zeise, and named from ξανθος, yellow, because it gives a yellow precipitate, with solutions of several metallic salts. The acid is liquid, transparent, and colourless. Constituents $S_4, C_6, H_5 O$.

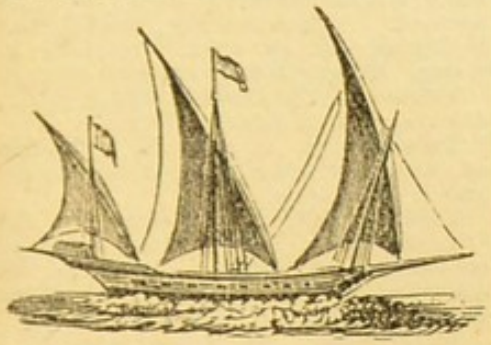
Xan'thic Ox'ide, ξανθος, yellow. A yellow substance found by Dr. Marcet, composing a urinary calculus.

Xan'thine, from ξανθος, yellow. The name given by Kuhlmann to the yellow colouring matter contained in madder.

Xanthorrhœ'a. The generic name of the grass-tree of New South Wales, from ξανθος, yellow, and ῥεω, to flow, on ac-

count of the yellow gum which exudes from it. The Botany Bay gum. It belongs to the tribe *Asphodelidæ*.

Xebec'. A small three-masted vessel without bowsprit, navigated principally in the Mediterranean.



Xe'nos. The generic name given by Ross to two insects, one of which lives on the wasp, called *gallica*, and the other on an analogous wasp of North America, the *Polistes fulata*, Fab.

Xerocollyr'ium, from ξηρος, dry, and *collyrium* (q. v.). A dry collyrium, or eye-salve.

Xerophthal'mia, from ξηρος, dry, and *ophthalmia* (q. v.). A dry inflammation of the eyelid, with diminished secretion of tears.

Xiph'ias. The sword-fish. A genus of acanthopterygious fishes of the Scomberoide family, distinguished by the ensiform beak, which terminates their upper jaw. Name ξαφιας, from ξιφος, a sword. The flesh is esteemed. *See* Swordfish.

Xiph'oid, from ξιφος, a sword, and ειδος, likeness. Sword-like. Applied in *anatomy*.

Xipho'sura, ξιφος, and ουρα, a tail. A tribe of crustaceans, of which the body terminates in a long sword-shaped appendage.

Xy'lanthrax, from ξυλον, wood, and ανθραξ, coal. Wood or bovey-coal.

Xy'lo-aloes. Lignum aloes. Aloes wood.

Xyloc'opa. The humble-bee. A genus of hymenopterous insects, separated from the *Apis*, Lin., by Latreille, and thus named because the female bores a hole usually in wood for her nest. The *X. violacea*, Lin. is the most known species. It is about an inch long, velvety, black, and violet-black wings. The male is distinguished by a russet ring round the antennæ.

Xylog'raphy, ξυλον, wood, and γραφω, I draw. The art of wood-engraving.

Xyloph'agi. Wood-eaters. A family of coleopterous insects of the tetramerous division, comprising several genera.

Xylo'phili, ξυλον, and φιλεω, I love. A tribe of beetles living in decayed wood.

Xylos'troma. A genus of fungi, of which the oak-leather is a species. Name from ξυλον, wood, and στρωμα, a layer, because it forms indeterminate expansions like cloth or leather.

Xylot'rogi, ξυλον and τρωγω, I gnaw. A tribe of semicorn beetles which perforate timber.

Xyph'oid. *See* Xiphoid.

Xys'ter, from ξυστρον, from ξυω, to scrape. A surgical instrument for scraping bones.

Xyst, or Xys'tos, from ξυω, I polish. A court of great length, for athletic exercises, in Greek and Roman architecture.

Y.

Y, the 25th letter of the English alphabet, taken from the Greek υ. Y, as a numeral, stands for 150, and with a dash over it for 150,000.

Yacht, Ger. *jacht*. A vessel of state usually employed to convey princes, ambassadors, and other great personages. The royal yachts are generally rigged as ketches, except the principal one for the sovereign, which has three masts like a ship.

Ya'gers, Germ. *hunters*. Light infantry armed with rifles, in Prussia and Austria.

Yaks. In *zoology*, the *Bos grunniens*, Lin., or grunting ox of Thibet, &c.

Yam. A large esculent root which grows in tropical climates. *See* Dioscorea.

Yan'kee. A corruption of the word English by the North American Indians. The popular name for New Englanders in America; applied also by English people to the inhabitants of the United States.

Ya'pon, } The South Sea tea, the *Ilex*
You'pon. } *cassine* of the southern States of America.

Yard. 1. A measure of 36 inches or 3 feet.——2. In *ships*, a long slender piece of timber, nearly cylindrical, suspended upon the mast, by which a sail is extended. The portions extending on both sides of the mast are denominated the *yard-arms*.

Yarn, Sax. *yearn*. 1. Woollen thread; but the term is now applied also to other species of thread, as to cotton and linen. ——2. In *rope-making*, one of the threads of which a rope is composed. It is spun from hemp.

Yarrow. In *botany*, the milfoil (*Achillea millefolium*). The name is supposed to have originated from the Spanish word *yerba*, a herb.

Yaw. At *sea*, a temporary deviation from a ship's course.

YAWL. A boat usually rowed with four or six oars.

YAWS. The popular name of a severe cutaneous disease, which is endemic in Africa and elsewhere, and technically called *Frambœsia*, from the French *framboise*, a raspberry.

YEAR. The *solar year* is the time which the sun takes in passing over the twelve signs of the zodiac, which is 365 days, 5 hours, 48 minutes, and 48 seconds. The *civil year*, is 365 days, 6 hours, or rather, 365 days for three years in succession, and every fourth year 366 days. The *sidereal year* is 365d., 6h., 6m., 18·5s. The *anomatistical year* is 365d., 6h., 14m. The *lunar astronomical year* is 354d., 8h., 48m., 36s., or 12 lunations.

YEAST. The froth of fermenting wort.

YEL'LOW DYE. The principal vegetable yellow dyes are annatto, dyer's broom, fustic, fustel, Persian and French berries, quercitron bark, saw-wort, turmeric, weld, and willow leaves. Those of the mineral kingdom are chromate of lead, iron-oxide, nitric acid (*for silk*), sulphuret of antimony, and sulphuret of arsenic.

YEL'LOW EARTH. A variety of argillaceous iron ore.

YEL'LOW FEVER. Black vomit. A malignant fever of warm and moist climates, which often suffuses the skin with a yellowish colour.

YEL'LOWHAMMER. In *ornithology*, a species of Bunting, the *Emberiza citrinella* or *lutea*, well known from its yellow throat and head. It is the *Piet*, or *yellow Piet* of some parts of Scotland.

YEL'LOW-ROOT. In *botany*, a name common to the *Xanthorrhiza* and the *Hydrastis* (q. v.).

YEL'LOWS. In *farriery*, a disease to which horses are subject. It owes its origin to obstructions in the gall-pipe, or of the little ducts leading into the pipe.

YE'NITE. A mineral of a greenish-black colour, found in the Isle of Elba, and in Norway, both crystallised and massive. It is a silicate of lime and iron ; sp. gr. 4. Named from Jena.

YEO'MAN, (Angl.-Sax.), Ger. *gemein*, common. 1. The next class to gentleman, according to Camden.——2. In the *royal household*, a middle place between sergeant and groom.——3. On *board a ship*, a seaman who attends to the store-rooms.

YEO'MANRY CAVALRY. The troops of horse which were embodied during the revolutionary wars of France. Several troops are still kept up.

YEW-TREE. A large tree, of which one species is found in Britain, and another in Ireland. The nut-bearing yew grows in China. *See* TAXUS.

YOKE. A light frame of two arms attached to a boat's rudder instead of the tiller, having two *yoke-lines* attached to the arms, by pulling on which the boat is steered.

YOKED-LEAF. A conjugate leaf. *See* CONJUGATE.

YTTRIA. *Yttria*. An earth discovered in 1794, by Professor Gadolin, in Gadolinite, a mineral brought from Ytterby, in Sweden. Yttria is white, insipid, and inodorous ; sp. gr. 4·842. Insoluble in water. Strictly it is an oxide of *yttrium*.

YT'TRIUM. The metallic basis of yttria, discovered by Wöhler, in 1828.

YTTROC'ERITE. A mineral ; a fluoride of calcium, yttrium, and cerium. Its colour is violet-blue.

YTTROCOLUM'BITE, } Names for the
YTTROTAN'TALITE. } yttrious oxide of columbium or tantalum, found in the quarry of Ytterby, in Sweden, in reniform masses of a shining metallic lustre.

YU (Chinese). Nephrite or jade.

YUC'CA. Adam's Needle. A genus of plants. *Hexandria — Monogynia*. America. *Yucca*, *yuca*, or *iucca* is the name used by the North American Indians to designate the *Y. gloriosa*, the thick and tuberous root of which they employ as bread, after reducing it to a coarse flour.

YULE. Sax *gehul*, a feast ; Celtic *gwyl*, a holiday. The old name for Christmas.

YUNX. The Wryneck. A genus of birds. Order *Scansoriæ*. The wryneck is very closely allied to the woodpeckers, and in some respects to the cuckoo. In England it is a bird of passage, and arrives a few days before the cuckoo. Its name of *wryneck* is derived from its habit of twisting its neck in a singular manner.

Z.

Z, the last letter of the English alphabet, as a numeral stands for 2000, and with a dash over it, $\bar{Z}$, for 2,000,000.

ZAC'CO, } In *architecture*, the same as
ZAC'CHO. } *Zocle* (q. v.).

ZAF'FRE. *Saffre*. The residuum of cobalt, after sulphur, arsenic, and other volatile matters of the ore have been expelled by calcination. *See* SAFFRE.

ZANTHOP'ICRIN. A bitter principle obtained from the bark of the *Zanthoxylon Caribæum*.

ZAPOTE'. A generic name, in Mexico, of fruits which are roundish, and contain a hard stone.

ZAR'NICH. A native sulphuret of arsenic.

ZAX. A tool for cutting roofing slates.

ZEA. Maize, or Indian Corn. A genus of bread-grain grasses. *Monœcia—Triandria*. Name, borrowed from the Greeks, ζεια, which appears to have been a species of Triticum or Hordeum. There is only one species, the *Z. mays*, of America. *See* MAIZE.

Ze'bra. In *zoology*, the *Equus Zebra*, Lin., an animal nearly allied to the Ass, but marked regularly with black and white transverse stripes. South of Africa.

Ze'bu. In *zoology*, the *Bos Indicus*, Lin., or Indian ox. This species of the ox is very small, something not larger than a mastiff.

Zech'-stein, } In *geology*, the second
Zetch'stein. } member of the red sandstone series, in the ascending order. It is a magnesian limestone.

Zed'oary. The root of the *Kæmpfera rotunda*, which grows in Malabar, Ceylon, &c. The root is brought here in small oblong pieces, but rough and angular; and also in roundish pieces about an inch in diameter. It is used in medicine.

Zeine. A yellow substance, like wax, obtained from maize, or seeds of the *Zea mays*.

Zemindar'. In *India*, a feudatory, or landholder, who governs a district of country.

Zend. The language of the magi and ancient fire-worshippers of Persia.

Zendaves'ta. The sacred book of the guebres, or modern fire-worshippers.

Zen'ith. In *astronomy*, that point in the celestial hemisphere which is vertical to the spectator; and from which a right line, passing through the spectator, would proceed to the centre of the earth: opposed to *nadir*. The term is Arabic.

Zen'ith Distance. The distance of any celestial object from the zenith.

Zen'ith Sector. An astronomical instrument for measuring accurately the zenith distances of the stars passing near the zenith.

Ze'olite, from ζεω, to foam, and λιθος, a stone. A family of minerals, all characterised by the property of fusing before the blow-pipe, with much ebullition, into a whitish spongy enamel. The subgenera are—(1.) Trapezoidal zeolite, or leucite; (2.) Dodecahedral zeolite, or lapis lazuli; (3.) Hexahedral zeolite, or analcime; (4.) Paratomous zeolite, or cross-stone; (5.) Rhombohedral zeolite, or chabasite; (6.) Diatomous zeolite, or laumonite; (7.) Prismatic zeolite, or mesotype; (8.) Prismatoidal zeolite, or stilbite; (9.) Hemiprismatic zeolite, or heulandite; (10.) Pyramidal zeolite, or apophyllite; (11.) Macrytopous zeolite, or brewsterite. There is also a species of zeolite, containing soda, termed *natrolite*, from natron, or soda. Zeolite is found in granite and gneiss, and also in cellular basalt and primitive greenstone, in Scotland, Iceland, the Feroe Islands, Sweden, and various parts of Germany, and is particularly abundant in some of the South Sea Islands.

Ze'phyr, Lat. *zephyrus*; Gr. ζεφυρος. The west wind; and poetically a soft wind.

Zer'da. An animal of the canine genus, found in the desert of Sahara, beyond Mount Atlas.

Ze'ro. 1. The commencement of a scale marked with a cipher 0, for nothing. ——2. A cipher.

Zest, from Arab., *zistan*, to peel. 1. A piece of peel of orange or lemon, used to give flavour to liquor.——2. The woody skin quartering the kernel of a walnut.

Zeta. 1. The Greek letter ζ.——2. A little closet, or withdrawing-room.

Zetet'ic Method. In *mathematics*, is that used in investigation, or the solution of problems. *Zetetic* is from ζητεω, to seek: that proceeds by inquiry.

Zeug'ma, Gr. ζευγμα, a yoke, from ζευγνυω, to join. A figure in grammar, by which an adjective or verb which agrees with a nearer word is by way of supplement referred to another more remote, as Hic illius *arma*, hic *currus fuit*.

Zeus. The dory: a genus of acanthopterygious fishes, belonging to the family *Scomberidæ*. The John Dory, (*Z. faber*, Cuv., Yarr.), which grows to about a foot in length, is well known on our coasts.

Zey'lanite. In *mineralogy*, another orthography of *Ceylanite*.

Zib'et. In *zoology*, the Indian civet, of an ash colour, spotted with black. *See* Viverra.

Zi'mome, from ζυμη, ferment. A principle supposed by Taddie, an Italian physician, to exist in the gluten of wheat flour. Later chemists have not recognised it.

Zinc, Germ. *zink*. A metal of a bluish-white colour, with a fine granular fracture. It does not occur native, and was not reduced from its ores till the sixteenth century, though these had been long previously used in the formation of brass, of which it is an ingredient. Its principal ores are—(1.) *Calamine*, a carbonate of zinc, of which there are some varieties; (2.) *Blende*, which is a sulphuret of zinc, and the most abundant ore; (3.) *Zinc-ore* is a mineral consisting of oxide of zinc combined with oxide of iron and manganese; (4.) *Sulphate of zinc* is found efflorescent in the form of stalactites. Zinc is known in commerce under the name of *spelter*.

Zin'giber. Ginger. A genus of perennial plants. *Monandria—Monogynia*. Name from ζιγγιβειρις, borrowed by the Greeks from the Arabians, when they got the plant. There are 12 species, all natives of hot climates; but the root of the *Z. officinale* of India only is known in our shops under the name of *ginger*.

Zir'con. A rare mineral or gem, first brought from the island of Ceylon, but has since been found in various parts of Europe. There are two species, *Z. jargon*

and *Z. hyacinth.* Both are silicates of zirconia, coloured with oxide of iron. It possesses a double refractive power, by which it is readily distinguished from idocrase, garnet, and staurotide.

Zirco'nia. An earth which forms the basis of zircon. It is a fine white powder, without taste, or smell, and is insoluble in water; yet, when slowly dried, it coalesces into a semi-transparent yellowish mass like gum-arabic, which retains one-third its weight of water. In *chemical language* it is an oxide of *Zirconium.*

Zirco'nium. The metallic basis of zirconia, discovered by Berzelius, in 1824. Zirconium, however, more resembles charcoal-powder than a metallic substance, and burns with almost explosive violence.

Ziza'nia. Canada rice. A genus of perennial plants. *Monœcia—Hexandria.* Name ζιζανιον, the lolium of the Latins. The grain of the *Z. aquatica* is valued.

Zoan'thus. A genus of *Polypi*, of the order *Carnosi*, separated from the Actinæ by Cuvier. Name from ζωον, an animal, and ανθος, a flower; the animals being united, in considerable numbers, on a common base, and having a broad surface like a flower.

Zo'cle. In *architecture*, a low square member, used instead of a pedestal, to support a column. The *zocle* differs from a pedestal, in being without base or cornice.

Zo'diac, Gr. ζωδιακος, containing living creatures, from ζωον, an animal. 1. In *astronomy*, the tract of the sun through the twelve signs.——2. A broad circle of the sphere containing the twelve signs, the middle of which is the ecliptic, from which the sun never deviates.——3. Two circles, parallel to the ecliptic, which bound and comprehend the excursions of the planets north and south, never exceeding 20°, which is the utmost breadth of the zodiac.

Zodi'acal Light. In *meteorology*, a brightness sometimes perceived in the heavens at certain times of the year, after sunset and before sunrise; supposed to be an effect of the solar atmosphere.

Zoi'site, } A variety of epidote of a grey,
Zoi'zite. } brown, or yellowish colour: so named after Baron Von Zois.

Zo'har, Heb. *splendour.* A Jewish book, highly esteemed by the rabbis, and supposed to be of great antiquity.

Zone, ζωνη. 1. A girdle.——2. In *geography*, a division of the earth with respect to the temperature of different latitudes. The zones are five: the *torrid zone* (q. v.), the two temperate zones, situated between the tropics and the polar circles; and two frigid zones, situated between the polar circles and the poles.

Zo'ocyst, from ζωον an animal, and κυστις, a cyst or bladder. An animal, formed of a membranous cyst, distended with an aqueous fluid.

Zoog'raphy, from ζωον, an animal, and γραφω, to describe. Zoology.

Zo'olite, from ζωον, an animal, and λιθος, stone. A petrified animal.

Zo'ology, from ζωον, an animal, and λογος, a discourse, i. e., the science of animals. This science, then, teaches the nature and properties of animals, their classification, their order of succession, and their distribution over the earth.

Zoon'ic Acid. Acetic acid combined with animal matter, obtained by distilling any animal substance. Berthollet gave it this name, supposing he had discovered a new acid.

Zoon'omy, ζωον and νομος, law. The science of the laws of animal life.

Zooph'aga, from ζωον, an animal, and φαγω, to eat. A name given to that tribe of animals which attack living animals and devour them.

Zooph'orus. In *architecture*, a name given by the Greeks to the frieze, because it was in general covered with figures of animals: ζωον, an animal, and φερω, to bear.

Zooph'yta. Zoophytes. Radiated animals: ζωοφυτα, from ζωον, an animal, and φυτον, a plant. Animal-plants. These names refer to a multitude of animals, whose organization is always evidently very simple; and, although they differ widely among themselves, agree in one point, viz., their parts are arranged on an axis, and on one or several radii, or on one or several lines extending from one pole to the other. The classes of this division are *Echinodermata, Entozoa, Acalepha, Polypi*, and *Infusoria.* Zoophytes are either free in the sea, or attached for life to some substance.

Zoophytol'ogy, from ζωοφυτα, zoophyte, and λογος, discourse. That branch of natural history which treats of the structure, habits, &c., of zoophytes.

Zoot'omy, from ζωον, an animal, and τεμνω, to cut. The dissection of animals.

Zoril'le, } A fœtid animal of the weasel
Zorill'. } tribe found in South America. The name is Spanish, *Xorillo*, the cub of a fox.

Zos'tera. The grass-wrack: a genus of piperitæ. Named from ζωστηρ, a girdle, on account of the girdle-like appearance of the leaves.

Zothe'ca. A small apartment, separated from a larger one by movable curtains.

Zu'mic, pertaining to leaven; ζυμη, ferment. The *zumic acid* is said to be

produced or developed in all vegetable substances, in the processes of acetous fermentation, especially in rice. The existence of such a compound is, however, still doubtful.

ZUMOL'OGY, from ζυμη, ferment, and λογος, discourse. The doctrine of fermentation.

ZUMOSIM'ETER, from ζυμωσις, fermentation, and μετρεω, to measure. An instrument invented by Swammerdam, for ascertaining the degree of fermentation, occasioned by the mixture of different liquids, and the degree of heat which becomes sensible during the fermentation.

ZYGÆ'NA. A genus of lepidopterous insects of the family *Crepuscularia*, Cuv., The caterpillars live exposed on various leguminous plants. Also, a genus of cartilaginous fishes of the shark tribe.

ZYGODAC'TYLOUS, from ζυγοω, to join, and δακτυλος, a finger. Having the toes joined in pairs. Applied to birds having the toes disposed in pairs, as the parrot.

ZYG'OMA, from ζυγος, a yoke. The name given by anatomists to the cavity under the zygomatic process of the temporal bone and os malæ.

ZYGOMAT'IC. Appertaining to the zygoma. *Zygomatic process* is the apophysis of the os jugale; and another of the temporal bone, is so called.

ZYTHOG'ALA, from ζυθος, beer, and γαλα, milk. A mixture of beer and milk; the old beverage known by the name of *posset-drink*.

SUPPLEMENT.

N.B.—In every instance in which a reference is made or implied in the explanations, the body of the work must be consulted, where the matter referred to is not found in the Supplement.

A.

AARD-VARK, one of the edentate insectivorous animals found in South Africa, *Orycteropus Capensis*, allied to the armadillo.

AARDWOLF, a carnivorous animal allied to the hyena.

AAVORA, the fruit of one of the West Indian palms.

ABABILO, a fabulous animal mentioned in the Koran, with feet like a dog, and a beak like a bird.

ABACA, a flax found in the Philippine Islands, from *Musa textilis*, a kind of plantain.

ABACAY, one of the parrot tribe; a calangay.

ABACISCUS, a square compartment of a Mosaic pavement, or any flat member in architecture.

ABADA, a large African deer with three horns; two on the forehead and one on the nape of its neck.

ABANDONEE, in law, he to whom a thing is abandoned by another called the *abandoner*.

ABANDUM, a thing confiscated or forfeited, in old law.

ABBREVIATIO Placitorum, an abstract of ancient pleadings made before the year-books in legal history.

ABELIAN equations, irreducible algebraic equations, one root of which may be expressed as a rational function of a second, which the mathematician Abel discovered could always be solved by the solution of a second equation of lower degree.

ABER, a Celtic term for the mouth of a river, as Aberystwith, the mouth of the Ystwith.

ABERDEVINE, the *Carduelis Spinus* of Cuvier, the European siskin, a small green and yellow finch, closely allied to the goldfinch.

ABERRANT, a term applied in botany to groups or species with any marked difference from the type.

ABICHITE, native arseniate of copper, so called after Prof. Abich.

ABIETINÆ, the division of the Coniferous order of plants which includes the true pines, firs, and Araucariæ.

ABIOGENESIS, the beginning of life or being, synonymous with Archigenesis.

ABOUHANNES, a bird found in Africa, supposed to be the ancient Ibis.

ABRAMIS, a sub-genus of soft-finned abdominal or malacopterygious fishes without barbels or spines, exemplified by the bream.

ABRAXAS, the supreme deity of the Basilidians, who, they taught, had 365 inferior deities under him, to whom was committed the government of that number of celestial orbs; also the name given to an antique stone or gem with the word "Abraxas" engraved upon it.

ABSORBENT ground, or absorbing ground, in painting, a ground so prepared that the colours are absorbed in it, and especially the oil, leaving the surface tints vivid. In the absorbed pictures of the French connoisseurs the colours are left flat and the touches indistinct; the effect being expressed by the word *chilled* among English dealers.

ABSORBING well, a shaft sunk down till it reaches permeable and absorbing strata capable of carrying off water thrown into it without the water level at the bottom rising. It is a dangerous mode of drainage, exemplified by the dead wells of Southampton, and liable to generate all the pestilential influences arising from choked drainage, when the substrata require to be subsequently penetrated.

ACADIALITE, a variety of chabazite found in Nova Scotia, formerly called Acadia.

ACAJOU, the name given to mahogany by the French; also the cashew-nut, *Anacardium occidentale*.

ACAMPTOZOMES, from ἀ καμπτω, "I bend not," and σωμα, "the body:" an order of Cirripeds with compound shells incapable of being unfolded or protruded.

ACANTHOIDE, from ακανθα, "a spine," a mineral occurring in whitish silky needles in the Vesuvian lava of 1821, and in dark brown and reddish fibres in other lavas.

ACANTHOPHIS, a genus of Australian serpents belonging to the vipers, with a peculiar horny sting-like spine at the extremity of the tail.

ACANTHURUS, a genus of fishes with spiny fins, and especially a powerful moveable spine on each side of the caudal extremity, capable of inflicting serious wounds.

ACCUMULATION of Power, one of the elements for consideration in the construction of machinery, the efficiency of which depends much on its power to resist the force which its action does not relieve or give full effect to, and which in consequence accumulates against the machinery itself.

ACERACEÆ, a small order of polypetalous exogens, of which the acer is a typical genus.

ACERA, or ACERANS, ἀ κερας, without a horn, a family of apterous insects without antennæ; also a family of gasteropodous molluscs without tentacles.

ACERDESE, grey oxide of manganese.

ACETAL, an inflammable liquid obtained from the action of spongy platinum on alcoholic vapour. It is colourless, and under slow combustion is converted into acetic acid.

ACETAMIDE, a white crystalline body, soluble in water, obtained by the replacement in ammonia of an equivalent of hydrogen by acetyle.

ACETANILIDE, a solid crystalline body, soluble in hot water, obtained by replacing in aniline one atom of hydrogen by acetyle.

ACETIC Ether, a compound of acetic acid and ether with an odour like apples, obtained by distilling alcohol and oil of vitriol with acetate of potash. It is a flavouring of various wines.

ACETINES, oily bodies prepared by combinations of acetic acid with glycerine.

ACETONITRILE, a former name of cyanide of methyle.

ACETUREIDE, urea in which acetyle has replaced hydrogen.

ACETYLA, Diethylenia, or Acetylamine, an organic base obtained by the replacement of two double equivalents of hydrogen by two of ethylene in a double atom of ammonia.

ACETYLE, the hypothetical radical of acetic compounds composed of four atoms of carbon and three of hydrogen. $C_4 H_3$.

ACETYLENE, one of the hydro-carbon gases remarkable for containing the smallest proportion of hydrogen.

ACHIEVEMENT, a shield of armorial bearings in heraldry, but more particularly the *hatchment*, or funereal shield.

ACHILLEINE, the bitter principle of Achillea Millefolia.

ACHMATITE, a variety of pistacite or lime and iron Epidope found at Achmatowsk.

ACHROITE, the colourless varieties of tourmaline, from α χροια, *without colour.*

ACOLLE, (from *col*, the neck, signifying collared,) animals with collars are so described in heraldry; also two things joined together; or swords, spears, &c., placed saltire-wise behind the shield.

ACONITIC Acid, or citridic acid, a crystalline acid body found in aconite, the river Equisetum, &c.: whence called also equisetic acid. It is artificially procured from the residue of the distillation of citric acid: hence one of the above names.

ACORACEÆ, the natural order of plants of which Acorus is the typical genus.

ACRE fight, a single combat, engaged in on the English and Scottish borders during the period of border warfare.

ACRIDIA, a family of orthopterous insects, of which Acrydium, or Acridium, is the typical genus.

ACRODACTYLUM, the upper surface of each digit in zoology.

ACRODUS, a genus of fossil sharks with large polygonal obtuse enamelled teeth at the extremity of the jaw.

ACROLEINE, an acrid volatile product of the destructive distillation of fat oils, resulting apparently from the decomposition of glycerine.

ACROLITHOS, in the statuary of the ancient sculptors, any statue in which the drapery was made of wood, and the nude portions of marble.

ACROPODIUM, the upper surface of the entire foot in zoology.

ACROPOLIS, the citadel or upper town of Greek cities, and generally the portion first built.

ACROTARSIUM, the upper surface of the tarsus in zoology.

ACRYLE, the hypothetical radicle of the hydride *acroleine.*

ACRYLIC Acid, acroleine oxydized.

ACTINISM, the effect produced by the sun's rays or artificial light employed in photography, by which chemical decompositions and combinations result; distinguished from the light-and-heat-giving powers of the same rays.

ACTINOCRINITES, a sub-genus of encrinites, with rows of angular plates articulated by their edges.

ACTINOGRAPH, an instrument constructed by Mr. Hunt for recording the variations in the actinic power of the sun's rays. It is a fixed cylinder, covered with photographic paper, enclosed in a metal cylinder, which completes a revolution round it every twenty-four hours. The photographic paper is exposed through a triangular opening in the outer cylinder to the solar light, the opening being divided by fifty bars.

ACTINOMETER, an ingenious invention of

Sir John Herschel for ascertaining the force of solar radiation. It is fully described in the Report of the President and Council of the Royal Society on the Objects of Scientific Inquiry in Physics and Meteorology for 1840. Professor Forbes used the instrument to ascertain the difference of solar radiation at the top and bottom of the Faulhorn, Switzerland.

ACULEATE, a botanical term, signifying prickly, or covered with prickles. *See* ACULEUS.

ACULEATES, a tribe of hymenopterous insects, the females and neuters of which have a sting concealed in the last segment of the abdomen.

ADAMSITE, a lamello-granular variety of mica, found at Derby, Vermont, of an ashy grey colour.

ADDITION, in law, the personal description or rank of a man in addition to his name, as gentleman, esquire, &c.

ADELPHOLITE, a tantalate of iron and manganese, or niobate, from Rajamaki, Finland. It contains about ten per cent. of water.

ADIPIC Acid, a solid fat produced from the action of nitric acid on oils.

ADIPIC ETHER, a compound with the flavour of rennets, produced by the combination of adipic acid with ether.

ADJUDICATION, a form of legal procedure in Scotland, now considerably simplified, whereby titles to lands could be perfected by decree of the Supreme Courts without conveyance or the ordinary process of transmission. Adjudications are general, special, and in implement.

ADULTERINE, offspring of adultery, excepted by law from subsequent legitimation by marriage of the parents.

ADULTERINE Guilds, certain persons who without charter traded as corporations, preferring to pay an annual penalty for their violation of the corporate privileges.

ADVERSA, a numismatic expression, signifying that two heads confront each other on the coin or medal.

ADY, a Malabar palm tree, found on the Island of Thomé, with an aromatic kernel yielding an oil, from which a kind of butter is made.

ÆGIRINE, a variety of pyroxene, from Brevig, Norway, allied to Arfvedsonite.

ÆGLE, a genus of oranges yielding the Marmelos or bhel fruit.

ÆPYORNIS, a fossil genus of colossal cursorial birds, found in the Pliocene strata of Madagascar. The egg of this bird is estimated to have been equal to one hundred and fifty hens' eggs.

ÆRARIAN, the lowest degradation inflicted on a Roman citizen, short of loss of liberty.

ÆRARIUM, the treasury of the Roman Plebs, which was under the care of the quæstors. Under the empire it was kept separate from the fiscus or treasury of the emperor.

ÆSCHYNITE, a titanate of Cerium and Zirconia, from the Feldspar of the Ilmen mountains, Siberia.

ÆSYMNETÆ, those of the Greek tyrants who, being invested with supreme power and the command of the army for a period to meet some public emergency, became despots for the remainder of their lives by retention of their authority.

ÆTHOGEN, a compound of boron and nitrogen, which yields an intense light under the blow-pipe.

AËTIAIOI, from ΑΕΤΟΣ, a pediment, the Greek name for the slabs forming the face of the tympanum of a pediment.

AFFILIATION, the fixing of the paternity of an illegitimate child, by law.

AFFILIATED SOCIETIES, societies scattered over districts, but depending on a central society for direction.

AFTER-DAMP, or Choke-damp, the name given by miners to the carbonic acid gas so destructive to life after an explosion, by means of which it forms the oxygen into carbonic oxide.

AFTERMATH, grass mown after the first crop of hay, and carried from the field.

AGAMA, the first section of the Iguanian Sauria, or *Agamidæ*, distinguished by the want of palatial teeth.

AGAMOUS, cryptogamic, but specially applied to the lichens, fungi, and confervæ.

AGAPÆ. *See* AGAPE.

AGATHOTES, a genus of the gentian family of plants.

AGGLUTINATE LANGUAGES, the Tauranian family of languages, so called because the affixes by which the conjugation and declension are effected can still be used separately and distinct from the roots, and retain their individual powers as separate parts of speech.

AGILIA, the family of rodents which includes dormice and squirrels.

AGIOTAGE, manœuvring in the public funds, or in reference to them, for the purpose of affecting their price.

AGIOSYMANDRUM, a wooden instrument used in Christian churches under the dominion of Turkey as a substitute for bells, which were prohibited.

AGMINATE GLANDS, the name given to the glands of Peyer aggregated in groups in the small intestines; they are commonly oval groups and of various sizes.

AGNESITE, a steatitic earthy mineral from Huel Coates, St. Agnes, Cornwall.

AGNOETÆ, (from ἀγνοεω, "I do not know,") two early sects of the Church, the earlier of which questioned the Divine omniscience; and the later in the sixth century held that the Messiah in His humanity was ignorant of many things, such as the time of the Day of Judgment. The latter

error arose from the reading of the passage, "But of that day and hour knoweth no man, but the Father," without the correlative passage, "I and the Father are one."

AGNOSTUS, (αγνωστος, "unknown,") the name given to an obscure genus of trilobites with reniform or semicircular-shaped bodies.

AGUTI, the native name of certain herbivorous rodent quadrupeds of South America belonging to the genus Dasyprocta.

AICH'S METAL, or *Sterro Metal*, a kind of gun-metal of superior ductility and tenacity, being an alloy of iron with zinc and copper.

AIGRETTE, the pappus or calyx of compositæ in botany.

AIKINITE, a synonym for acicular bismuth or needle ore.

AL ARAF, a Mohammedan middle state or place of confinement of departed spirits not admitted to Paradise nor condemned to Hell.

ALABANDINE, the Ethiopian carbuncle, so called by Pliny from their being cut and polished at Alabanda; the manganese glance or manganblende of modern mineralogists.

ALABARCHES, the name of the chief magistrate of the Alexandria Jews. His duty was to raise and pay the taxes. The word is supposed to be a corruption of Arabarches.

ALANIN, a crystalline white body obtained from hydrocyanic acid and aldehydammonia. It is converted into lactic acid by hyponitrous acid.

ALARIA, a genus of seaweed or algæ, of which the badderlocks or henware, *A. esculenta*, is an example.

ALBARIUM OPUS, a superior stucco used for the ceilings of baths, for which *tectorium opus* appears to have been substituted by the Romans. *See* VITRUVIUS, chap. x. It was by some critics mistakenly supposed to be only a name for whitewash.

ALBATA, an alloy of brass with nickel or tin, to which iron is sometimes added, so called from its white colour.

ALBATI, a sect of Christian hermits who lived and slept on the highways, so called from their white linen dresses.

ALBERTITE, or Albert Coal, a bituminous coal of Hillsborough County, New Brunswick. Similar coal has also been found in Ross-shire in the old red sandstone formation.

ALBIN, a Bohemian variety of apophyllite of a white opaque appearance, found at Aussig.

ALCARSIN, the oxide of cacodyl, a liquid, called also Cadet's fuming liquid. It has an intense stench, and is formed by heating together arsenious acid and acetate of potash. It is highly poisonous and volatile.

ALCORNINE, a crystallisable body obtained from alcornoque bark.

ALCYONS. *See* ALCEDO.

ALGERITE, an altered scapolite in slender square prisms, found in the calc spar of Franklin, New Jersey.

ALGODONITE, a native compound of arsenic and copper in the proportion of 16·34 arsenic, 83·66 copper. It has a silver like colour, but becomes tarnished under atmospheric action.

ALGORITHM, a system of computation peculiar to some subject or method, as the algorithm of differential calculus.

ALIEN WATERS, a name given to waters carried over any irrigated field or land without being employed in the irrigation of it, or water not employed for the uses of the land through which it is carried.

ALIGNMENT, the line of position of a fleet in naval tactics.

ALKARSINE. *See* ALCARSIN.

ALLANTURIC ACID, a product of allantoin under the action of heat.

ALLEMONTITE, the arsenical antimony of Allemont, Dauphiny.

ALLITURIC ACID, one of the products of alloxan boiled with hydrochloric acid.

ALLOMERISM, the permanence of particular crystalline forms maintained by certain compounds when the proportions of the components are varied.

ALLOMORPHITE, a variety of sulphate of baryta found at Rudolstadt, Schwarzburg, in scaly masses.

ALLOTROPY, the variability of certain bodies when subjected to different temperatures, such as that exhibited by the elementary body phosphorus, which as first used in the manufacture of lucifer matches was found to be poisonous and injurious to the health of those engaged in the manufacture, but, by discovery of its allotropic properties, is now prepared in a perfectly harmless form. Allotropy affects the colour, texture, fusibility, and solubility, &c., of various bodies.

ALLOXAN, a product of the action of nitric acid on uric acid. It gives a purple tinge to the cuticle. Its composition is $C_8\ H_4\ O_{10}\ N_2$.

ALLOXANIC ACID, a product of the action of caustic baryta and heat on alloxan.

ALLUAUDITE, hydrated double phosphate of soda, peroxide of iron, and protoxide of manganese, from Chanteloupe, near Limoges, France.

ALLYLE, $(C_6\ H_5)$ the supposed bases of the volatile oil of garlic.

ALMAGRERITE, a native anhydrous sulphate of zinc found in crystals isomorphous with sulphate of baryta at Barranco Jaroso, in the Sierra Almagrera, Spain.

ALMACANTAR, an old astronomical term for a small horizontal circle of the sphere.

ALMERY or AMBRY, a niche in a wall near an altar, to hold the articles pertaining to it; also, more comprehensively, a closet for containing plate, deeds, &c.

ALNAGER, an officer appointed to examine into the assize of cloth and collect the alnage duty by a statute of Edward III. The duty has been long abolished.

ALOEXYLON, the aloes wood, ligu-aloes or eagle-wood.

ALOIN, the active principle of aloes.

ALOPECIA. *See* ALOPECY.

AL-SIRAT, the Mohammedan name given to a bridge said to cross the abyss of hell, forming the way to heaven, and to be as narrow as the edge of a sword.

ALTHEIN, a white crystalline body found in althea root, the same as asparagin.

ALTHIONIC ACID, supposed to be a compound of isethionic acid with sulphovinic acid, with the latter of which it is isomeric.

ALUMOCALCITE, an impure milky opal inclining to blue; found in ironstone veins in Saxony, and composed of 2 per cent. of alumina and 6 of lime.

ALUNITE, alumstone.

ALUNOGENE, hydrous sulphate of alumina, found native in New South Wales and North and South America.

ALURNUS, a genus of coleopterous insects, with four to six very short palpi, short filiform antennæ, and short horny maxillæ.

ALVITE, a mineral found in crystals in Norway, composed of lithia, silica, alumina, glucina, thorina, peroxide of iron, and water.

AMALFIAN CODE, a code of maritime laws compiled about the latter part of the eleventh century by the Amalfians, and recognised in Mediterranean navigation.

AMALIC ACID, a crystalline substance obtained by the action of chlorine on caffeine: the same as demethyl-alloxantin.

AMANDIN, the casein of sweet and bitter almonds.

AMANSITE, a grey or greyish-white compact felspar, found at Ædelfors, Sweden.

AMARYTHRIN, a body produced by the oxidation of orsellic ether.

AMASATINE, a product of the action of ammonia on isatin.

AMAUROSIS, the same with gutta serena, or loss of vision from defective action of the optic nerve.

AMBRY. *See* ALMERY.

AMBUBAIÆ, the name given in Syria and Arabia to certain Syrian girls who maintained themselves in Rome by the public performance of music.

AMBUSCADE, from *imboscata*, Ital., a snare of any kind for an enemy.

AMBUSTION, a burn or scald. Medical term.

AMIA, (Amia calva, Linn.,) a genus of abdominal fresh-water fishes found in Carolina, North America, exemplifying the sauroid fishes of Agassiz, the air-bladder of which is like the lung of a reptile.

AMICABLE NUMBERS, numbers in relation to each other of which each is equal to the sum of the aliquot parts of the other.

AMIDO-ACIDS, a series of organic acids formed by expelling two equivalents of water and replacing them by one equivalent of ammonia and one of the hydrate of a dibasic acid.

AMIDOGEN, a compound not yet isolated, but traceable in combination with compounds known as amides, q. v. It is composed of one atom of nitrogen and two of hydrogen. Symbol, $N H_2$.

AMINES, chemical compounds similar to amido acids and amides, but combined with basic radicals, and called monamines, diamines, triamines, &c., from the presence of a single, double, or triple atom of ammonia, and primary, secondary, tertiary, in relation to the proportion of hydrogen one-third, two-thirds, &c., replaced by radicals.

AMISATINE, a crystalline product obtained from indigo.

AMMELIDE, a white neutral compound obtained by the action of strong acids on ammeline.

AMMELINE, a white crystalline body, weakly basic, obtained by the action of alkalis or acids on melam.

AMMIOLITE, a red powder composed of antimonide of mercury mixed with oxide of iron and clay, found in the quicksilver mines of Chili, &c.

AMMOCŒTES, a genus of cyclostomous fishes exemplified by the *stone grig* or *pride*, one of the lowest of the organised vertebrate animals.

AMMONIA-ALUM, hydrated sulphate of alumina and ammonia, found in the brown coal of Tschermig, Bohemia, in octahedrons and thin layers.

AMMONIACUM, a medicinal gum resin, said to be exuded from *Dorema ammoniacum*. It is a mildly stimulating expectorant, though not very certain in its action.

AMMUNITION, a military expression for all sorts of warlike stores, and more particularly that necessary for loading and firing of guns.

AMNESTY, in political language, exemption from penalty, such as rebellion, treason, &c.

AMŒBA, (αμοιβη, "alternation,") Ehrenberg's Amœba diffluens is an acrite of the order of Rhizopoda in the lowest state of organisation known to zoology, being a mere rounded gelatinous mass, but suspected to be an embryonic condition of higher Rhizopoda. It can emit lobes and processes from all points of its body, and withdraw them at pleasure.

AMPELIC ACID, a white solid, obtained from the action of nitric acid on coal tar.

AMPELIN, a liquid found in coal tar, similar to creasote.

AMPELIS, a Linnæan genus of passerine birds, with straight convex beaks, of which the upper mandible is subincurved, and emarginate on both sides, and longer than the lower. The *Ampelis garrulus*, or Bo-

Aemian chatterer, is an example, though now referred to the subgenus Bombycilla.

AMPHIBIOLITE, the Linnæan name of parts of amphibia, or fragments of reptiles ound in the fossil state.

AMPHIBOLI, a family of scansorial birds, of Illiger, including those with external and versatile posterior toes.

AMPHIBOLOGY, an equivocal expression or sentence, in Rhetoric, admitting of more than one interpretation.

AMPHICŒLIAN, a term to signify that both articular surfaces of the central vertebræ are concave, as in the backbones of fish, &c.

AMPHICYON, a genus of carnivorous plantigrade mammalia, found in the Miocene deposits of the south of France and Darmstadt, allied to the Wah or *Ailurus*.

AMPHILESTES, a genus of insectivorous Mammalia, found in the Oolitic formation.

AMPHIOXUS, a genus of fishes sharp at both ends, with a gelatinous dorsal chord supporting a nervous axis.

AMPHIPODS, an order of Crustaceans in the system of Latreille, being the third, and remarkable as the only one having sessile eyes, and subcaudal natatory feet.

AMPHITHERIUM, a fossil genus of insectivorous Mammalia found in the Oxford Oolite, for a time suspected to be Marsupial.

AMPHITROPAL, in botany any embryo curved upon itself, so as to present both its extremities at the same point.

AMPHIUMA, a genus of true amphibious reptiles, with palatial teeth in two longitudinal rows, an elongated body, with four rudimentary extremities divided into two or three toes, and a persistent branchial orifice on each side of the neck.

AMPHODELITE, a variety of anorthite, found in reddish crystallised masses in Finland and Sweden.

AMPILIFICATION, in Rhetoric, the expansion of a subject by dwelling on its details and the language of description.

AMYGDALIC ACID, an organic acid obtained by the elimination of ammonia from amygdaline and assimilating water.

AMYGDALINE, a crystalline principle found in bitter almonds, yielding hydrocyanic acid under the action of emulsine and water. It is $C_{40}\ H_{27}\ O_{22}$.

AMYLENE, or AMYLE, the hydrocarbon base of Amylic alcohol, or hydrated oxide of Amyle.

AMYLUREA, urea in which the radical amyle replaces hydrogen.

AMYRINE, a resin obtained from the white canary wood of the Philippine Islands.

ANACARDIC ACID, an acrid, fatty matter, contained in the fruit of the cashew nut, *Anacardium Occidentale*.

ANACOLYPPA, an Indian plant whose juice is said to be an antidote to the bite of the cobra.

ANACYCLUS, a genus of Mediterranean compositæ resembling chamomile.

ANADYOMENE, a name of Aphrodite, referring to her rising from the sea.

ANÆSTHESIA, want of consciousness of touch, or weakened consciousness to the sense of pain, in medicine.

ANÆSTHETICS, any substances which weaken or suspend the susceptibility to touch or pain, such as ether, chloroform, &c.

ANAGLYPHIC, the opposite of diaglyphic, being raised or embossed in opposition to sunk or depressed work.

ANAGLYPTOGRAPH, an instrument for enabling the engraving of any embossed work to be copied or executed by means of a diamond point passed over the surface of the medal, &c., sought to be represented. The invention is due to Mr. Bate.

ANALYSIS OF LIGHT, a new branch or department of science, for which see *Spectrum Analysis*.

ANAMIRTA, a genus of Menispermaceæ, from which the *Cocculus Indicus* is obtained. *A. Cocculus* grows as a climbing shrub in Malabar, Ceylon, and the islands of the Indian Archipelago.

ANARMIRTIC ACID, the acid of a neutral fat found in *Cocculus Indicus*.

ANAMORPHOSIS, those characteristics of plants or animals on which certain doctrinaires founded their theories of the development from a lower to a higher condition, which, however, is opposed by the fact that all the so-called lower species of an order are equally fitted for their particular function and place in the economy of nature with those supposed to be developed beyond them. The more correct application of Anamorphosis, therefore, would be nature's power of adapting organic bodies to the conditions in which they have to maintain their vitality for the time being. In art, anamorphosis is applied to drawings so executed that when viewed in the ordinary way they appear confused, or represent objects dissimilar to those they represent at other points of view, or when reflected in curved mirrors, &c,

ANAPHORA, the Rhetorical name given to the repetition of words or expressions at the beginning or end of verses, sentences, &c.

ANAPOPHYSIS, a process in vertebrate animals which recedes from the dorsal region above the transverse process or diapophysis to the side of the centrum, and projects more or less backward as the vertebræ come nearer to the sacrum. Some of the rodents, as the hare, have it well developed.

ANASTATICA, the rose of Jericho, *A. Hierochuntina*, which is much admired for the singular property that when it ripens from the condition of a trivial herb with white flowers it rolls itself up into a ball and becomes detached from the soil, being blown about by the wind till it reaches some moist place, when it unrolls itself into its natural form. Under the alternate influence of

drought and moisture, this little vegetable curiosity maintains this power for many years.

ANASTROPHE, certain inversions in the order of words receive this name in Philology, such as *vobiscum* for *cum vobis*, &c.

ANAUXITE, a greenish white mineral, composed of silica and alumina, with a small quantity of magnesia, and protoxide of iron, and 11.5 per cent. of water.

ANCHUSINE, or ANCHUSIC ACID, a red colouring matter found in alkanet root, and soluble in fats and oils.

ANCILE. See *Ancyle*.

ANCISTROCLADEÆ, a natural order of Exogens, consisting of one genus, the ancestrocladus.

ANCONA, an expression found in old Venetian documents, signifying an image, picture, or altar-piece; from the Greek ἐικων.

ANDESINE, a felspar, resembling albite, composed of lime and soda, and found in the Andesite rocks of the American Andes.

ANDIRONS, the fire dogs used on hearths where wood was burnt. In the middle ages they were frequently works of art.

ANDRÆACEÆ, an order of moss-like plants, with four-valved spore cases, differing from the true mosses by the absence of a peristome and operculum.

ANDREASBERGOLITE, a former name given to Harmotome found at Andreasberg in the Hera.

ANELLATA, or Anellides. See *Annelides*.

ANELYTROUS, a term applied to insects without elytra or wing sheaths.

ANEMONIC ACID, an organic solid found in the wood anemone.

ANEROID Barometer, from α and νηρος, "without damp," sometimes called the Dry Barometer, in contradistinction to the Mercurial Barometer. An instrument for barometrical purposes, consisting of a corrugated metal box, enclosing a partial vacuum, capable of compression by the pressure of the exterior atmosphere. A spiral spring within the box connected with an external index by a simple mechanical arrangement shows the amount and variation of the compression on a graduated dial, marked at the appropriate points with the usual words, Rain, Fair, Much Rain, &c.

ANGEIOLOGY. See *Angiology*.

ANGIOSPOROUS, such fungi as have their spores in a hollow bag or shell.

ANGLARITE, fibrous compact phosphate of iron, from Anglar, France.

ANGLE IRON, iron rolled into the shape of the letter L.

ANGLEMETER, an instrument used by geologists for measuring the inclination or dip of strata, &c.

ANGLESITE, sulphate of lead obtained from the decomposition of galena.

ANGUILLIFORM, eel-shaped; from *anguilla*, "an eel"

ANILES, aniline in which one atom of a diatomic radical replaces two of hydrogen.

ANILIC ACID, a white crystalline and fusible product of the action of nitric acid on indigo, called also Indigotic Acid and Nitrosalicylic Acid.

ANILIDES, aniline in which an electr negative radical replaces one atom of hydrogen.

ANILINE, from *anil*, the indigo plant, a product of the distillation of various organic bodies, among others indigo, but now chiefly from benzole, one of the constituents of coal tar. It is much employed in preparing the aniline dyes, magenta, mauve, &c.; and was formerly called Crystalline,—$C_{12} H_7 N$.

ANILOCYANIC ACID, cyanic acid in which phenyl replaces hydrogen.

ANILOTIC ACID, a body obtained from the action of nitric acid on salicin.

ANIMA MUNDI, a supposed spirit or metaphysical essence, at one time held to be diffused through nature, as an organising and actuating influence.

ANISAMIDE, ammonia in which an atom of the negative radical anisyl replaces an atom of hydrogen.

ANISANILIDE, anisamide in which phenyl replaces an atom of hydrogen.

ANISE, the aromatic fruit of *Pimpinella Anisum*, an oriental umbelliferous annual, chiefly used for dyspepsia. The Star Anise is obtained from one of the Winteraceæ, *Illicium anisatum*.

ANISETTE, a liqueur, made in France by distilling anise, coriander seed, and fennel with brandy, which is afterwards sweetened.

ANISIC ACID, a crystalline product of the action of nitric acid on aniseed.

ANISIC ETHER, a compound of anisic acid and ether.

ANISODYNAMOUS. See *Anisobryous*.

ANISOIN, a resinous product of the action of oil of vitriol on oil of aniseed.

ANISYL, the hypothetical radical of anisic acid.

ANKER, a liquid measure for wines and spirits, equal to eight and a half imperial gallons.

ANKERITE, a crystallised Dolomite or Magnesian limestone found in the Orkneys.

ANNABERGITE, hydrated arseniate of nickel, found at Annaberg.

ANNIHILATOR, or Fire annihilator, a modern invention for the extinction of fire, more especially useful in cases in which water would not prevent the combustion, as in the case of spirits, petroleum oils, tar, &c., which would burn though floating on water. It is a portable reservoir in which incombustible gas may be rapidly generated, such as carbonic acid evolved from the action of oil of vitriol on marble or carbonate of lime. As carbonic acid, however, is instantly destructive to human life, recent improvements have so combined the incombustible gases

with others not injurious to vitality, that this invention may now be safely applied to the extinction of fire in inhabited houses, without injury to the occupants.

ANNIVITE, a variety of impure grey copper found with iron pyrites in Anniviers, Switzerland.

ANNUAIRE, the French name for French publications which appear annually.

ANNULAR ECLIPSE, an eclipse of the sun in which, the moon being concentric with the sun to the observer's line of vision, and her disc not sufficient to exclude his wholly from view, the margin of the solar disc is visible all round and outside that of the moon.

ANOBIUM, a Fabrician genus of Coleopterous insects, with a nearly round unmarginated thorax, clavate palpi, filiform antennæ, and entire labium.

ANODYNE, any medicine for relieving pain, such as narcotics, sedatives, &c.

ANOMIA, a Linnæan genus of Vermes testacea, now confined to a genus of acephalous molluscs, with two thin irregular and unequal valves, one of which is flatter than the other, and notched at the principal margin, long labial tentacles, &c. They are found on the shells of the oyster and other molluscs.

ANOMODONTIA, an order of extinct reptiles, including the *Dicynodontia*, *Cryptodontia*, and *Cynodontia*.

ANOREXY, loss of appetite.

ANORTHOSCOPE, an instrument invented by M. Plateau, of Brussels, consisting of two rotating discs, one behind the other being transparent and having figures upon it which are seen through narrow slits in the opaque body of the other. The figures which are drawn distorted thus appear in various combinations and actions as correct and amusing pictures. This kind of anamorphosis has been accomplished in various manners by recent toys of great ingenuity, such as the Phantoscope, Phenakistoscope, &c., and especially by some of the arrangements of the Magic Lantern.

ANOSMIA, loss of the sense of smell.

ANSE DE PANIER, (French,) an exceedingly elegant series of arches now much used in bridge-building. They are elliptical curves in section, and give great lightness and grace in their effect.

ANTALGIC, relieving pain.

ANTARCTIC Region. This region, composed partly of continent, partly of ocean, has yet been very little explored. The land appears to be much more elevated and of greater extent than that of the Arctic Circle, but it is all but unapproachable from the more continuous barrier of ice hitherto presented to all explorers. The Ocean contains about two millions of square miles within the Circle, but the ice advances further from the Pole than in the Northern regions, and the climate is more intensely cold throughout. The *Antarctic Current*, beginning at the coast of Victoria Land, proceeds northeast and east to the shores of South America, carrying vast quantities of ice, which melts as the current proceeds, though the drift ice frequently reaches between fifty and sixty degrees of latitude. These influences cool the South American coast-line.

ANTE-FIXÆ, heads of animals and other ornaments under the eaves of temples, through which the water from the roof is allowed to flow off, similar to the Gothic gargouilles; also used to designate the upright ornamental terminations of the joint tiles or harmi on the edge of the eaves.

ANTEPILANI, two classes of Roman soldiers, the Principes and Hastati, so called because they were drawn up before the Triarii, who were armed with the long spear or pilum.

ANTHELMINTICS, medicines which expel or destroy intestinal worms.

ANTHEMION, the ornamentation of Greek and Roman decoration derived from flowers, such as the honeysuckle, &c.

ANTHESIS, the period of the expansion of flowers when the fertilization occurs.

ANTHOZOA, synonymof Actinozoa.

ANTHROPOLOGY, the science of mankind, or the human race, and its various subdivisions. It includes Ethnology, or the consideration of various races; Ethnography, or the study of their works; and Archæology, or the traces and remains of man's past existence.

ANTIARINE, the poisonous principle or antjar poison found in the upas tree of Java, *Antiaris Toxicaria*, which belongs to the genus *Artocarpaceæ*.

ANTI-ATTRITION, synonymous with Antifriction.

ANTIBRACHIUM, the fore-arm between the elbow and hand.

ANTICHTHON, an imaginary region of Pythagorean philosophers, nearer to the central fire than this earth.

ANTICOUS, an anther whose lobes face the style, or a petal on the side of the flower facing the observer as it grows.

ANTIFRICTION, anything which diminishes the friction of machinery when in motion, such as lubricants, and certain metallic alloys, as aluminium, bronze, which, when employed as sockets, give the minimum of metallic resistance to motion.

ANTILEGOMENA, those books of the New Testament of the authority of which disputes existed at one time, though now received into the canon of inspiration. They included the Epistle to the Hebrews, Second Epistle of Peter, Epistles of James and Jude, and the Second and Third Epistles of John, as also the Apocalypse.

ANTILOIMIC, those remedies which were employed in averting or curing the plague.

ANTIMONITE, grey antimony ore, or native sulphide of antimony.

ANTIPATHIA, that system of medicine which consists in employing remedies which produce symptoms or results opposite to those of the disease, on the maxim, *Contraria contrariis opponenda.*

ANTIPEDES, the anterior pectoral extremities arising from the divergin: appendages of the occipital segments of skulls.

ANTIPELARGIA, an ancient law, which made the children when grown up chargeable with the support of the r aged parents. The stork, or Ciconia, being remarkable for its attention to its parents, the law was called *Lex Ciconiaria.*

ANTISCORBUTIC, any medicine which cures or prevents scurvy.

ANTŒCI, those so geographically situated as to be on the same meridian, but at equal distances from the equator on opposite sides of it. The longest day of the one is the shortest day of the other, and their summer and winter are opposite.

ANTONOMASIA, that figure of speech by which proper names are used as appellatives; as, He is a Cicero; for, He is a distinguished orator, &c. Or conversely; as when Claude is called the Prince of Landscape Painters.

APATELITE, a mineral similar to copiapite, found at Meudon, France.

APAUME, in heraldry, an open hand with the fingers and thumb extended and the palm shown, as on the armorial bearings of a baronet.

APEX, the highest point especially of a tapering object; the point of a cone.

APIINE, a gelatinous body found in parsley: it gives a blood-red colour in solution with sulphate of iron.

APODICTIC JUDGMENTS, indisputable, as distinguished from experimental or empirical judgments. Kant employs the term in his philosophy, having adopted it from Aristotle.

APODOSIS, the second part of a period in grammar and rhetoric.

APOLLONICON, the name given to a chamber organ constructed by Messrs. Flight and Robson, London, in the beginning of the nineteenth century.

APOSTILL, a marginal note to any work, in literature.

APOTHECIUM, the flat disc or shield enclosing the asci of lichens.

APOTHEME, an old chemical name for various extractive matters.

APOZEM, an old chemical name for a decoction.

APPENTIS, a kind of lean-to roofs supported by brackets or columns to protect a wall.

APPRAISEMENT, a valuation of goods sold under distress.

APYREXIA, intermission of febrile diseases.

APYROUS, an old term signifying bodies which resisted change under great heat.

AQUA ARDIENTE, a Mexican alcohol obtained from fermented juice of the agave.

AQUEOUS ROCKS, the sedimentary rocks, or those stratified deposits of geology which are due to the action of water; they include all the fossiliferous rocks, and they appear to be all more or less metamorphosed or changed by the action of heat and hydrostatic pressure combined.

AQUETTA, a poison used at Rome under the pontificate of Pope Alexander VII. It was also called *Aqua Toffana*, after a woman of that name who manufactured it at Naples; supposed to be a preparation of arsenic.

AQUILA ALBA, a name given to calomel by the alchemists, who called various sublimates by the name of Aquila.

ARABIN, a variety of gums, of which Gum Arabic is the most familiar example. They are all soluble in water.

ARAGONITE, a variety of carbonate of lime, from Aragon, Spain.

ARAKI, an Egyptian drink made from dates.

ARBUSTUM, an old name for a vineyard or orchard.

ARCHÆUS, or Spiritus Archæus, the occult cause of certain phenomena according to the old physicians and chemists.

ARCHIGENESIS, the beginning of life or being.

ARCOGRAPH, an instrument used to draw curves and arcs of circles without compasses.

ARDISIACEÆ, a former name for the botanical group now called Myrsinaceæ

ARENACEOUS, a term applied, especially in geology, to anything sandy, or having the qualities of sand. Thus the Arenaceous Rocks are the Old and New Red Sandstone, &c.

ARENATION, any cure effected by sprinkling hot sand on the body of the patient.

ARGENTITE, silver glance, or native sulphide of silver.

ARGENTOMETER, an instrument for ascertaining the quantity of silver in a solution. It consists of a graduated tube, into which an ascertained quantity of chloride of sodium in solution is introduced.

ARMOUR-PLATING, the covering used to protect ships of war, consisting of plates or shields of strong iron, generally on an under lining of teak wood.

ARRACHE, the representation in heraldry of a plant torn up by the roots.

ARTIODACTYLA, "even-toed," an order of Mammalia with hoofed toes, always of even number, as two or four: they include the hippopotamus and many other living and extinct genera.

ARVIL FEAST, a funeral supper in the northern counties of England.

ARYAN LANGUAGES, the great class of

languages which apparently belong to the Japhethic races, including Celtic, Hellenic, Indic, Iranic, Italic, Slavonic, and Teutonic. They were, according to Bunsen, disseminated from Iran in Bactria.

ASBOLANE, earthy cobalt.

ASBOLIN, a pitchy resinous substance found in the soot of wood.

ASEXUAL, without sexual organs: a term erroneously applied to the cryptogamic plants, in all the great divisions of which sexual organs have since been discovered.

ASHERA, round towers.

ASIARCH, the title of the highest ecclesiastic of Ephesus and the surrounding district of Asia Minor. He resided at Ephesus, and had spiritual care of the Roman province of Asia Minor.

ASSAMAR, a constituent of burnt sugar, of the flavour of toasted bread, which is said to be due to its presence.

ASTIGMATISM, a defect of the eye, shown by the varying inaccuracy of its vision at different distances; as, when a small round hole is presented between it and the light in a perforated card, this hole if perforated round should appear round when the card is held transverse to the line of vision at all distances; but under Astigmatism the eye sees it round when near, but elongated in various directions at varying distances within the limit of distinct vision.

ASTOMOUS, such mosses as have no aperture in the theca are so called.

ATHANOR, an alchemic furnace which supplied itself with fuel.

ATHERMANOUS, translucent or transparent bodies, which, though admitting the passage of light, obstruct that of heat.

ATTENUANTS, medicines which thin or dilute the blood.

ATTRIBUTE, synonymous with "predicate" in logic. Adjectives are called attributives by some grammarians because of their affirming or denying something concerning that to which they are applied.

ATTRIBUTES, in art, those symbols by which character or rank is indicated in the delineation of a figure; such as the orb in the hand of a king, &c.

ATTWOOD'S MACHINE, a machine used in illustrating the laws of uniformly accelerated motion, consisting of a pulley whose pivots are rested on wheels for the purpose of reducing the friction of rotation.

AULA REGIA, a court of law established by William the Conqueror, and subsequently regulated by Magna Charta, latterly merged in the Court of Queen's Bench.

AURA, the element in the particles of pollen in which the power of fertilising has been supposed to reside.

AURIPIGMENTUM, "gold paint," a name given to yellow sulphide of arsenic.

AUTHENTIC MELODIES, those melodies the principal notes of which do not range beyond the key-note and its octave.

AUTOCRAT, a name now confined to the Emperor of Russia, the only absolute sovereign of modern Europe. It is derived from the title αυτοκρατωρ, given to those generals of the Athenians who had plenary authority vested in them by the republic.

AVES, a class of birds, including the *Raptores*, *Incessores*, *Scansores*, *Rasores*, *Cursores*, *Grallatores*, and *Natatores*.

AXIS of Elevation, a geological term for the line of direction in which stratified rocks have been elevated from their originally horizontal position.

AXOLOTIL, a genus of perennibranchiate amphibians found in the lake of Mexico.

AYAPANA, or Eupatorium Ayapana, a sudorific remedy for snake-bites.

AZOTIC ACID, nitric acid.

AZULINE, one of the aniline dyes. It is a beautiful permanent blue.

B.

BABBLING FAUVETTE, or BABILLARD, the nettle-creeper or lesser white-throat, *Carruca garrula*, a small frugivorous bird of the passerine tribe.

BABIANA, a genus of South African Iridaceæ, with spikes of crocus-like flowers and sword-shaped leaves; so called by the Dutch Boors from the fondness of the baboon for their tuberous roots.

BABINGTONITE, silicate of iron and lime, found in Norway on albite and on Shetland quartz in blackish green laminated crystals of vitreous lustre.

BACK AND FILL, a mode of sailing by which a vessel keeps in the centre of a stream, and is carried by the current when the wind is contrary. It consists of moving ahead from one shore, and after crossing the current moving back into it from the opposite shore.

BACULITES, a fossil genus of tetrabranchiate cephalopoda, with straight-chambered shells with sinuous partitions and margins lobated. They differ from the Orthoceratites, and are by the peculiarity mentioned allied to the Ammonites.

BADISTER, a genus of coleopterous insects, consisting of carnivorous beetles belonging to the Harpalidæ.

BAGRATIONITE, a variety of Allanite, so called after Count Bagration.

BAIKALITE, a crystalline sahlite found at Lake Baikal, Siberia, at the mouth of the river Sljumanka.

BALÆNICEPS, an African bird found near the White Nile, with a robust broad bill terminated by a strong hook, lower mandible truncated at the tip, and very strong wings.

BALANCE OF ROBERVAL, an invention of

Roberval the mathematician to illustrate the mechanical theory of couples It involves a curious paradox, which was first satisfactorily explained by Poinsot in his "Eléments de Statique."

BALAUSTRA, a leathery-rinded fruit, with superior calyx, and irregular cells containing numerous drupaceous seeds. The pomegranate is an example.

BALNEUM, a bath, or bathing chamber, at one time distinguished from the public bath, which was called *Balneæ* though the distinction disappeared latterly, when hot water came to be introduced, and *Balneæ* and *Thermæ* were used as synonyms.

BALSA, a raft used on the South American coast, to land goods through the surf. Its floating properties consist of two air-tight bags connected by a tube, into which the conductor can conveniently blow additional air to replace what may have escaped. This is attached to the front of the raft, which is made generally triangular, and composed of sticks covered with matting, and capable of carrying four persons or a corresponding weight of goods.

BAMBOCCIATE, the term given to signify Dutch paintings of low life, from the Italian nickname given to Peter Laer who first distinguished himself for that class of subjects. They were called "dirt-painting," or "rhyparography," by the Greeks.

BANNEROLE, a small flag used at reviews to mark positions to be occupied by the flanks of regiments in the manœuvres.

BAOBAB, the Adansonia digitata, a remarkable tree of Abyssinia and Western Africa, which grows to a great age and extraordinary thickness compared with its height. They are frequently thirty feet in diameter, and not more than double that high. Adanson saw some which he calculated must have been six thousand years old. Though this has been doubted, there remains in support of it the great botanical fact that there is no limit to the life of an exogen, if it be supplied with an adequate amount of fertilising soil to enable it to maintain its vigour.

BAPHIA, a genus of leguminous trees, one of which, *B. nitida*, supplies the barwood or camwood used as a dye-wood.

BARBADOES NUTS, the violent purgative fruit of Jatropha Curcas.

BARBICAN, a watch tower; also, a tower or fort at the end of a bridge, to guard the passage, or the outer work for the defence of a fortification. The name is also given to loopholes or apertures in the walls of fortifications from which the enemy may be fired at.

BARKING IRONS, a series of instruments consisting of knives and chisels of appropriate shapes for separating bark from trees or scrub-wood, for the use of tanners, &c.

BAROSCOPE, an alternative name given to the Barometer, but more suitable for such barometers as are qualified to show variations merely without any graduated scale.

BAROSELENITE, heavy spar or sulphate of baryta. This is a misnomer, founded on resemblance of crystals to those of selenite.

BARRIS, the name given to a large kind of baboon found on the coast of Guinea.

BARYTO-CÆLESTIN, a native compound of sulphate of baryta and sulphate of strontia found crystallised in Canada and Switzerland.

BARYTO-CALCITE, a native compound of carbonate of lime and carbonate of baryta, found in the mountain limestone of Cumberland in the proportions of 33.7 carbonate of lime and 66.3 carbonate of baryta.

BASIGYNIUM, a stalk with an ovarium at its apex proceeding from above the origin of the calyx.

BASSO CONTINUO, synonymous with Thorough Bass in music.

BASTARD SUGAR, a refuse sugar left in the process of refining, the purifying of which would not remunerate the cost. It is known commercially by the name of "pieces."

BASTARD TUCK POINTING, a common imitation of tuck pointing in brickwork, done by scraping out the joinings of the courses, and putting in blue mortar, over which a pointing of white mortar is put.

BAT HORSES and BAT MEN, men and horses employed in the carriage of officers' luggage during campaigns.

BATARDEAU, a water-tight gate with a sluice-gate, used in dividing the wet and dry portions of the ditch of a fortification.

BATH METAL, an alloy composed of copper and zinc, in which the proportion of zinc is greater than in brass.

BATHYBIUS, a name given to a supposed protoplasmic covering found in deep sea beds, though, possibly, only an organic sediment in a state of decomposition, acted upon by some aquatic fungoid.

BATHYMETRIC ZONES, a series of zones of relative depth or elevation under recent scientific investigation for defining the various altitudes or depths at which vital organisms are distinctively distributed both on land and in water. These zones are a good deal modified by local circumstances, but they are pretty well defined in most instances. The terms employed in defining aquatic zones are, Littoral, Circumlittoral, Median, Inframedian, and Abyssal; taking the first in order downwards.

BATONNIER, a name given in France to the president elected by any fraternity or society, especially that of the Society of Advocates, from whose practice of carrying the baton or staff of their society, with the flag of St. Nicholas upon it, the name arose. It is doubtless to the same origin we owe the epithet applied to lawyers of "Clerks of St. Nicholas," and possibly "Old Nick," from their being looked on as the devil's servants.

BATT, a fine bituminous shale found interstratified with coal, known also provincially as Black Slag and Black Bass.

BATTA, allowances to troops given in India in the form of Wet Batta and Dry Batta; the latter being money, the former goods.

BATTOLOGY, unnecessary repetition, in rhetoric.

BAVINS, faggots of brushwood dipt in tar or other combustible substance, and placed in fire-ships, formerly used in setting fire to an enemy's fleet; now of little effect against iron armour.

BECHICUS, a medicine of any kind to soften or alleviate a cough; a cough-mixture.

BECKETS, the hooks and other arrangements by which the spars and tackle of ships are kept in their places.

BED OF JUSTICE, or LIT DE JUSTICE, the procedure of the French kings before the revolution, when the Parliament resisted their decrees or commands. On such occasions, where the king persisted he went to Parliament with his chief officers, and ascending the *lit*, or throne, caused the resisted decrees to be registered before him, after which the Parliament could only record its dissent in the form of a protest.

BEDEGUAR, a gall growing on the brier and other roses, like the oak-gall. It resembles a ball of moss, and was at one time used as a vermifuge and diuretic, and, according to Pliny, its ashes were used in compounding a remedy for baldness.

BEES, pieces of elm bolted to the upper end of the bowsprit of ships.

BEEKITE, a chalcedony first described by Dr. Beeke, Dean of Bristol, and found enveloping in concentric circles of the small tubercles of fossils.

BELAYING, fastening any part of the tackle of the running rigging of a ship round a belaying pin or cleat.

BELL-METAL ORE, native sulphide of tin, or tin pyrites, found in the Cornish mines, and so called from its resemblance to bell-metal.

BELLS, a nautical term for the half-hourly division of time during the watches on board of ships. The long watches reach the number of eight bells, or four hours; the short or dog watches, four bells, or two hours. The bell strikes one at the end of the first half hour of a watch, two at the end of the second, and so on progressively to the end of the watch.

BELOTES, the acorns of *Quercus Gramuntia*.

BELTIN, or BELTANE. See *Beltein*.

BEMBEX, the burrowing sand wasp, a genus of hymenopterous aculeate insects belonging to the *Fossores*.

BEN OIL, or OIL OF BEN, an antiseptic inodorous oil, valuable for extracting essences or fragrance from various flowers. It is the expressed oil of the nuts of *Moringa Aptera*, a tree which also supplies the *lignum nephriticum* used in affections of the kidneys.

BENIC ACID, a constituent of Oil of Ben.

BENZOLE, C_{12} H_5 + H, one of the products of the distillation of coal-tar, first found by Faraday among the products of the destructive distillation of whale oil.

BENZULE or BENZOYL, C_{14} H_5 O_2, the hypothetical base of benzoic acid, though more correctly applicable to the hydrocarbon radical C_{14} H_5.

BERAUNITE, a native hydrated phosphate of peroxide of iron, found at Beraun, in Bohemia.

BERENGELA RESIN, or BERENGELITE, a bituminous mineral found in a sort of pitch lake in the province of St. Juan de Berenguela, Peru.

BESIMEN, an old name of the seeds or spores of algæ, &c.

BÉTON, a French concrete prepared somewhat differently from that of England, being a hydraulic lime slaked before being presented to the sand, which is added after hydration has begun.

BIFURCATE, applied to anything with two fork-like prongs.

BILBERRY, the *Vaccinium Myrtillus* of botanists.

BILGEWAYS, timbers used in the launching of vessels.

BILIFULVIN, the yellow colouring matter of bile.

BILIPHEIN, the brown colouring principle found in bile.

BILIVERDINE, a green colouring body found in ox bile.

BILL OF QUANTITIES, the abstract of the estimate for a building, containing the amounts for the several trades employed in the construction.

BILL-BOARD, a rest or stool on which the flukes of an anchor are stowed on shipboard.

BINDING COAL, a name for caking or close-burning coal.

BIOGENESIS, a term applied in speculative philosophy to the supposed introduction of new species into the life-forms of the world.

BIOTITE, magnesian mica.

BIRADIATE, having two rays.

BISMUTHITE, native carbonate of bismuth.

BITTER SALT, a common name of Epsom salts, or sulphate of magnesia.

BITTER SPAR, a variety of crystallised cleavable Dolomite.

BIXIN, a colouring principle found in annotto.

BLACK AMBER, a Prussian name for pitch coal.

BLACK ASH, impure carbonate of soda.

BLACK-BAND IRON, a carbonate of iron, or clay ironstone, found inter-stratified with

the coal formation of Scotland and Staffordshire, and also in Westphalia. It is the richest source of the iron of Scotland.

BLACK DROPS, a solution, it is supposed, of opium and verjuice.

BLACK JACK, sulphide of zinc or blend, so named by miners.

BLACK WASH, a lotion of lime-water and calomel.

BLANK CARTRIDGE, a cartridge of powder without ball, used at reviews and drill, and for saluting.

BLANK VERSE, a rhythmical form of poetical composition, consisting in Italian of eleven syllables, but greatly enriched in its musical power and onomatopœia by Shakespeare's use of it in the English drama, who frequently makes twelve syllables by doubling the short syllable at the end, and also as often reduces it to ten. For intense, and at the same time flexible, expressive power, his lines are the model of English blank verse; and Milton's more uniform adhesion to the ten syllables makes his lines heavy and monotonous in comparison.

BLASTUS, the plumule and radicle of grasses.

BLEPHARITIS, inflammation of the eyelids.

BLEU DE PARIS, one of beautiful permanent blue aniline dyes produced by the action of bichloride of tin on aniline.

BLIND STORY, the triforium, as distinguished from the clerestory in ecclesiastical architecture.

BLINDAGE, a proof roofing over a magazine.

BLOCK PLAN, the first rough ground-plan of a building.

BLOCK-SHIP, a ship of war employed on coast-line duty for local defence.

BLOND METAL, a clay ironstone found in the Staffordshire coal measures.

BOCCIUS' LIGHT, a burner invented by Boccius, consisting of a pair of concentric cylinders of metal so placed over a flame as to direct the current of atmosphere as a supporter of combustion, and increase the illuminating power.

BOG BUTTER, hartite, found in Irish peat-swamps.

BOILER PLATE, a name given to plate-iron, now used for various purposes of construction. Its resistance is about twenty tons to the square inch; the rule of safety in use being to leave three-fourths of the power of resistance in reserve.

BOLOGNA PHIALS, unannealed glass phials which have the peculiarity of at once flying to pieces when scratched by any sharp or angular body, such as a grain of sand, but which will bear the dropping of a lead bullet into them without injury.

BOORT or BORT, a variety of the diamond apparently twisted and convolved during the process of crystallization, so that it cannot be cut to any advantage, and is only useful for cutting other diamonds when reduced to powder.

BORNEO CAMPHOR, a camphor obtained from *Dryobalanops Camphora*.

BORNITE, a name of purple copper ore; also of a variety of telluric bismuth.

BOTANY BAY GUM, a gum resin obtained from *Xanthorrhœa resinifera*. (*X. hastilis.*)

BOTRYTIS INFESTANS, a parasitical species of fungus belonging to the genus *Botrytis*: they are microscopical moulds or fungi. *B. Infestans* is the fungus developed in the process of the potato disease, though it may be doubted whether it is not rather the effect than the cause of disease; all unhealthy or decaying vegetable matter being liable to such parasitical visitants. The disease in silkworms called muscardine is characterized by the presence of another species of Botrytis, *B. Bassiana*.

BOULE, a name given to the Senate of Athens.

BOULE-WORK or BUHL, marquetry work of inlaid woods, tortoise-shell, gilt metal, &c. There were two French cabinet-makers, father and son, who excelled in this work during the reign of Louis XIV., and the name of this sort of work was derived from theirs.

BOULES DE NANCY, the *Globuli Martiales* of the old chemists. They are small balls of potassio-pertartarate of iron.

BOYLE'S FUMING LIQUID, a fœtid liquid consisting of bisulphide of ammonium.

BOYLE'S LAW OF GASES. This law is, that "the volume of a gas is inversely as the pressure;" or, in other words, the volume of a gas is reduced in the same proportion as the pressure is increased.

BRATTICE, a partition in the main shaft of a mine which divides the upward from the downward current of air. A natural brattice is a shaft in which the upward and downward currents pass each other without obstruction, though there be no partition between them.

BREECH-LOADING, a system of loading guns, &c., reintroduced in modern gunnery. It has many disadvantages, and also many merits, among the more important of which are the facility it gives for rapidity of fire, and the more complete ventilation of the gun.

BREEDING IN AND IN, the close-breeding of race-horses and cattle, or breeding into the same stock.

BREMER GREEN, a green pigment made by mixing the carbonates of copper and lime with alumina.

BRETWALDA, the title of the chief king of Anglo-Saxon England during the Heptarchy. He appears chiefly to have been the leader of the united forces of the various kingdoms against a common enemy.

BRIDGEWATER TREATISES, a series of

scientific works published under the will of the Rev. Francis Henry Earl of Bridgewater, to illustrate the power, wisdom, and goodness of God, as manifested in creation. There are eight of them in all.

BRITANNIA METAL, an alloy of tin with a small proportion of antimony and copper.

BROMOFORM, a heavy volatile liquid similar to chloroform, but in which bromine takes the place of chlorine.

BRONZING LIQUID, a solution for bronzing iron, &c., composed of chloride of antimony and sulphate of copper; also a solution of chloride of platinum for bronzing brass.

BRYONINE, a poisonous bitter principle found in the roots of *Bryonia alba*.

BRYOZOA, an order of polypes of which the sea-mat or *flustra* is an example.

BUDE LIGHT, a burner invented by Mr. Gurney, of Bude, Cornwall, to supply oxygen gas to the combustion of gas or oil. The expense and trouble, however, rendered it impracticable for general purposes.

BUHL WORK. *See* BOULE.

BULBODIUM, an underground stem similar to a rhizome.

BULGE WAYS, timber supports used in supporting the sides of a ship in building and launching, which float away when the vessel is launched.

BUMBELO, a flattened ovoid glass flask, used for the sublimation of camphor.

BURGEE, a flag terminating in two points.

BUTIC ACID, a matter found in combination with glycerine in ordinary butter.

BUTTS, those short unequal ridges which occur in the ploughing of a field whose ridges are not parallel to either of the sides.

BUTYL, the radical or base of butylic alcohol and a number of other compounds.

BYZANTINE HISTORIANS, a series of authors who wrote history during the continuance of the Eastern Empire for the nine centuries preceding the fall of Constantinople. Their works are Byzantine history, general history, and special works on Roman institutions and customs, &c.

C

CACHEXIA, a bad condition or habit of body, giving rise to cachectic affections.

CACODYLE, or Kakodyle. *See* ALCARSIN.

CADASTRAL, a term applied to surveys, signifying that they are of an extensive character or on a great scale. Cadastral maps represent the objects in their relative positions and dimensions, and with much greater accuracy than the maps of topographical surveys. The cadastral scale is called the 25-inch scale, being very nearly 25 inches to the mile.

CADET'S FUMING LIQUID. *See* ALCARSIN.

CÆNOZOIC ROCKS, the tertiary rocks have been with doubtful propriety so called by those who believe in the introduction of new life forms into the world during the tertiary epoch. Sir Charles Lyell was compelled in his later works to admit, before the evidences which progressive discovery had brought to light, that there must have been but one period of animated creation. This would certainly make the term Cænozoic, or Kainozoic, as signifying *new life*, untrue; but the name is convenient.

CÆSIUM, a primary alkaline metallic element, discovered in 1860 by means of spectrum analysis by Kirchhoff and Bunsen in the water of Durckheim and Baden. It was considered one of the most triumphant demonstrations that had been yet found of the minute accuracy of spectrum analysis.

CAINCIC ACID, an acid found in the bark of cainca root.

CALABAR or ORDEAL BEAN, a poisonous bean obtained from *Physostigma Venenosa*. It is used as an ordeal to test guilt in Africa, where, if it produces vomiting in the accused, it is held to indicate innocence; if purging, guilt. Dr. Christison nearly lost his life from eating a fourth of one of them, and some children were poisoned at Liverpool by them.

CALCANTHUM, sulphate of iron or copperas was so called by Pliny.

CALCEDONYX, an agate in which white and greyish translucent chalcedony alternate.

CALCEOLARIA, a genus of shrubby herbaceous South American flowering plants, with flowers resembling an old-fashioned slipper; whence the name, from *calceolus*.

CALCIGRADE, from *calx* and *gradior*, a term signifying that an animal's heel sinks deeper than the other parts of the foot in walking.

CALCILE, a term comprehending all the varieties of carbonate of lime.

CALDERITE, a massive Nepal garnet.

CALIDUCT, a conductor of heat; more particularly any pipe arrangement for heating houses or churches, &c.

CALLUS, the matter by which fractured bones are reunited, being a deposit of new bone.

CALORIFACIENT, non-azotised portions or constituents of food, which are supposed to be required in the maintenance of animal heat, such as sugar, starch, fat, and gummy matters.

CALORIFIC RAYS, the heating but invisible rays of any centre of heat.

CALOTYPE, or KALOTYPE, the name given to photographic pictures produced by the action of light on certain salts of silver. *See* PHOTOGRAPHY.

CAM WOOD, a dye wood yielding a finer and more permanent red than Brazil wood. It is the product of an African tree, *Baphia*

Nitida, found in the interior of that continent and at Sierra Leone.

CAMERATED SHELLS, a characteristic of a series of shells of Cephalopoda, now almost wholly extinct. It signifies that the shells are divided by transverse partitions into a number of chambers traversed by a siphon.

CAMPANULARIA. *See* PARTHENOGENESIS.

CAMPHENE, or CAMPHOGENE, one of the hydro-carbons, consisting of ten atoms of carbon and eight of hydrogen, whose equivalent is 68; the ten atoms of carbon being = 60. It is thus the same as oil of turpentine.

CAMPHRONE, a volatile product given forth when camphor vapour is passed over red-hot lime.

CANEPHORÆ, a term signifying "basket-bearers," applied to figures of young persons of either sex bearing on their heads baskets with fruits and other offerings for sacrifice, employed as a feature of architecture.

CANICULAR DAYS. *See* DOG DAYS.

CANICULAR YEAR, the solar year of the ancient Egyptians, because its commencement was fixed by the helical rising of the Dog Star, *Canicula*, which coincided then with the annual inundation of the Nile

CANNELURES, the name given to the circular grooves in the cylinders of cylindro-conoidal shot

CANTILEVER, a wood bracket or support, fitted into the wall of a house, from which it projects to support the eaves with their cornice and moulding.

CAPE WEED, the *Roccella tinctoria*, a lichen, yielding dyeing matter, imported from the Cape de Verds.

CAPIBARA, sometimes called the Water-hog, a rodent quadruped of aquatic habits, typical of the genus *Hydrochœrus*. It is the largest of all known rodent quadrupeds, and is found in the proximity of the South American rivers.

CAPILLAMENTUM, an old synonym of "filament."

CAPO D' OPERA (*Pl.* CAPI D' OPERA,) a synonym of the French expression, *chef-d'œuvre*, and English "master-piece."

CAPSILL. This expression of modern engineering is a blundered application of the word "sill;" as "window sill," signifying the lower horizontal part of a framing; "cap sill," evidently first used in the sense of "top sill," is now very frequently used to designate the horizontal beam at the top of timber framings, as in bridges, &c.

CAPYBARA. *See* CAPIBARA.

CARABINE-A-TIGE, a French rifle of special construction, consisting of an iron projection from the breech, in the centre of the bore, so constructed that when the bullet is driven home in loading, it is expanded on this pin, by the force of ramming, into the grooves of the barrel.

CARAIPA, a celebrated cure for the itch is produced from one of this species, *C. fasciculata* of South America, belonging to the genus *Ternstromiaceæ*, and known as the balsam of Tamacoari.

CARAITES, a Jewish sect distinguished by their rejection of the interpretation of the Rabbis and the Cabbala, and their close adhesion to the letter and original text of the Hebrew Scriptures.

CARCERES, the cells constructed in the buildings of the great circuses of the ancients, at the starting point, for receiving the chariots and horses of the competitors, and so arranged as to facilitate their equal and simultaneous starting in the race.

CARDITIS, inflammation of the heart.

CARDUELIS, a genus of passerine birds, or conirostral perchers, including the *Carduelis elegans*, or goldfinch, and a number of other siskins less arboreal in their habits than the true finches.

CARMINATIVES, medicines to alleviate flatulence and its effects.

CARNEIA, a festival observed at Sparta and other Greek cities in honour of Carneius or Apollo.

CARPADELIUM, a botanical term sometimes applied to inferior multi-celled indehiscent fruits, containing one seed in each cell.

CARPAL, applied to the wrist; as carpal bones, the bones of the wrist.

CARPOLITES, fossil seeds and fruits.

CARPUS, the wrist in human anatomy, and the corresponding segment of the skeleton in comparative anatomy. In man it is composed of eight small bones, arranged in the form of an arch for strength and self-protection: they are respectively called *scaphoides*, *lunare*, *cuneiforme*, and *pisiforme*, composing in their arrangement the first row; and *trapezium*, *trapezoides*, *os magnum*, and *unciforme*, forming the second row.

CARTHAMINE, the colouring principle of safflower.

CASEINE, that nitrous constituent of milk which forms the chief substance of cheese. It is only coagulable by acids, and, so far as yet known, by rennet, the well-known curdling matter obtained from the decomposition of the fourth stomach or rennet-bag of calves.

CASSELL YELLOW, Turner's Yellow, or Patent Yellow, a yellow pigment composed of chloride and oxide of lead.

CASSIDEOUS, the helmet-like upper leaf of a flower petal, such as is seen in the monk's-hood or aconite. It forms the hood from which the former name is derived. (Lat., *cassis*, "a helmet.")

CATACHRESIS, in rhetoric, a trope which uses the name of one thing to express another; a metaphor.

CATAPETALUS, the characteristic of the

petals of a flower held together by stamens growing to their bases; exemplified in the mallow.

CATAPHRACTED, covered with hard bony or horny plates or callous skin closely jointed.

CATAPHRACTI, or *Equites Cataphracti*, the name given to ancient cavalry covered with complete suits of defensive armour.

CATAPULT, an ingenious but mischievous adaptation of the elasticity of vulcanised india-rubber, by which a substitute for the ordinary sling has been produced, easy of construction, and very dangerous in the hands of boys or unprincipled persons. It throws stones with great force and accuracy, and might be utilised advantageously where no other weapon of equal power is at command.

CATEGOREMATIC, a word capable of use in itself as a term in logic, or as a predicate, is so called.

CATHARTIC, medicines which act upon the bowels. Mild cathartics are those which are less severely purgative. Cathartics of a *drastic* character are those violent purgatives, such as croton oil, which can only be justifiably employed in very extreme and exceptional circumstances, unless greatly diluted.

CATOPTROMANCY, divination by mirrors.

CAUDA EQUINA, the origin or roots of terminal spinal nerves contained in the neural canal of the vertebræ, surrounding the filum terminale of the myelon.

CAVENDISH EXPERIMENT, a mechanical contrivance for determining the mean density of the earth by means of the balance of torsion. The suggestion appears to have first originated with the Rev. John Mitchell, though first carried out by Henry Cavendish. See his report in the "Philosophical Transactions" for 1798.

CAVICORNIA, a tribe of Cavicorn Ruminants, including, as the name implies, those with hollowed out horns growing on bony processes of the frontal bone, such as the antelopes.

CEDRIRET, a crystalline body of a reddish orange colour found in creosote.

CELLULOSE, the matter of which the cell walls and vascular tissue of plants are composed. It is chemically inactive and very insoluble.

CEMENTS HYDRAULIC, carbonate of lime and silicate of alumina in varying proportions, of from about 36 to 84 of the former and 16 to 64 of the latter, form a cement which sets very quickly under, and increases in hardness from, the action of water.

CEMENTS PORTLAND, the Portland cements are obtained artificially by the calcination of a mixture of chalk and clay, from which artificial cements of the constituents and proportions of the hydraulic cements above mentioned are made: they are called *artificial cements*.

CEMENTS ROMAN, the Roman cements are obtained by calcinating natural stones, from which cements similar in constituents and proportions to the Portland cements may then be made, but distinguished from the latter by being called *natural cements*.

CENOBIO, a regular fruit, the acephalous pericarps of which are not marked at their summit by the ordinary stigmatic scar, in consequence of the style being connected with their base.

CENOTAPH, a tomb or monument erected to the memory of some one whose body has not been found for burial, or has been interred elsewhere.

CENTRAL SUN. The sun of our system and all the fixed stars, so far as observation has been able to determine, have direct motions in addition to any orbital motions they may have in relation to the primaries or secondaries of their own particular systems; and M. Mädler, of Dorpat, has endeavoured to assign these direct motions to immense orbits described by them round some common centre. It is certain that all completely ascertained astronomical motions are of an orbital character; and even the parabolic and hyperbolic comets may have only extremely elongated motions of this character round, not our sun, but a greater and more remote central body. M. Mädler has concluded that the central sun with reference to our system is Alcyone, η Tauri, the brightest star of the Pleiades; and assuming this star to be as far from 61 Cygni as the sun is, and adopting the parallax of 61 Cygni as announced by Bessel, he concludes the mean semidiameter of our sun's orbit round Alcyone to be about 34 millions of times as great as the earth's mean distance from the sun. This enormous orbit our sun cannot traverse in less than eighteen millions two hundred thousand years even at the velocity, at which it is proceeding, of one hundred and eight thousand miles per hour.

CENTURIATORS OF MAGDEBURG, the name adopted by certain historical Lutheran writers at Magdeburg, who compiled a great work on Church History from the earliest times to the period of the Reformation.

CEPHALANTHIUM, the capitate inflorescence or head of a composite plant.

CEPHALITIS, inflammation of the brain.

CEPHALIUM, a woolly peculiar mass which grows at the apex of the stem, and out of which the flowers of the *Melocactus* issue.

CEPHALOTHORAX, the first segment of crustaceans and arachnidans.

CEPHALODIUM, synonymous with *Tuberculum* in treatises on the lichens. It signifies a convex shield like figure without an elevated rim.

CERACEOUS, waxy; applied in botany to parts with the texture and appearance of wax.

CERAMICS, all varieties of kiln-burnt potter's work.

CERATIUM, a superior one-celled and many-sided fruit, with two dehiscent valves separating from the replum, differing from the silique by the lobes of the stigma alternating with the placenta.

CEREALS, or CEREAL GRASSES, the bread corn plants, including maize, rice, millet, and all the British grain plants.

CEREBRAL LOBES, the several divisions of the brain.

CEREBRIC ACID, a fatty acid found in the matter of brain, and containing phosphorus and nitrogen.

CERINE, a brownish black variety of allanite, found in crystalline masses along with cerite, copper pyrites, and hornblende, at Bastnäs, Sweden.

CERINUS, a term employed in botany to distinguish anything having the colour of yellow, or of a reddish brown yellow wax.

CEROLEIN, a soft fat found in bees'-wax.

CEROSIN, a waxy body exuded from sugar cane.

CERULINE, indigo, after it has been dissolved in sulphuric acid.

CERUMEN, the waxy matter secreted by the ear, composed of an oily matter, bitter colouring matter, and albumen.

CERVIX, an obsolete synonym of the botanical term *Rhizoma*.

CESTROTUM, pictures painted by the cestrum.

CESTRUM, an instrument used by the Greek and Roman painters, pointed at one end and flat at the other, and thereby qualified both to outline and spread the colour on their pictures,

CESTVAEN, Kistvaen, or Cistvaen, a place or enclosure formed of stone for receiving the bodies of those therein interred, found in the barrows or burial mounds of the ancients. They are usually three stones forming sides, and a stone cover at the east end of the barrow.

CETYL, the radical of a series of organic compounds. It forms salts in combination with negative radicals.

CHALCOTRICHITE, a red fibrous copper ore, or plush copper.

CHALK LIME, that lime distinctively which is made from the upper strata of the chalk formations. It is very pure, but deficient in hydraulic qualities, and therefore cannot be used alone.

CHAMBERS OF GUNS, the cavity made in the breeches of some ordnance at the bottom of the bore for receiving the charge.

CHAMBRE ARDENTE, a tribunal instituted by Francis I. in France for the condemnation and burning of heretics: also several tribunals appointed by extraordinary commissions under Louis XIV. and the Regent Orleans for dealing with certain offences.

CHAMFRON, or CHAMP-FREIN, plate armour for protecting the faces of horses.

CHAMPIONSHIP, the office of public champion, at one time in the family of Marmion. It was a condition of the tenure of the manor of Scrivelsby, Lincolnshire. It became extinct on the death of Henry Dymock, whose last appearance in the office was at the coronation of William IV.; he having left no male heirs. It was in the Dymock family from the time of Edward I.

CHANTARELLE, a highly esteemed esculent fungus, *cantharellus cibarius*, found common in the woods of England.

CHARLOCK, the *Sinapis arvensis*, and *Raphanus Raphanistrum*, two of our commonest corn weeds. They have flowers and seeds similar to those of the turnip and cabbage plants.

CHATOYANT, the changeable light reflected by various minerals is so called.

CHELÆ, the claws or forceps-armed extremities of crustaceans, as the lobster, crab, &c.

CHERIMOYER, the fruit of *Anona Cherimolia*, celebrated in Peru for its delicious qualities.

CHIARO-SCURO, that disposition of the lights and shadows of a picture, whether positive or reflected, by which the objects are made to stand out in natural relief.

CHILOMA, the tumid upper lip of certain quadrupeds in continuity with the nostril, exemplified in the camel, &c.

CHINA INK, or INDIAN INK, a mixture of finely divided carbon and gelatine, said to be sometimes composed of the ink of the cuttle-fish desiccated. The finest kinds have no grit, and are tested on the teeth to determine their quality. It is now frequently imitated in Europe by various mixtures of lamp black, burnt beans, &c.

CHINA ROOT, the root of *Smilax China*, now almost superseded in medicine by sarsaparilla.

CHINESE SWALLOWS' NESTS, the edible nests formed by a secretion from the mouth of the Chinese swallow, at one time supposed to be made by the bird from some of the sea lichens.

CHIP, a plaiting fibre for hats, obtained from the leaves of the palm, *Thrinax Argentea*.

CHIRAGRA, gout in the hands.

CHIRETTA, or CHIRATA, an Indian tonic, obtained from *Agathopes Chirata*, one of the gentian family.

CHITINE, the substance of the shells and wing covers or *elytra* of insects.

CHLAMYPHORUS, a small species of armadillo, analogous in its plate covering and skeleton to the extinct megatherium.

CHLOR-IODOFORM, a liquid derived by one

equivalent of iodine replacing chlorine in chloroform.

CHLORAZOL, a pungent acid liquid of a poisonous character, produced by the action of nitrohydrochloric acid on albumen.

CHLORITE SLATE, the geological name of Chlorite and Ripidolite, when found in mountain masses.

CHLORODYNE, a solution of morphia and Indian hemp with oil of peppermint, chloroform, and ether, &c., is sold as an anodyne under this name.

CHLOROFORM, (C_2 H Cl_3,) a heavy liquid, also called *terchloride of formyle*, first introduced as a great anæsthetic agent by Sir James Simpson. Care is required that it be pure and its vapour properly diluted with atmospheric air, and also that the cases in which it is applied are of a suitable character for its use, in which cases it has been found an effective and most useful anæsthetic.

CHLOROPAL, an amorphous yellow green mineral, formed of hydrated silicate of iron, found among the Hungarian opals.

CHLOROPHYLL, the green colouring matter of leaves of plants.

CHLOROPICRIN, a pungent oil obtained by the action of chloride of lime on picric acid.

CHLOROUS ACID, (Cl O_3,) an explosive gas produced by heating chlorate, arsenious acid, and nitric acid together.

CHLOROUS POLE, that pole or electrode of a battery at which chlorine is evolved during the electrolysis of compounds of chlorine. Synonymous with "positive pole."

CHOLAGOGUES, medicines which cause the evacuation of bile.

CHOLEIC ACID, a fatty acid forming in combination with soda one of the principal constituents of bile. Its formula is C_{44} H_{40} O_9 NS.

CHOLEPYRRHIN, the brown colouring principle of human bile.

CHRISMATINE, a mineral resin found near Halle.

CHRIST, the name given to God manifested in the form of humanity, from Χριστος, the Greek synonym for the Hebrew word *Messiah*, signifying "The Anointed."

CHRISTIANITY, the whole scheme of revelation given by the Creator of the universe of those truths concerning the interests and responsibilities of the human soul, which cannot be reached by mere human wisdom or intellizence, but which it is necessary every man should be acquainted with in this life, as an immortal being, whose condition does not end in this world. This revelation is guaranteed not only by the word of God, in which it is announced, but by the Spirit of God, which is freely given to all who receive it for the purpose of guiding them in its true interpretation and accomplishing its purpose of human salvation in them. Revelation is therefore not only supernatural in its truths, but also in the immediate means provided by God for applying those truths to the mind and heart of man; and they only can disregard it who are themselves ignorant of it; for the natural mind of man, unenlightened by divine grace, can neither judge fully of it, nor understand it.

CHROMATIC THERMOMETER, a philosophical curiosity has received this name, from the circumstance that when a piece of heated metal or other body is applied to the edge of a rectangular plate of glass exposed to a beam of polarized light, the difference between the temperature of the glass and that of the body will cause coloured fringes to appear,—the colour of the central fringe approximately indicating the temperature of the body.

CHROME MICA, an emerald green mica found at Schwartzenstein.

CHROME OCHRE, a greenish substance found in earthy masses in the chromate of iron of Unst, Shetland.

CHROME ORANGE, a dichromate of lead, formed by boiling yellow chromate of lead with lime.

CHROME STONE, a name given to chrome ochre when intimately mixed with rock.

CHROME YELLOW, yellow chromate of lead.

CHROMITE, synonymous with chromic iron or chrome iron, *q.v.*

CHROMO-LITHOGRAPHY, a branch of lithographic colour-printing applied with great success to the fine arts in the reproduction of pictures. It is accomplished by successive printings.

CHROMO-XYLOGRAPHY, letter-press printing in colours by means of wood blocks.

CHRONIC, a medical term, distinguished from acute, as signifying those diseases which are of long duration, as compared with those which are more rapid or evanescent.

CHRYSANILIC ACID, a bluish red substance, precipitated by adding an acid to a solution of indigo in potash.

CHRYSELEPHANTINE, those works of the Greek sculptors which were overlaid with gold and ivory. Phidias adopted this mode of treatment in his great colossal work, the statue of Athênê.

CHUSITE, an altered chrysolite found in the Limbourg basalt.

CHYLE CORPUSCLES, extremely minute corpuscles or cells found in chyle. They have sometimes tuberculated surfaces, and are about the two-thousand-five-hundredth part of an inch in diameter.

CICATRIX, the scar or mark left after the healing of a wound.

CILIARY LIGAMENT, the circular ligament which in the eye divides the choroid membrane from the iris.

CILIARY PROCESSES, the white folds at the edge of the uvea, proceeding from it to the crystalline lens of the eye.

CILIATED, an adjective formed from *cilia*, and of co-extensive application. *See* CILIA.

CINCHONIC or Kinic Acid, an acid whose formula is $C_{14}\ H_{11}\ O_{11}$, HO, found in Peruvian bark.

CINDER BED, a marine bed composed of oyster-shells, found in the Middle Purbeck formation.

CINGULUM, the neck or constriction of a tooth dividing the crown from the fang.

CINNAMEIN, a fragrant body found in balsam of Peru.

CINNAMYLE, ($C_{18}\ H_7\ O_2$,) the hypothetical radical of oil of cinnamon.

CINQUECENTO, the styles of ornamentation and painting which prevailed in the sixteenth century, at which period the arts of the revival reached their greatest perfection.

CIPPUS, the name given to such Roman sepulchral monuments as consisted of a small column, rectangular or rounded.

CIRCUMSCISSILE, a transverse circular dehiscence of the ovary or seed-pods of certain plants, as exemplified in Anagallis.

CIRRO-STRATUS, a cloud whose form is intermediate between those of the *cirrus* and *stratus*: a modification of it may be observed in those clouds which receive the popular name of "a mackereled sky," and which indicate approaching rain. The cirro-stratus is the wane-cloud.

CIRRUS, the curl-cloud.

CIRSOCELE, morbid enlargement of the spermatic veins of the groin.

CITADEL, the strong fort within fortifications which is qualified to become the last resisting point of a garrison.

CITRINE OINTMENT, a lemon yellow ointment containing nitrate of mercury. The *unguentum hydrargyri nitratis*.

CITRONYL, or CITRENE, a hydro-carbon, forming the chief constituent of oil of lemons.

CITRULLUS, the well-known cathartic, colocynth, obtained from the gourds of *C. Colocynthis* of Spain and the Levant, &c.

CLAIRVOYANCE, the name given to a superior power of vision claimed for those under the influence of Mesmerism,—a pretension of great extravagance. The superiority of *instinct* over *reason* is exemplified in all animals, and also in many of the spontaneous actions of man, and when the reason is dormant, a more extended action of the instinct may remain, as exemplified in cases of Somnambulism, but this is the limit of the phenomenon.—[J. A. S.]

CLAUSTHALITE, a selenide of lead, with a portion of the lead sometimes replaced by silver, found in the Hæmatite of Clausthal and elsewhere.

CLAVICLE, the collar-bone.

CLAY IRONSTONE, compact carbonate of iron, or siderite, with an admixture of clay.

CLAYITE, a variety of galena found in Peru, containing about 25 per cent. of copper, arsenic and antimony, and forming an amorphous coating upon quartz in small dark grey crystals.

CLERESTORY or CLEARSTORY, the openings of the gallery above the side aisles of a Gothic building, looking into the upper part or roof of the nave or centre aisle.

CLICHY WHITE, pure white lead, or refined carbonate of lead, manufactured at Clichy, France.

CLINICAL, a term applied to any lecture or instruction given to students at the bedside of a patient: so called from κλινικος, "relating to a bed."

CLIPPER, a trading ship constructed for rapid sailing, with finely curved bows, sharp in form, deep keel, and tall spars.

CLOSE-BURNING COAL, the varieties of strong-burning bituminous coal which swell and cake during combustion, receive this name from these peculiarities.

CLOUDS, those visible masses or accumulations of vapour which float at various altitudes in the atmosphere. To Mr. Luke Howard we owe the systematising of their various forms, and the indications of weather thereby more or less prognosticable. The three primary forms are *Cirrus*, *Cumulus*, and *Stratus*; of which the *Cirrus* is a fibrous-looking cloud; the *Cumulus*, a massive cloud presenting rounded or convex upper surfaces; and the *Stratus*, those clouds spread out horizontally and often in strata or apparent layers. The *Cirrus* occupies the higher regions of the atmosphere; and the *Stratus* the lower, and includes mists and fogs. Intermediate between the three primary forms are those clouds which partake more or less of the characteristics of two of the primaries; as the *Cirro-cumulus*, the *Cirro-stratus*, and the *Cumulo-stratus*, also called the "twain cloud." The *Nimbus* is the "rain cloud," or that form in which the others resolve themselves into rain.

CLUB-HAULING, a mode of tacking resorted to when a vessel is in danger of running ashore, and has not sufficient sea room for tacking. It consists in letting go the lee anchor when the wind is out of the sails, and bringing the vessel's head suddenly to the wind with the way upon her: the cable is then cut with a buoy attached to it, to mark the place for its subsequent recovery, and the sails trimmed, by which means the ship will pay off and make considerable headway in much shorter distance than by ordinary tacking.

CLUTCHES, or Glands, those couplings of

machinery which are accomplished without coupling boxes.

CLYSSUS, water obtained by the deflagration of nitre with charcoal, generally resulting in the bursting of the vessel employed. This roundabout mode of sometimes getting a few drops of water, resorted to by the alchemists in the earliest infancy of chemical science, was looked upon as quite an occult operation, and the water so obtained invested with no limit of pretentious value and importance.

COACERVATE, an old term signifying "accumulated," and applied to some of the excretions and secretions when long retained.

COAGULABLE LYMPH, the fibrine of the blood is sometimes so called from its peculiar power of spontaneous coagulation.

COAL BRASSES, the iron pyrites found in mining districts in coal and shale, which is frequently used for the manufacture of sulphuric acid.

COAL TAR CONSTITUENTS, a series of important products obtained, by rectification, from coal tar. There are fifty or more of these compounds. The four bases are Picoline, Leucoline, Aniline, and Pyridine. The coal tar colours are obtained from the three products, aniline, phenylic acid, and benzole, all of which contain the organic radical phenyl. Benzole is converted into aniline by heating it with nitric acid, and afterwards with scraps of iron and acetic acid. Magenta is produced by heating aniline with arsenic acid; mauve, by heating it with bichromate of potash and sulphuric acid; and violet and blue, by heating magenta with aniline. Of these dyes coal tar is very productive.

COCA, a narcotic obtained from the leaves of *Erythroxylon Coca*, masticated and mixed with lime, and then formed into small balls called *acullicos*.

COCHLEA, the portion of the internal ear which is shaped like an ordinary snail shell has received this name from its form.

COCKET, the scroll of parchment received by merchants from the officers of customs on entering their goods. It is a certificate that the goods have been customed and may therefore be discharged.

COCYTUS, a branch of the Styx, according to Homer; one of the rivers of Hades.

COEFFICIENTS. *See* CO-ORDINATE GEOMETRY.

CŒLIAC ARTERY, the first branch of the aorta in the abdomen.

CŒLIAC PASSION, a very painful form of diarrhœa, so called by some authors.

CŒNURUS, the hydatid which by its parasitical action on the brain produces *staggers* in sheep.

COGNOMEN, the third name by which those of any descent or good family were designated in Rome. The first was the *Prænomen*, which served to distinguish the individual; the second was the *Nomen*, denoting the class or rank to which his family belonged; and the third, or *Cognomen*, signified the *familia*, family or house of which he was a member.

COILS, GUN, the twisted metal of which modern guns are made, consisting of bar metal wound at welding heat round mandrils of appropriate size: the gun metal being so formed in the first stage of the operation is then welded, bored, and turned of the desired dimensions.

COINAGE, that system of minting which gave an authoritative stamp and form to the currency of ancient and modern times. If a parcel of gold be taken to the British Mint in the state of nuggets or bullion, it is first made into ingots, on which the assayers make their report, a certificate being given in the form of a Mint bill, stating the fineness, weight, and value of the ingots, to the owners of them, which are then delivered to the melter, who has the duty, according to the assayer's report, of adding either alloy or fine gold to bring the mass to the standard of currency, being twenty-two of pure gold to two parts of alloy. The gold is then cast into bars, which are next assayed by a sample from both ends of each bar. On the assayer's report approving of them, the bars are then sent to the coining department, and rolled out into plates of suitable thickness, out of which the *blanks* are punched, and the remainder of the plate or *scissel* sent to be remelted. The blanks, or coins in the unstamped state, which amount to about two thirds of the entire plate, are then annealed, and passed through the marking machine, by which the edges are a little raised and smoothed, after which they are blanched or cleaned in hot and dilute sulphuric acid. The final process is then gone through of stamping between two steel dies the obverse and reverse simultaneously upon them, and at the same time the milling of the edge by means of a collar which rises at the time of striking. By means of appropriate machinery the blanks are brought to the stamping dies, and thrown off after being impressed; the process being little else than feeding a hopper with the blanks at this point and clearing away the coins. No charge is made for minting, but any one bringing such quantities of bullion as are received by the authorities of the Mint receives his full metal or its equivalent value in coins.

COKING COAL, those bituminous coals which require to be converted into coke before they are suitable for ordinary purposes of combustion. Coke is that condition of charcoal produced by the distillation of coal in the manufacture of gas, or by heating the coal with only a partial access of air; the former being called Gas Coke, the latter Oven Coke.

COLD BLAST, air at its ordinary temperature forced through smelting furnaces, as

distinguished from *hot blast*, or heated air forced through furnaces for the same purpose. The cast iron produced from the hot blast furnace is not equal in toughness to the cold blast iron, but it has some counterbalancing advantages in elasticity and other respects.

COLLIN, the purest form of gelatine. From the slowness with which it diffuses into water it has been taken as the type of all substances of slow diffusion in water, which are thence called Colloids, as distinguished from Crystalloids, which diffuse rapidly in water.

COLLOID. *See* COLLIN.

COLLUM, the point intermediate between the stem and root of a plant from whence both diverge. It becomes obliterated in course of growth.

COLLUTORIUM, a lotion for rinsing the mouth (from *colluo* and *os*, "I wash the mouth").

COLLYRIDIANS, a sect of fanatics of the fourth century who offered little cakes in honour of the Virgin Mary.

COLLYRIUM, a lotion for the eye, or eye-water. At one time the term denoted lotions to restrain or stop inordinate discharges.

COLOBOMA, congenital adhesions of the eyelids, and fissures of the upper eyelid.

COLOGNE EARTH, a variety of umber said to be of vegetable origin. It forms a deep brown pigment.

COLOSSAL, any work, chiefly in sculpture, of extraordinary dimensions. The taste for colossal sculpture appears to have prevailed widely among the ancients. The origin of them has been ascribed to Sesostris.

COLOSTRUM, the first milk given by a cow after calving.

COLUMBARIUM, a pigeon-house or dove-cot; also a recess in the wall of a cemetery made to hold cinerary urns.

COLUMBITE, a mineral composed of columbic acid and the oxides of iron and manganese.

COMITY OF NATIONS, those usages or international practices by which the exactions of strict right are modified between civilized nations, and concessions of an amicable and friendly character made.

COMMUNISM, those doctrines as to the rights of property which, though slightly differing from Socialism, have not been very distinctively defined. The theory is that all property is to be held in common or for the common good, and all labour to be diverted in the same direction. The evil is that a system of artificial regulation and interference is insisted on, which is tantamount to the abolition of all individual liberty and all the motives for individual enterprise. The excesses to which such silly theories lead are best illustrated by what occurred in Paris after the Franco-German war of 1873.

COMPLEMENTARY COLOURS, any two colours which when blended together make whiteness or give white light are said to be optically complementary to each other, as the two colours orange and blue, or green and red.

COMPRESSIBILITY OF BODIES, that quality of bodies by which their volume or magnitude may be compressed into smaller dimensions. Some liquids, more especially water, were long believed to be incompressible; but this has been disproved by later experiments, so that no bodies are absolutely incompressible. A weight of two atmospheres is found to produce the following results of compression:—

Mercury	to	0·000,003 of its bulk.
Sea water	,,	0·000,040 ,,
Olive oil	,,	0·000,048 ,,
Spirits of Wine		0·000,066 ,,

CON SORDINI, a direction in music, generally written C. S., signifying that, if the piece be for the pianoforte, the passage is to be performed with the dampers down; if for the violin, with the mute on.

CONACRE, a system of agricultural payments formerly prevailing in Ireland, of paying wages in whole or in part by small temporary grants of land,—a most degrading and precarious condition of things, which had the effect of tempting the Irish peasantry to cling to the least profitable investment of their industry, as agricultural labour is and always has been in all nations, and to the most degrading condition of their intelligence. The alteration of the Irish land laws under Mr. Gladstone's government only introduced a variation without a remedy. The fact is that there is not enough of land in all Ireland to remunerate adequately those who persist in clinging to its cultivation; and laws impairing the absolute right of property in land can only injure the market value of the article without rendering it to the smallest extent more productive.

CONCEPT, the result of mental conception, as distinct from the process of conception, in logic.

CONCEPTUALISM, the system of Scholastic philosophy held by Abelard, admitting the existence of universals as ideas or mental conceptions; and so differing from the Greek Realism, and the Nominalism of Roscelin, who maintained that universals has no existence except as propositions or words.

CONCERTED PIECE, a piece of music in which several solo instruments or voices take prominent parts.

CONCHIFERA, all molluscs protected by a bivalve shell have been so called by Latreille and others.

CONCRETE TERM, any term in logic which expresses the attribute along with the subject or object, as, "happy," "brave," "patient." Abstract terms are those which express the attributes separately or alone, as, "happiness," "courage," "patience."

CONDUIT, a water-pipe, or passage for the distribution of water. In architecture this expression signifies a narrow and generally subterranean passage, secretly communicating between different parts of a building or separate apartments.

CONE OF RAYS, a similar expression to "pencil of rays," signifying all the rays diverging from a luminous point and falling on a given surface. "Pencil of rays" is a reconverging cone of rays falling on a point of a surface or focus, occasioned by the interposition of some lenticular medium. *Cone* and *pencil* are frequently used as convertible terms.

CONFLICT OF LAWS, that variation of or inconsistency in the laws of different states to which individuals are subject who have acquired legal rights and interests subject to the jurisdiction of different governments.

CONGE, the French name for the quarter round or Echinus moulding, which is called "the swelling congé." "The hollow congé" is the Cavetto.

CONIA, or CONINE, an intensely poisonous alkaloid, obtained by distilling hemlock, *Conium maculatum*, with alkaline water. It is a colourless and acrid volatile oil with a very strong odour.

CONOIDAL, shaped like a conoid. It has been much used in modern gunnery in describing detonating shells and shot with a cylindrical body and conoidal point or head.

CONSOLIDATED FUND. The Exchequers of Great Britain and Ireland, which, previously separate, were, on January 5th, 1816, consolidated into one, were on their consolidation accompanied by an Act of Parliament appropriating certain portions of the joint revenue to one fund called thenceforward the Consolidated Fund, out of which the public debts, civil lists, and certain other expenses of both Great Britain and Ireland were paid. The Consolidated Fund includes the greater portion of the revenues of the two kingdoms.

CONSTITUTIONS OF CLARENDON, certain definitions of the limits of civil and ecclesiastical jurisdiction, framed at a Council held by Henry II. of England at Clarendon, near Salisbury.

CONSTITUTIONS ROMAN. The decrees of the Roman emperors, including those by edict or letter, received this name, which was also applied to the decrees of prætors and other duly constituted authorities.

CONSTITUTIONS APOSTOLICAL, a series of regulations of the doctrine and discipline of the Church, collected by Clemens Romanus, and maintained by some, but without the slightest evidence, to have been promulgated by the Apostles. At one period they seem to have been admitted into the Canon of Scripture, but were subsequently rejected. *See* TRADITIONS.

CONTINUITY, LAW OF, a law which Leibnitz claims the merit of having first announced, that *everything passing from one state to another passes through all the intermediate states.* Galileo, however, had laid down its application to motion, and ascribed it to Plato, though Leibnitz first extended its application to the testing of alleged laws of nature and their consistency.

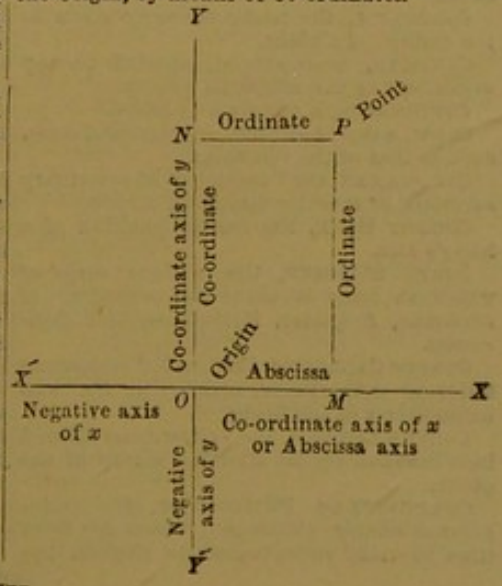
CONTORNIATI, medals marked with peculiar furrows, called *contorni* by the Italians, and composed of bronze with a flat impression, supposed to have been tickets of admission to the public games, struck in the reign of Constantine the Great and his more immediate successors. They are impressed with figures of emperors and other eminent men.

CONTOUR, the outlines or external lines of a figure.

CONVENTICLE, a term first contemptuously applied to the assemblies of Wycliffe's followers met, for Divine worship, and latterly to the meeting-places of Dissenters. The word was, however, used by the ancient ecclesiastical writers as properly signifying a church.

CONVERSION, a term synonymous with "regeneration" in the system of Christian salvation. It is that spiritual change in the human soul by which it becomes divinely enlightened as to the truths of the Christian atonement, and God's free forgiveness of sin on the ground of that great and finished work of redemption.

CO ORDINATE GEOMETRY, the system of analytical geometry invented by Descartes, and applied to the solution of geometrical problems, and by which the positions of points are determined, and the forms of curves and surfaces defined and classified by means of Co-ordinates. Some idea of this system, as far as the present limits will allow, may be obtained by a consideration of the following figure, in which the position of a point P is represented with reference to O, called the Origin, by means of Co-ordinates.



The ordination, so to speak, of a series of points may be effected by a double system of ordinates, instead of by a system of ordinates and abscissæ, and in that view, though some distinction is shown in the figure, the lines *PM* and *PN*, or, if so determined, *OM* and *ON*, may be called the co-ordinates of the point P. There are many systems of co-ordinates in use, distinguished as the Cartesian (*rectangular*, as in the figure, *and oblique*), Polar, Quadriplanar, Elliptical, Spherical, &c., &c.

COPALINE, a brown fossil resin, resembling copal, first discovered at Highgate Hill in the London clay, and called Highgate Resin.

COPING, the top course of a wall in architecture, generally made broader than the wall for the purpose of clearing it of the rainfall.

COPPER PYRITES, a double sulphide of copper and iron, composed of equal per-centages of copper, sulpur, and iron. It is also called Yellow Copper Ore, and, when exhibiting an iridescent tarnish, Peacock Ore. It is the chief copper ore of England.

COPPICE or COPSE WOOD, those woods in which the trees are prevented from growing into strong boles or stems by periodical cutting; such as scrub oak. Many of our forest trees admit of this treatment, and become a valuable source of bark for tanners, poles, sticks, hoops, and stakes for crates, and wicker hurdles, hop-poles, walking-sticks, and umbrella-sticks, faggots, &c. Our native singing birds seem to delight in such woods.

COQUILLA NUTS, the seeds of the South American palm, *Attalea funifera*, well known in turnery.

CORAL ORE, a hepatic cinnabar from Idria, Carniola, so named from its singular resemblance to the organic structure of fossil shells.

CORCULUM, the name formerly given to the embryo of a plant.

CORDATE, heart-shaped, applied to any organ having this shape, in botany.

CORDIERITE, a synonym of Iolite.

CORM, a short bulb-like underground stem, such as that of the Gladiolus.

CORONAMEN, the "coronet" of veterinary surgeons, or superior margin of a hoof.

CORNET BONE, the second phalanx of a horse's foot.

CORPS D'ARMEE, the various corps of which an army is made up, consisting of *Divisions*, *Brigades*, *Battalions*, and *Regiments*.

CORPUS CALLOSUM, the band of transverse fibres, or commissure, connecting the two hemispheres of the brain.

CORPUS LUTEUM, the yellow mass formed in a Graafian vesicle after the escape of the ovum.

CORPUSCULAR PHILOSOPHY, the molecular or atomic philosophy, which has from time to time endeavoured to explain the primary molecular, corpuscular, or atomic structure of the material universe. Leucippus and Democritus first announced such a doctrine in Greece, and Epicurus proceeded in the same direction, maintaining that the monads or atoms suggested by them, and which had only the properties of hardness and gravity, were the ultimate principles of all things. Modern atomic theories are a great improvement on this. Among these is one suggested a quarter of a century ago, which has not yet received the attention it deserves: viz., that the molecules of matter are not solid, but are filled with electricity, as the soap bubble is with air, and are capable, like it, of great elastic expansion and contraction and that they are only round, like the soap bubble, when taken singly, but are polyhedral over all their united surfaces of contact, when in clusters. This theory explains how and where electricity, which undoubtedly is present in all bodies, is accommodated within them, and how bodies which, under extreme contraction, are hard, solid, and opaque, become, under increasing expansion, fluid, gaseous, diaphanous, and transparent. It also satisfies the chemical requirement of definite atoms for proportional admixture and combining quantities, and their concurrent expansion and contraction within definite limits in the compounds they form, and explains the great expansion and increase of volume which many compounds undergo under explosion.—[J. A. S.]

CORSAIRS, sea pirates and their ships. The corsairs of the Mediterranean held commissions or authority from the princes of Barbary to attack the merchant shipping of other nations, and were therefore not unlike our merchantmen holding letters of marque in time of war.

CORYMBUS, the foliage, fruit, and garlands by which vases were enriched by the Greeks; also the knot or cluster of hair on the top of the head of the Greeks.

CORYNE, a species of generative polypes, characterised by parthenogenesis. *See* PARTHENOGENESIS.

CORYPHÆUS, in the ancient dramas the leader of the chorus by whom the dialogue of the explanatory chorus was carried on, on the part of the chorus, with the actors in the drama. He also led the choric song.

CORYZA, a copious running from the nose.

COSMETICS, applications to the face for the improvement of the complexion, removal of pimples, freckles, &c. For the latter, a lotion, composed of eight parts of water to one of brandy, and a few drops of muriatic acid sufficient to render the mixture sour to the taste, is efficacious. It forms also an excellent means of destroying parasitical worms and boils by suppression, and might prove valuable even in cases of cancer.

COSMICAL AND ACRONYCAL, any heavenly body which rises or sets at the same time as the sun is said to rise or set cosmically. If it rises when the sun sets, or sets as the sun rises, it is said to rise or set "acronycally," or at opposite times.

COSMOGONY. The different theories of the origin of the universe are called "cosmogonies."

COSMOGRAPHY, that branch of science which treats of the figure, construction, and arrangement of all the various parts of the world.

COSS, RULE OF, the name given to algebra on its first introduction into England. It is supposed to be derived from the Italian *cosa*, "a thing," and to have signified "the rule of the thing," the unknown quantity being called "the thing," or *cosa*. The word *cossic* in old writers has reference to this.

COSTAL, pertaining to the ribs.

COTHAM MARBLE, a pale grey lias limestone found at Cotham, near Bristol, and elsewhere, and exhibiting curious picturesque dendritic markings when cut transversely.

COTHURNUS, the high buskin of the ancient tragic actors, to increase their height. It is used as an old classical metaphor, signifying the tragic art itself.

COTTABUS, a game played by the ancient Greeks, consisting of throwing wine into little basins of metal from their cups without spilling, and producing particular sounds, &c. The basins were sometimes suspended, and at others floated in a larger basin of water.

COTTIER SYSTEM, a system of Irish land tenure of the most mischievous and socially depressing character, by which the peasant rented a portion of soil from the owner annually, the lots being put up to auction; but so inadequate in amount to the actual wants of the population, that they were bid for far beyond their value; and, the rent not being forthcoming at the end of the occupancy, as much of it was wrung out of the miserable tenant as oppression and extortion could obtain. A cottier has been known, from the extremity to which he was put for land, as the only means of subsistence open to him, to bid as much at auction, in competition with others equally necessitous, as nine times the actual rent value of his farm,—as appears from the report of Lord Devon's Commission.

COTUNNITE, native chloride of lead found in the crater and recent lavas of Vesuvius.

COUCH, the part of a malting floor on which barley is spread out: also the moistened barley spread out for malting upon it.

COUCH GRASS, the *Triticum repens*, a vigorous variety of grass whose propagation by rapidly growing underground rhizomes makes it a very vexatious weed.

COUPLING, mechanical arrangements for connecting and disconnecting parts of machinery

COURTS OF INQUIRY, courts held under royal authority to inquire into the conduct of military and naval officers, distinct from courts martial.

COW TREES, several trees have received this name; as the *Galactodendron utile* or *Brosimum Galactodendron*, the Palo de Vaca of South America; also the *Clusia Galactodendron*, *Ficus Saussureana*, and *Tabernæmoritana utilis*.

COWITCH, or COWHAGE, the *spiculæ* or hairs on the seed-pods of *Mucuna Pruriens* of the West Indies. It has been used as a vermifuge in the form of an electuary, but is inferior to many other remedies for worms.

COXSWAIN, the steersman and commander for the time of a boat's crew.

CREDIT FONCIER, a financial system for supplying sums for the improvement of estates on the joint guarantee of the subscribers to the association and the security of the particular estates.

CREDIT MOBILIER, a great financial scheme sanctioned by the French Government of 1852 for originating trading enterprises of all kinds on the principle of limited liability, buying up existing companies, and, in the case of joint-stock companies, substituting their own scrip and shares for the scrip and obligations of such companies, and also for being bankers and stock-jobbers on the limited liability principle.

CREMATION, the custom of burning the dead, practised by the ancients and attempted to be restored in modern times from sanatory considerations. It was never a practice of nations under the guidance of revelation, and seems to be repugnant to Christian sentiment; and the keeping of cinerary urns proposed by some in connection with it, unless in cemeteries or places publicly provided for the purpose, would be a practical inconvenience apt to degenerate into irreverence. What change it would call for in the funeral service of the Episcopal Churches we are not yet required to contemplate.

CRENEL, the aperture of a battlement in Gothic fortification. *See* CRENELLE. Crenellated parapets became toward the end of the mediæval period common in all kinds of buildings.

CRETINS, a class of idiots afflicted generally with *goitres*. They are numerous in the Valais.

CRIBBLE, a screen, or coarse sieve, also a coarse sort of meal.

CRITICAL PHILOSOPHY, a term sometimes applied to the metaphysical system of Kant.

CUBE ORE, native hydrated arseniate of iron in cube crystals.

CUBEBS, the berries of Java pepper, *Cubeba officinalis*. As a stomachic administered in a dose of two to three drachms in

powder, two or three times a day, they have been found a remedy for some forms of gonorrhœa.

CUBICITE, cubic zeolite or Analcime.

CUBIT NATURAL, the length from the elbow to the extremity of the middle finger.

CUBIT OF VITRUVIUS, a geometrical cubit equal to six ordinary cubits.

CUBITUS, the forearm, of which the *ulna* is the *os cubiti*.

CUISSES, CUISSARTS, &c, plate armour to protect the front of the thigh.

CULTRATE, coulter-shaped; or straight on the one side or edge, and curved on the other.

CUMIN, the fruit or seeds of *Cuminum Cyminum*.

CUNEATE, wedge-shaped.

CUNEIFORM LETTERS, the wedge-shaped characters of the early Assyrian and Persian bricks and monuments, &c. The unravelling of this form of writing and the translations given of the inscriptions and records preserved in it by Sir Henry Rawlinson and Mr. George Smith have opened up a new era in the investigation of ancient history.

CURCUMIN, a resinous colouring matter found in turmeric root.

CURL, a potato disease so called from its first attacking and curling the leaves, and finally obstructing or stopping the vegetation.

CURTATE DISTANCE, the distance of a planet from the sun reduced to the plane of the ecliptic.

CUSTARD APPLE, the fruit of the *Anona reticulata* of the West Indies.

CYANIN, the colouring matter of blue and red flowers.

CYANOSIS, the blue disease. The administration medically in extreme cases of nitrate of silver frequently gives a leaden blue colour to the exposed parts of the body, as well as more or less to the other parts; but blueness of the body frequently also arises from malformation of the heart.

CYCLOID, COMPANION TO THE, a curve generated by a point always vertically over the point of contact of the rolling circle and its base, and in the same line as the describing point. Roberval by the aid of this solved the quadrature of the cycloid, and showed that the area of the space between the cycloid and its companion is exactly equal to that of the rolling circle; and that the area of the cycloid itself is equal to three times that of the circle.

CYNOSARGES, an academy near the Lyceum in the suburbs of Athens. It had several temples and a celebrated gymnasium. The sect of the Cynics was here instituted by Antisthenes.

CYNOSURE, the northern polar constellation of Ursa Minor. Now poetically applied to the pole star and to any point of guidance or attraction. Literally it signifies "a dog's tail!" (κυνοσουρα.)

CYPHELLÆ, the pale tubercle like spots on the under surface of the *thallus* of lichens.

CYSTICA, or CYSTICS, an order of Entozoa, the bodies of which are terminated by cysts belonging to one or more individuals. It includes the parasitical hyatids which produce staggers in sheep and measles in pork.

CYSTITIS, inflammation of the bladder.

CYTISUS, this plant so frequently mentioned by Greek and Roman writers is supposed to be the *Medicago Arborea* of Linnæus, a kind of clover.

CYTOBLAST, the cellule, nucleus, or centre from which the organic cell is developed, in physiology.

CYTOBLASTEMA, the structureless or apparently structureless substance in which the elementary cellules or cytoblasts are contained.

D

DACELO, a large passerine bird of Australia. This name is composed by a transposition of the letters of the word *Alcedo*, the genus including the kingfisher, from which this genus was separated. This mode of forming generic names connected with the genera from which the separation was made was introduced by Dr. Leach, and possesses some obvious advantages.

DACRYOMA, a disease of the lachrymal duct, by which the moisture and tears from the eyes are obstructed in passing through the duct into the interior of the nostril in the usual way, and flow in consequence down upon the cheek, causing a scalding of the face and cutaneous irritation.

DACTYLI, the name of the Phrygian priests connected with the worship of Cybele or Rhea.

DACTYLIOGRAPH, the name of the artist inscribed on a gem sculpture was so called by the Greeks.

DACTYLIOGRAPHY, the art or science of gem-sculpture or engraving.

DADYL, a hydrocarbon derived from oil of turpentine.

DAIMIO, the title of a feudal lord in Japan, of whom there are 264. They are petty sovereigns within their own territories, and eighteen of them are said to be virtually independent.

DAIS, the raised floor, and also the seat and canopy over it, at the upper end of an old dining-hall.

DANS, small trucks used in coal-workings.

DAPICO, a species of caoutchouc obtained from the *Siphonia elastica* of S. America.

DAROO TREE, the Egyptian fig or sycamore, *Sycomorus Antiquorum*.

DASYPUS, "rough-footed," the name given by the Greeks to the hare, but now applied to the armadillo.

DATISCIN, a substance like grape sugar obtained from the *Datisca cannabina*.

DE LUC'S COLUMN, a voltaic pile composed of silver, zinc, and thin paper alternately; called also the Dry pile.

DEAD COLOUR, colour without glossiness, occasioned usually by diminishing the quantity of oil used, and increasing the quantity or proportion of spirits in the pigment.

DEAD PLATE, an iron plate fitted to the bars of a furnace, to allow bituminous coal to form into coke before its complete combustion.

DEAD SEA, the site in Palestine of the ancient cities of Sodom and Gomorrah. It is about 200 miles long by about 20 miles broad. It receives the discharge of the river Jordan, after it passes through the Lake of Tiberias, which is 60 miles further up the Jordan. Its surface is on an average 1,388 feet below the level of the Mediterranean, and 6,000 feet below the level of the intervening table land. Although it has no outlet, the continual influx of the Jordan does not increase its annual volume; the discharge of the accumulating waters being due to evaporation, which is greatly facilitated by its mineral qualities. The saltness of the Dead Sea is between six and seven times greater than that of the ocean, though it varies to about 22 per cent. at different seasons. Chloride of sodium is the chief saline constituent, though the chlorides of calcium and magnesium are also present in large proportions, and, in a lesser degree, chloride of potassium.

DEAD WELLS, wells into which refuse water and sometimes sewage are allowed to flow and infiltrate into the permeable strata below. They are most pernicious and dangerous contrivances of slovenliness and sloth, calculated to poison the whole spring water of a neighbourhood; and yet, though under special restriction in France, there is no English legislation on the subject.

DEADENING WAY, the progressive abatement of a vessel's speed at sea.

DEADHEADS, those additions of metal in the casting of ordnance, in an upright position, by which the mould is filled to a height above the bore of the gun, and the dross, which would otherwise deteriorate the metal at the muzzle, is carried free of it upwards, and cut off when the casting has cooled.

DEBLAI, the earth excavated from the ditch of a fortification, and employed in forming the rampart.

DEBRIS, the geological name given to fragments of rocks, &c., in heaps, or natural accumulations.

DECALOGUE, the Ten Commandments. The Jews are said to have divided them as the Romish Church now does: but this appears very doubtful, both from the logical structure of the whole Decalogue, which is the same however divided, and also from the authority of St. Paul, Romans vii. 7, where the Apostle uses the words, "Thou shalt not covet," in their obvious comprehensiveness as one injunction, and not as two, which the Romish division makes it.

DECANDROUS, a plant with ten stamens.

DECANTATION, a process frequently employed in chemistry, when the circumstances admit of its superseding the slower process of filtration.

DECAPITATION, a mode of punishment abandoned in England since the execution of the victims of the insurrection of 1745. It was long before this confined to criminals of high rank in this country, though it is still retained on the continent of Europe in preference to hanging.

DECIDUA, a formation of the mucous membrane of the uterus in which the ovum becomes embedded on its entrance, and which protrudes inward, and becomes more inverted as the ovum enlarges; the part of the decidua which does so being called the *decidua flexa*, the other portion of the membrane being distinguished as the *decidua vera*.

DECIMAL or METRICAL SYSTEM; the system of weights and measures now made the standard of internal commerce in France, based on the *mètre*, a measure of length equal to the ten-millionth part of the distance between the north pole and the equator, taken from the measurement of an arc of the meridian between Barcelona and Dunkirk. A hundred mètres is equal to 119·6046 yards, so that the mètre is rather more than the English yard, being 39·3709 inches. The basis of the Superficial Measure is the *Are*, equal to 119·6046 English square yards. The basis of the Liquid or Dry Measure (Measure of Capacity) is the *Litre*, which is equal to 1·7608 pints, or the cube of the tenth part of a mètre. The basis of the Solid Measure is the *Stère*, which is the cube of a mètre. And the basis or unit of Weight is the *Gramme*, equal to 15·4327 grains, or to the cube of the hundredth part of a mètre of pure water at the temperature of 32° Fahrenheit or 0 Centigrade. In arranging these measures into tables, decimal multiples and divisions have been adopted, the multiples being named from the Greek language, and the divisors from the Latin. That a uniform system of measurement, based on universally recognised and identical standards, would be of great value as a facilitation to commercial intercourse cannot well be disputed: but so would one language for all mankind. Unfortunately, however, the obstacles in the way of adopting the one in a great degree apply also to the other. It requires an amount of achieved civilization and popular intelligence disseminated through all peoples and kindreds and tongues, together with an amount of common consent and reciprocal concession for

the general good, which neither the virtue nor the common sense of cumulative humanity is strong enough for as yet. The metrical system in British currency has been strongly argued for from time to time, and it would not be difficult to achieve; but unless it were done in accord with a similar system simultaneously adopted by all other civilized communities, it is obvious that we might only after all put ourselves to the trouble of changing a perfectly convenient system already understood among us for one, no great improvement on what we have—which is decimal and duodecimal as it is—and yet be still as much outside of an international decimal currency as ever. Even this step therefore cannot be taken without the common consent of many other nations, all simultaneously prepared to adopt the change.—[J. A. S.]

DECIMATION, a system of punishment for mutiny or failure in military duty among the Romans. It consisted in the selection by lot of one man out of every ten in a regiment, &c., to suffer death for the delinquency of the whole. General Cuesta resorted to it in Spain after the battle of Talavera.

DECLARATION, DYING. The evidence of a man dying from mortal injuries, if legally taken down before his death, is admissible as evidence in the court of justice before which any one is on trial for culpably causing his death.

DECLINOMETER, an arrangement for measuring the declination of the magnetic needle, and the influence of terrestrial magnetism in the plane of the horizon.

DECOITS or DACOOS. *See* DACOITS.

DECOLLATION, literally "taking the head from the neck;" a synonym of beheading or decapitation. The word was used as applicable to the beheading of John the Baptist, and has been almost confined to that event.

DECORATION, a branch of the fine arts of great importance in reference to the progress and prosperity of civilization. In civilized communities the bulk of the national industry ceases to be confined to mere utilitarian employments, such as the production of indispensable food and clothing, and becomes chiefly occupied in those branches of activity under subordination to the superintending influence and direction of taste, which add the beautiful to the essential, and supply what is sometimes indiscriminately called *luxury* to the necessities of life. In a civilized community, were the decorative industries suddenly prohibited by any public law supported in its action by popular fanaticism, the people, unable to find employment or remuneration in the mere necessary industries, would sink into degradation, barbarism, and national distress at once. Therefore it is that, as a question of political importance, the decorative arts demand high consideration and encouragement from every enlightened and patriotic statesman. *See* DEMAND. Decoration, however, considered in itself, is subject to laws of taste which, though in many instances arbitrary, have in most cases a legitimate place in the system; for though, economically considered, all decoration, good or bad, gives employment and remuneration to industry, and that which is least permanent in merit may be said to give employment the most, there can be no doubt that the achievements of high art give and maintain the true stimulus even to all inferior effort. It is therefore necessary that the decoration should be in due and appropriate subordination to the main design of the work.—[J. A. S.]

DECREPITATION, that crackling noise which salt and similar bodies give out when subjected to strong heat, consisting usually of the bursting of the crystals by the expansion of the water they contain.

DECURIO, a Roman officer who had command of ten men. The decurions were municipal as well as military; the municipal decurions being magistrates of the chief towns. The military decurion had originally command of the third of a *turma*, or third of thirty men: though without change of his title, his command was afterwards extended to the whole *turma*.

DEFÆCATION, the separation of the impure sedimentary matter or dregs from liquids.

DEFILADING, a term of fortification, signifying the arranging of the height of a work, so as to prevent the enemy seeing into it, or so arranging its faces as to prevent the enemy from taking them in reverse or enfilading them.

DEFILE, any narrow passage through which troops must pass in file. As a verb it signifies to reduce the front into file for the purpose of passing.

DEFLECTION OF RAYS OF LIGHT, that degree of bending from their rectilinear direction which rays of light undergo when passing near to an opaque body, called by Newton "diffraction."

DEGLUTITION, the act of swallowing the food.

DEIFICATION. *See* APOTHEOSIS.

DEINOTHERIUM, a fossil genus of gigantic pachydermous Mammalia with immense tusks projecting downwards from the *lower* jaw.

DEJEUNER. In most languages of Europe this term is synonymous with the breakfast or first meal of the day. In France it is losing its original application, and now more commonly signifies luncheon, or a second and light repast between the breakfast and dinner.

DELIAN PROBLEM, the problem given to those who went to the temple of Apollo at Delos, to consult the oracle as to the stoppage of the plague at Athens. The answer

was, that the plague would cease when they had doubled the altar of the god. The altar being a cube, this problem involved the *duplication* of the cube, *q. v.*

DELITESCENCE, the sudden and unexpected subsidence of a tumour. (From Lat. *delitescere*, "to lie concealed.")

DELPHINIC ACID, a fat acid yielded by the oil of the porpoise, *Delphinus*, on saponification; synonymous with Phocenic Acid. The same acid may also be obtained from the berries of *Viburnum opulus*.

DELPHINITE, a variety of Epidote, from Dauphiny.

DELUGE, the flood described in Gen. vii., viii. There is a great and contemporaneous series of post-tertiary deposits, extending over all known countries, and well marked in Europe, Asia, Australia, and America, which a certain school of geologists have rather evaded than explained, but which do not admit of a complete and united interpretation on any other hypothesis than the submergence of the whole continents of the world after their permanent conformation. Agassiz, one of the most careful, accurate, and unimpeachably honest of modern observers, and unquestionably one of those gifted with the highest intellectual capacity, distinctly declared that he found evidence everywhere that after the permanent upheaval of the European continent and its present arrangements of hill and dale the remains extant on its surface showed that for a period it had been covered with icebergs. The question involved is, whether this could have occurred by any other means than such a general rising of the waters on the surface of the earth as would disengage the Arctic ice from its polar attachments, and float it southward on that current which he found had left simultaneous evidence of its passage over Europe in a south-easterly direction. This is but one fact among many of a concurring character belonging to the same period. Certain geologists have been obliged, when pressed for an explanation, to suggest the possibility of a change in the polar axis of the earth; but this explains one difficulty only by suggesting a greater for which there is no trace of justification. They have also asked, for the purpose of repelling the inquiry, where the water necessary to constitute such a deluge could have been obtained. But surely those who ask such a question must have read Genesis vii. 11 with very little attention. It there says that one of the first features of the deluge was that *all the fountains (or reservoirs) of the great deep were broken up*; and any one who has made himself at all acquainted with the distribution of land and water on the surface of the world does not require to be told that the bulk of the ocean preponderates so much over the bulk of the land above its ordinary level, that a small upheaval of the general ocean bed would be quite enough to drown the tops of the highest mountains as well as all the continents with which they are connected; and that any serious stoppage of the whole of the existing volcanic vents or safety-valves, as they may justly be called, of the modern world would be quite enough to cause such a calamity at any time, and in just such a direction: for the seabeds are presumably the thinnest portion of the earth's crust, and the most easily upheaved; and the weight of water above them is not equal to the weight of an equal volume of land. *The deluge is therefore, demonstrably, possible on a due consideration of existing conditions*; and, in refutation of the evidences referred to by Agassiz and others, the *onus* lies upon those who maintain an opposite view to show it never occurred.—[J. A. S.]

DEMAGOGUE, strictly a political leader of the people; and originally an honourable epithet, almost synonymous with "patriot." Now it is used chiefly to designate agitators and disturbers of the public peace, who are seeking their own interests and capital by disorder.

DEMAND, in political economy, that feature of commercial operations which is more or less synonymous with the consuming power of the market. One of the most important of the discoveries realized by modern civilization is, that the *supply* in many instances *creates the demand*. In articles of taste this is especially so. Hence, whenever an ordinary supply has satisfied the demand of a market, a further or new demand may be stimulated by change of pattern or fashion, or the production of any ingenious novelty. This is one of the most important features of modern prosperity. *See* DECORATION.—[J. A. S.]

DEMARCATION, LINE OF, the imaginary line through the ocean fixed by Pope Alexander VI. in 1493, to put an end to the differences between Spain and Portugal as to the boundaries of their discoveries in the New World. By this line the conterminous boundary of the dominions of each of those powers was decided, and the expression thence came into general use as an equivalent expression for a boundary line separating any space or tract from another.

DEMIURGUS, DEMIURGE, or LOGOS, in Platonic philosophy, a superior or mysterious agent by whose instrumentality God is said to have created the universe. The Platonizing Christians held that this was the Second Person of the sacred Trinity, or God incarnate; identifying the term "Logos" in Plato's *Timæus* with the "Logos" or "Word" in the first chapter of St. John's Gospel: "In the beginning was the Logos," &c.

DEMOTIC WRITING, a current hand of the ancient Egyptians, wherein they converted the hieroglyphic characters into a nearly alphabetical arrangement of the elements of their language.

DEMULCENT, a medical application to protect any wound or sensitive part from external irritation. Gum and mucilages generally are demulcents.

DENDRITIC or DENDRITICAL MARKINGS, tree-like markings on the surface or in the internal structure of minerals; such as the moss agates, &c.

DENTINAL TUBES, tubes radiating from the pulp cavities of teeth. They are supplied by the *plasma* or colourless fluid of the blood in human teeth.

DENTINE, the chief substance of teeth.

DENTITION, the cutting of the teeth.

DEOBSTRUENT, any medicine which removes obstructions and glandular affections.

DEODORISERS, certain chemical agents which destroy effluvia or mephitic particles suspended in the atmosphere; as chloride of lime, chloride of zinc, (which is Burnett's disinfecting fluid,) carbolic acid, ozone, Condy's fluid, charcoal, &c. Fresh ground coffee, sprinkled through a sick room, is a very convenient and refreshing form of the charcoal disinfectant.

DEPRESSOR MUSCLES, muscles which lower the bone on which they act, as distinguished from the companion or *Elevator* muscles which raise it.

DERM, the true skin or *cutis*.

DERMOHÆMAL, those osseous developments by which the fins on the hæmal or ventr l side of the body of fishes are attached to the dermo-skeleton.

DERMONEURAL, those ossified developments by which the fins on the neural side of the body of fishes are attached to the dermo-skeleton.

DERMO-SKELETON, literally "skin-skeleton." It is the outer and more or less indurated covering or horny crustaceous or osseous integument of most of the invertebrate and some of the vertebrate animals. In most cases it supplies the place of a hard interior framework.

DESICCATION, such medical applications as dry up the secretions of ulcers, &c

DESMINE, a foliated variety of zeolite.

DETERGENTS, medical applications which cleanse sores and remove viscid matters.

DETRUSION, (literally "thrusting aside,") a term used to express that pressure of one body against another which tends to thrust it from its place. To "thrust out of place," "out-thrust," or "outward thrust," are all more or less forms or varieties of *detrusion*.

DEUS EX MACHINA, a term now somewhat indefinitely used, which originated with the ancient drama, in which by the aid of a machine the gods were sometimes represented as flying in the air. This being frequently resorted to without adequate requirement passed at last into a proverb, signifying the unnecessary resort to supernatural agency. In a modern work the following meaning is loosely given: "*Deus ex Machina*, Lat. God from a machine; said of help suddenly rendered in an emergency."(!)

DEVITRIFICATION, a peculiar decomposition which takes place in glass under the action of time and certain adverse agencies. From this cause the glass fragments recovered from the ruins of antiquity have become iridescent and decomposed on their surfaces, or dull and without transparency; in fact partially *devitrified*.

DEVONIAN SYSTEM, the middle member of the great Palæozoic rock formations. It lies under the Carboniferous System, and between it and the Silurian System, and includes the Old Red Sandstone, Herefordshire Conglomerates, Russian, Devonian, and Old Rhenish greywacke, the Devonshire shales and limestones, and Herefordshire corn stones, and the Caithness schists, and Arbroath paving stones.

DEVONITE, Wavellite, or Hydrargyllite, from Barnstaple, Devonshire.

DIAGOMETER, an electrical invention for ascertaining the conducting power of fixed oils. It has proved highly useful in detecting the adulteration of olive oil, which, if pure, has the lowest conducting power of all the fixed oils.

DIALECTICS, a synonym of "metaphysics," as used by Plato, though more distinctively applied to the means of conducting metaphysical investigations. It is now more commonly confined to that part of logic which comprehends the rules and modes of correct reasoning, or logical investigation and discussion.

DIALECTRIC, the characteristic of a body which allows electricity to act through it; non-insulating.

DIALOGISM, dialogue so written as to represent the conversation of the speakers in the third person, and not in the first.

DIALYPETALOUS, a synonym of "polypetalous," but more distinctively applied to those plants which have many distinct petals, and not to those with many petals united, or *gamopetalous, i.e.*, joined into a monopetalous corolla.

DIAMAGNETIC, the magnetic characteristic of those bodies which are repelled by either pole of a magnet, as distinguished from bodies attracted by either pole.

DIAMIDES, neutral chemical bodies obtained from two atoms of ammonia by replacing successively thirds of the hydrogen by negative radicals.

DIAMINES, alkaloids obtained from two atoms of ammonia by replacing thirds of the hydrogen successively by ethylene and other diatomic radicals.

DIAPHANOUS, synonymous with "translucent," but not *transparent*.

DIAPHORESIS, perspiration.

DIAPHORETIC ANTIMONY, an old name for antimoniate of potassa and peroxide of antimony.

DIAPHRAGM SHELLS, shells made with interior divisions, as the Shrapnel shell.

DIAPOPHYSIS, the upper transverse process projecting from the sides of the cervical and anterior dorsal vertebræ of the crocodile, corresponding with the sole transverse process usually developed from the neural arch of mammals.

DIASPORE, a native hydrate of alumina.

DIATHERMANOUS, synonymous with DIATHERMAL, *q. v.*

DIATOMA, a genus of low organised Algæ, containing a very large quantity of silex.

DIATOMACEÆ, the group of Algæ of which Diatoma is the leading genus. The siliceous remains of these plants form the beds of Tripoli, from which the well known polishing materiai is obtained. They also form the Berg meal or mountain meal of Sweden, which has been frequently resorted to in times of scarcity as an article of food. They are capable of enduring very high temperature and also the utmost extremes of Arctic cold without injury to their vitality.

DICE COAL, a coal which breaks readily into cubical pieces.

DICHLAMYDEOUS, those plants which have both calyx and corolla.

DICHLORANILINE, aniline in which chlorine replaces two equivalents of hydrogen.

DICLINOUS, plants having their pistils in separate flowers or in separate plants from their stamens.

DICOMPOUNDS, a term applied to certain compounds, as dichloride of mercury, dicarbonate of copper, to indicate that they have two atoms of the base or electro-positive element to one of the electro-negative; as two of mercury to one of chlorine, &c.

DICTYOPHYLLUM, any ordinary reticulated fossil leaf.

DIDUS, the genus Dodo, recently extinct.

DIDYMIUM, a primary metallic element. It was found associated with cerium in the mineral Cerite.

DIDYMOUS, growing in pairs.

DIDYNAMOUS, flowers with four stamens, two of which are shorter than the other pair.

DIGASTRIC MUSCLE, the double muscle between the lower jaw and mastoid process, which pulls the lower jaw downwards and backwards.

DIGENESIS, that form of generation, characteristic of certain Entozoa, in which two forms are alternately produced; the parent never being like the offspring, but the third generation reproducing the form of the first, and the fourth of the second. The term has also been applied to reproduction by two parents, each engaged in the act of generation.

DIGITALIA, a poisonous alkaloid obtained from the leaves of Digitalis.

DILUENTS, liquids which dilute the secretions, and promote perspiration and the secretion of urine.

DIMIDIATE, a botanical term applied to any organ one half of which is so reduced in size as to appear to be wanting.

DIMORPHINE, orpiment found with realgar on Vesuvius. This name was given by Scacchi in error.

DIMORPHISM, the power of acquiring two crystalline forms.

DIMORPHODON, a genus of fossil pterosaurian reptiles, found in the lower lias of Dorsetshire.

DIŒCIOUS, or DIOICIOUS, having the sexes in different flowers of different individuals, in botany.

DIONYSIUS, a synonym of Bacchus or Iacchus; whence the *Dionysia*, or Bacchanalian festivals, at which the dramatic representations were produced.

DIOSMIN, a non-azotised substance found in the leaves of Bucku or Bucka.

DIPHTHERIA, a disease attacking the throat, characterised by the formation of a removable membrane, and in serious cases, unfortunately the most frequent of occurrence, proceeding often with such rapidity that suffocation takes place in a very short time. The most effective remedy hitherto found is an immediate gargle of Condy's Red Patent Fluid, (a teaspoonful to half a tumbler of water,) which arrests the formation of the membrane in the throat and destroys its vitality. (From διφθερα, "a skin or membrane.")

DIPLEIDOSCOPE, an instrument for indicating the passage of any heavenly body across the meridian by the concurrence of two images of the body produced by single and double reflection.

DIPLOPIA. *See* DIPLOPY.

DIPPER, the water-ouzel and some other species of *Cinclus*.

DIPTERAL, temples with a double row of columns on each of their flanks.

DIPTOTE, nouns with only two cases.

DIRIGENTS, certain medical ingredients intended in old prescriptions to direct the operation of the chief remedial medicine and its application to the place affected.

DIRT BED, a geological deposit in the Upper Oolite of England, and in some of the Coal Measures of British North America.

DISCOID, univalve shells with the whorls disposed vertically or in the same plane as a disc.

DISINFECTANTS, substances which destroy contagious influences. They must be more than mere deodorisers, which frequently only conceal the mephitic influences without destroying them. The *deodorisers* mentioned specifically under that head (*ante*) are all of them disinfectants as well and to the list may be added Chloride of Soda (common salt) in solution, and Hypochlorite of Soda, Labarraque's Disinfectant, and also Chlorozone.

DISPENSATORY, a synonym of Pharmacopœia.

DISTICHIASIS, or Trichiasis, a malformation consisting of a double row of eyelashes;

the innermost row of which maintains a constant irritation of the eye.

DIVARICATE, diverging at an obtuse angle.

DOBEREINER'S LAMP, an invention, of more importance before the manufacture of lucifer matches, by which an instantaneous light could be obtained by a jet of hydrogen brought in contact with spongy platina.

DOCIMASTIC ART, the department of metallurgy which determines the quantity of metal in metallic ores and minerals by assaying.

DODECADACTYLUS, a somewhat arbitrary name given by the early anatomists to that part of the small intestines now better known as the *duodenum*.

DODECAGON, an equilateral and equiangular figure of twelve sides. The area of the dodecagon is exactly three fourths of the square of the diameter of the circle in which it may be inscribed.

DOGMA, a fundamental article of belief in dogmatic theology, usually applied to the essential doctrines of Christianity, but more prominently used in recent times of those spurious pretensions of the Church of Rome to dominion over the faith of others, repudiated by St. Paul, 1 Cor. i. 24, and Gal. i. 7, 8, 9, 11, 12, and especially to the dogma of *Papal infallibility*.

DOG ROSE, the Wild Brier or *Rosa Canina*.

DOG-WOOD, a name given to various woods, and more especially to the shrubby *Cornus* of North America and *Piscidia erythrina* of the West Indies. The *Bedfordia Salicina* of Tasmania is also known by this name.

DOKIMASIA and EUTHYNE, two examinations passed through by Athenian magistrates, the first before entering upon office, and the second on retiring from it.

DOLCE, softly and sweetly; an instruction in music.

DOLICHOKEPHALIC, a term signifying "long-headed;" an inaccurate term applied to heads or skulls, the transverse diameter of which to the longitudinal is less than 8 to 10. This term was adopted by Professor Rebzius as expressing a peculiarity calculated to aid classification and establish distinction of race, as he found it in the West African Negro. It is, however, found that no classification can be based on mere length and breadth of skulls.

DOLOMITE, a general name of magnesian lime stone, and a specific mineralogical name for the rhombohedral carbonates of lime and magnesia.

DOLPHIN, the *Coryphæna Hippurus* of Linnæus, celebrated by the poets for powerful and rapid swimming, and the beautiful and brilliant colours it shows when dying. The name is also given to the genus Delphis of Linnæus, a well known cetaceous mammal. *See* PORPOISE and CETACEÆ.

DONKEY ENGINE, a small engine employed to do work of minor power, and to supply water to the boilers of larger engines.

DORMITORY, a large sleeping apartment with a number of beds.

DORMOUSE, a genus of rodent mammals, of which the species *Myoxus avellanarius* is the most known in England.

DOUBLE STARS, the popular name of those binary star systems now well known to astronomy, in which it is found that one of the fixed stars, heretofore so called, when situated optically near another, is frequently also so related to it that the one is a secondary to the other. Sirius, or the Dog Star, is so related to a larger but less brilliant primary, round which it performs an orbital motion. There are many others, and there are also ternary and other systems, consisting of three or more of the stars combined in a system, and a great number of multiple star systems in which many of these bodies hold the same relation to each other as the bodies of the solar system.

DOUBLE-ACTING PUMP, a pump which forces water by both the up and down stroke, in consequence of the piston or plunger being solid, and there being two entrance and two exit valves.

DOVER'S POWDER, the *pulvis ipecacuanhæ compositus* of the dispensatory; a powder used as a successful sedative and sudorific. The ordinary dose is ten grains, consisting of one of ipecacuanha, one of opium, and eight of sulphate of potash.

DRACO MITIGATUS, the old name given to calomel by the alchemists.

DRAGONNADES, the name given to the persecutions of the French Protestants in the reigns of Louis XIV. and Louis XV.

DRAGONNEE, a heraldic animal, the lower half of which resembles a dragon, while the upper resembles some other animal.

DRAMATURGY, a German expression, from the Greek, employed to signify the principles of dramatic representation and literature.

DRASTIC MEDICINES, powerful and rapid purgatives.

DRIFT. *See* GLACIAL DRIFT.

DRIVING WHEELS, in locomotive engines, the wheels whose revolution is directly caused by the engine. In ordinary machinery, the wheel which communicates motion to another or to a series of wheels and pinions.

DRUMMOND LIGHT, an intense light produced by passing a stream of oxygen gas through a flame of alcohol on a ball of quick lime.

DRUSES, a people indifferent to religious ceremonies, and said to be atheists, inhabiting the mountains of Lebanon and as far eastward as Baalbec. They are hospitable, but revengeful when slightly provoked, and have been guilty of several massacres of the Christians in Lebanon under the artful instigation of the Turks.

DRY BAROMETER. *See* ANEROID.

DRY DISTILLATION, distillation of substances without the aid of water, or *per se*. Coal employed in the manufacture of gas is an example of dry distillation: so is wood, when subjected to heat in a retort for the production of vinegar and other products of its destructive or dry distillation.

DUENNA, the title of the principal lady in waiting on the queens of Spain; more commonly a lady occupying a position partaking partly of the character of governess and companion with a charge over the younger female members of families in the Peninsula.

DULCAMARA, (*Solanum Dulcamara*,) the woody nightshade.

DUPLICATION OF THE CUBE, (also called the Delian Problem, *q. v.*,) a problem requiring the solution of a cubic equation, and not admitting of solution by elementary geometry. Hippocrates of Chios reduced it to the insertion of two mean proportionals between two given straight lines. This problem Archimedes, Eutocius, and other ancient geometers found modes of constructing by means of the higher curves.

DUTCH LIQUID, an oily liquid product of the action of chlorine on olefiant gas. It is the Chloride of Ethylene.

DYNACTINOMETER, an instrument for determining the intensity of light-producing or photogenic rays, and ascertaining the power of object-glasses in optics.

DYNAMICAL UNIT or DYNAM, the unit or standard of force employed in determining the moveable power of machines. The Dynams most recognised in practical engineering is the unit of *horse power*, defined ultimately by Watt to be the force sufficient to raise a weight of 32,000 lbs avoirdupois one foot high in one second of time.

DYSPEPSIA, a form of indigestion causing great inconvenience and annoyance to thos who suffer from it. Its principal characteristic, and that which appears to be the fundamental mode of its development, is fermentation of the food on the stomach from weakness of the gastric fluids, allowing the development of the yeast plant, abundantly present in all human food, to generate the gases of fermentation, and cause continuous excitement and irritation of the nervous system. That which suppresses fermentation, therefore, and causes the food, after being operated upon as far as the power of the gastric fluids will allow, to be discharged in the usual way, is the best mode of alleviating the effects and suppressing the operation or development of dyspepsia. If the food be allowed to go on fermenting, it will remain frequently so long in the stomach that it becomes almost entirely discharged in the form of gas, and persons have been known to be for years suffering in this condition without action of the bowels more frequently than at intervals of ten days. Dilute Condy's Fluid (the red fluid) taken internally, as prescribed for drinking, destroys the yeast plant, and along with due use of the bath has a very salutary effect.

DYSPHAGIA, difficulty of swallowing.

DYSPNŒA, difficulty of breathing.

DYSURIA, DYSURY, difficulty in voiding urine.

E

EAGLE, BLACK, an order of knighthood founded in Prussia in 1701, and conjoined with that of the Red Eagle, called also the Order of Sincerity, previously instituted by the Margraves of Bayreuth.

EAGLE WOOD, the *Agila* of the Malays, and *Pao d'Agila* of the Portuguese; the wood of *Aloexylon Agallochum*, burnt as incense for its fragrance.

EARTH NUTS, a name given to many underground fruits and edible tubers, as the *Cyperus rotundus* of Egypt, the underground pods of *Arachis hypogæa*, China, and of *Amphicarpæa*, *Voandzeia*, and other plants; and of the tubers of umbelliferous *Bunium flexuosum*, and of cyperaceous plants.

EARTH SHINE, the reflection of sunlight thrown on the moon from the illuminated side of the earth.

EARWIG, an insect belonging to the genus *Forficula* of Linnæus.

EAU DE JAVELLE, a solution of chloride or hypochlorite of soda, used for disinfecting and bleaching.

EBONITE, a compound resembling jet, formed by a mixture of sulphur in varying proportions with caoutchouc or gutta-percha.

EBULLIOSCOPE, an instrument for testing the strength of spirits of wine by the temperature of their boiling point.

ECBOLICS, remedies, justifiable only in the most extreme cases, for hastening delivery by exciting uterine contractions which expel the fœtus. Drastic purges and savin have been reputed ecbolics, but ergot of rye is the only really trustworthy remedy. No practitioner, however, will resort to it while there is a reasonable chance of nature doing its own work.

ECCLESIOLOGY, a recent term, signifying church architecture and symbolism, with their subordinate arrangements and details.

ECCOPROTICS, an old name given to mild aperient medicines.

ECDYSIS, casting or changing of the skin.

ECHIDNA, a mythological being with the body and upper proportions of a man, and the lower extremities like the posterior extremities of a serpent. The name is also given to an Australian quadruped resembling the ant-eater, but covered with spines, and belonging to the order *Monotrema*.

ECHIDNINE, the poisonous secretion formed in the poison glands of vipers and serpents generally. It is a nitrogenous substance, associated with albumen and other matter.

ECOSTATE, leaves without a *costa* or central rib.

ECTHESIS, a decree of the Emperor Heraclius in 639 for terminating the Monothelite controversy. It declared the doctrine of two wills in Christ to be heresy. As it failed to accomplish its object, the Emperor Constans in 648 recalled it, and issued a decree called the *Type*, prohibiting the use of the terms "single" or "double will," and imposing silence on the controversialists on both sides. Martin I. condemned the Type at Rome in 649. The Ecthesis is supposed to have been framed by the Patriarch Sergius.

ECTROPIUM, eversion of the eyelids, arising from disease.

EDAPHODONTS, a group of fossil fishes, so called from peculiarities of their pre maxilliary dental mass.

EDDOES, the edible tuberous stems of several *Araceæ*, used as food in tropical climates.

EDRIOPHTHALMA, a group of malacostraceous crustaceans with sessile eyes.

EFFERVESCENCE, the escape of gas from liquids by chemical action or fermentation.

EFFUSION, the escape of the fluid of one organic vessel into some adjoining organ.

EGG PLANT, the *Solanum esculentum*, the fruit of which has the appearance of eggs.

EGLANTINE, the sweet brier rose, *Rosa rubiginosa* and *Rosa eglanteria*. Milton was in error in applying this name to the honeysuckle.

EGYPTIAN BEAN, the fruit of *Nelumbium speciosum*, considered to be the forbidden bean of the Pythagoreans.

EGYPTIAN PEBBLE, a variety of jasper found in the Desert between Cairo and the Red Sea.

EIDER DUCK, the most important of the *Anatidæ*, and the type of the sub-genus *Somateria*. The down of this duck is of great commercial importance and value.

EIKON BASILIKE, a work the authorship of which was traced by Sir James Mackintosh to John Gauden, Bishop of Exeter, but which had generally been ascribed to Charles I. It gives "the Portraiture of his Sacred Majesty in his Solitude and Sufferings."

ELÆIS GUINEENSIS, the oil palm of West tropical Africa, from which the palm oil imported so largely into Great Britain is obtained. It is an exceedingly fruitful palm; and from the outer fleshy coating of its fruits the oil is extracted by boiling in water.

ELÆOLITE. (*See* ELAOLITE.) This variety of nepheline is a silicate of alumina, potash, and soda. The pale blue and partially opalescent specimens are occasionally used as gems.

ELÆOMETER, an instrument for testing the purity of olive oil.

ELASTIC BITUMEN, a soft variety of bitumen found in brownish masses in various places, and possessing flexible and elastic qualities, from which it has been also called *Mineral caoutchouc* and *Elaterite*.

ELATERS, loose spiral fibres found along with the sporules of *Marchantia*, *Jungermannia*, &c.

ELATERIUM, a fruit consisting of three or more consolidated carpels, which burst by elasticity when ripe, as in the fruit of Euphorbia. *A coccum* or pericarp of dry elastic parts.

ELEATIC PHILOSOPHY, the system of philosophy originated by Xenophanes of Elea or Velia, B.C. 530; who, along with his disciples, confined their attention to the ideas of God and Existence or Being, which they held to be the only true objects of permanent existence. The phenomena of the world which change and pass away they regarded as merely illusory and incapable of explanation.

ELECTRIC FISHES, fishes, such as the *Gymnotus*, or electric eel, torpedo, and *Malapterurus electricus*, or *Silurus*.

ELECTRIC LIGHT. This light is generally produced by partially interrupting a current of electricity passing along the wires of a battery by charcoal points or pencils at the ends of the wires. The magneto-electric light of Wylde produces a light of sufficient intensity and steadiness to be fit for all the purposes of photography, and more reliable for its uniformity than even sunshine, and is sufficient to set fire to articles submitted to the focus of a burning-glass at a distance of more than twenty feet. It is represented to be maintainable at a cost of eightpence per hour.

ELECTRO-BALLISTIC APPARATUS, an arrangement of electricity for ascertaining the velocity of a projectile at various points of its flight. Two screens are interposed between the projectile and the butt or target, one near the gun and the other near the target. In passing through the first of these screens the projectile breaks a current of electricity, and sets at liberty a pendulum which is stopped by the passage of the projectile through the second screen. The time taken by the projectile between the two screens is exactly that of the arc described by the pendulum. Thus, on the first day's experiments with the 81 ton gun at Woolwich, September 17th, 1875, the *fifth* round, with a charge of 230 lbs. inch-and-half cube powder, propelled a shot of 1260 lbs. weight at the muzzle velocity of 1550 feet per second; the shot penetrating 44 feet into the sand, and the recoil of the gun being 37 feet. The *sixth* round penetrated three feet further into the sand, with a shot 2 lbs. lighter and a charge of powder ten pounds greater; the muzzle velocity

being the same, and the recoil of the gun 14 inches more.

ELECTRO-BIOLOGY, a name given to the mental phenomena supposed to be produced by Mesmerism or Animal Magnetism on human beings.

ELECTRO-MAGNETISM, that application of electricity by which artificial magnets and magnetic actions are produced, in contradistinction to MAGNETO-ELECTRICITY, (*q. v.*,) by means of which currents of electricity and electric actions and effects are produced from *natural magnets*. Artificial magnets are made by rolling a coil of wire insulated to conduct currents round a core, generally of soft iron, (if of steel, the steel becomes permanently magnetised,) by which means, on the application of a current to the ends of the coil, *vertiginous* or rotatory magnetism is produced. *See* MAGNETISM.

ELECTRO-METALLURGY, that branch of electricity, as applied to the manufacturing arts, which consists in the precipitation electro-chemically of various metals.

ELECTRO-NEGATIVES, and ELECTRO-POSITIVES. Those electro-chemical decompositions which are attracted to the positive or *anode* pole of the battery are called Electro-negatives: and *vice versâ* those attracted to the negative or *cathode* pole.

ELECTROMOTOR, or ELECTROMOTIVE FORCE, the development of electricity by means of Voltaic arrangements.

ELECTRON, Amber, so called by the ancient Greeks, whence, from its latent electricity being excitable by friction, the name *Electricity*. *See* ELECTRUM.

ELECTROTINT, a mode of making drawings with any substance insoluble in solutions of sulphate of copper. A reverse of designs so made may be obtained fit for printing from by immersing them in these solutions and the precipitation of the copper upon them.

ELECTRO-VITAL CURRENTS, those currents of electricity under the command of the volition by which the motions of the body are performed at will, and the volition connected with the physical action; as also those currents by which involuntary animal motions are produced. There are by some physiologists supposed to be two currents; one proceeding internally from the cerebro-spinal axis; the other external and cutaneous, returning from the extremities to that axis.

ELECTRUM, a native alloy of gold and silver, found in silver white crystals and imperfect cubes in the north of Europe and California, consisting of two proportions of gold to one of silver. This alloy is also called *Electron*.

ELECTUARY, a powder or medicine mixed with syrup of the consistence of honey.

ELECTUARY, LENITIVE, powdered senna mixed with coriander seeds, pulp of cassia, prunes, figs, sugar, and decoction of liquorice.

ELISION, the suppression of a vowel or vowel sound, frequent in French, for the sake of euphony. In Greek and Latin the elisions were generally at the ends of words.

ELIXIR, an old term applied to various tinctures, essences, and solutions used in the processes of transmutation. Elixir of vitriol was sulphuric acid with the addition of an aromatic tincture.

ELOGE, a panegyrical oration in honour of an illustrious person deceased, generally pronounced now of a predecessor by his successor in the French Academies,—formerly by the secretaries.

ELYTRUM, synon. of Elytron. *See* ELYTRA.

EMANATION, SYSTEM OF. Pantheism.

EMBROCATION, a liquid application to any inflamed or painful part.

EMBRYO, the rudimentary plant in the interior of a seed; the vegetable fœtus, consisting generally of the *plumule*, or part which grows upward, the root or *radicle*, and the cotyledon or cotyledons; also the fœtus *in utero* up to the fifth month of pregnancy.

EMBRYOTOMY, cutting the fœtus out of the womb in cases of obstructed delivery.

EMETICS, medicines which produce vomiting.

EMETIC TARTAR, the oxide of antimony, potassa, and tartaric acid, forming a triple salt. As an emetic, the dose is from half a grain to two grains. As a diaphoretic or purgative, the dose should be less than half a grain. It is soluble in three parts of boiling and eighteen parts of cold water.

EMMENAGOGUES, medicines for promoting menstrual evacuation.

EMOLLIENTS, the opposite of tonics; they relax the fibrous tension.

EMPHASIS, the stress laid on syllables or words in elocution. It is synonymous with accent in music.

EMPHYSEMA, a dilation of the air-cells of the lungs, occasioned by chronic bronchitis, accompanied occasionally by the rupture of two or more of the cells into one. Also, more rarely, a rupture of the lung with escape of air under the *pleura*.

EMPIRIC, a quack or impostor, as now used. Originally, and in a more honourable sense, the term was applied, as its etymology indicates, to those who founded their knowledge on experience, ἐμπειρικος.

EMPLASTICS, medicines which tend to shut up the pores of the body, and produce constipation.

EMPYEMA, purulent matter collected in the cavity of the thorax.

EMPYREUMATIC OILS, oils produced from the distillation of organic matters at high temperatures.

EMULSION, a milky liquid.

ENCEPHALOCELE, hernia of the brain.

ENCRATITES, a sect of the Gnostics opposed to marriage.

ENCYSTATION, the process by which certain infusoria enclose themselves in a cyst previous to fission; on the bursting of the cyst the embryos are allowed to escape.

ENDELLIONITE, a triple sulphuret of antimony, lead, and copper, from Endellion, Cornwall.

ENDERMIC, a method of applying medical remedies to the dermis under or denuded of the cuticle, as morphia, strychnia, &c. The hypodermic application of strychnia, duly diluted, and under medical supervision, is said to have the effect of reinvigorating the eyes, where vision has become seriously decayed, and restoring perfect sight.

ENDIVE, *Cichorium Endivia*, a composite biennial herb.

ENDLESS SCREW, a rotatory combination of the inclined plane and the lever, employed for communicating or extending motion. It may be either a screw with a cog-wheel or a screw acting on the threads of a female screw on the edge of a wheel. The American endless screw is at right angles with the plane of the wheel.

ENDOCHROME, the colouring substance of plants.

ENDOPHYLLOUS, young leaves of monocotyledonous plants, enclosed in a sheath.

ENDORSE, the smallest diminutive of the pale in heraldry.

ENDOSMOMETER, an instrument to show how rapidly endosmosis (*q.v.*) takes place. It shows that endosmosis takes place more rapidly than exmosis, that is, that the thinner fluid passes more rapidly into the thicker fluid than *vice versa*.

ENDOSPERM, the albumen of seeds. Synonym of ENDOSPERMIUM.

ENDOSTOME, the passage through the inner integument of seeds under the foramen.

ENDOTHECIUM, the cellular fibrous lining of an anther.

ENGRAILED, the edge of an object indented with small semicircles with their concave sides outward. Heraldic.

ENHANCED, bearings placed above their usual position in the shield. Heraldic.

ENOCH, BOOK OF, a supposed book of prophecy left by the patriarch Enoch, on the supposition that one of his prophecies quoted by St. Jude in his Epistle was a quotation from such a book. The Fathers down to the period of Jerome were credulous enough to believe this, though Jude gives no authority for it; and they even mention the existence of such a book. Two Ethiopian copies of the book mentioned by them were brought by the traveller Bruce to Europe in 1773. This work is of some antiquity, dating about fifty years B.C., according to Archbishop Lawrence, but is obviously no genuine production of Enoch.

ENSIGNED, any ornamented charge in heraldry.

ENTOPHYTE, a plant growing within another.

ENTOYER, a bordure charged wholly with inanimate things.

ENTROPIUM, a diseased turning inwards of the eyelid and eyelashes, causing irritation to the eyeball.

ENZOON or EOZOON CANADENSE, a fossil found in the clay slate of Canada, being the earliest of the fossiliferous strata heretofore discovered and from hence called the Eozoon, or "Dawn Animal." It is identified with a still living but diminutive species of *Foraminifera*; and its discovery has greatly aided in dispelling the hasty and immature conclusions of speculative geologists as to interruptions to the continuity of animated nature in the world since the first introduction of life,—an extravagant and *per saltum* deduction which its warmest advocates have been at length compelled to abandon before irresistible evidence.

EPENCEPHALIC ARCH, the arched and osseous protection of the epencephalon, being in general anatomy the neural arch of the occipital vertebra.

EPICANTHIS, the angle of the eye.

EPICEDIUM, a funeral elegy.

EPIDERMIC METHOD, medicines applied to the skin. Synonymous with Iatroleptic Method.

EPIGASTRIC REGION, the Epigastrium, (*q.v.*)

EPIPHORA, a disease resulting from excessive secretion of tears.

EPIPHYTE, a plant which rests or grows upon the surface of another plant, but does not draw any nourishment from it.

EPIPLOCELE, hernia from the protrusion of the omentum.

EPISPASTIC, the quality of applications which give rise to blisters on the skin.

EPISTAXIS, bleeding at the nose.

EPULOTIC OINTMENTS, an old term applied to unguents which aided the skinning over of sores.

ERBIUM, a primary metallic element, the oxide of which, *Erbia*, is said to be found native along with Yttria.

ERECT, an animal or part of one placed perpendicularly when the natural position would be horizontal. (Heraldic.)

ERETHISMUS, excessive general excitement, occasioned by the over use of mercury or other agents.

ERGOTIN, the active acrid principle of ergot of rye.

ERGOTISM, two forms of disease, gangrenous and convulsive, occasioned by using diseased rye as food.

ERMINOIS, a fur in heraldry consisting of a field of gold with black tufts or spots.

EROTIC, exciting to love. The Erotic poets of Greece and Rome were those who made love their chief theme.

ERUCIC ACID, a colourless crystalline substance found in oil of mustard.

ERYTHRINE, a substance found in the *litmus* Lichen, *Roccella tinctoria*.

ERYTHRONIUM, the original name of Vanadium.

ERYTHROPHYLL, the substance which gives the reddish tint to some autumn leaves.

ESCHALOT or SHALLOT, the *allium Ascalonicum*, a small variety of onion.

ESCLATTE, shattered by a stroke of a battle axe, in heraldry.

ESSENCE D'ORIENT, the pearl like matter at the base of the scales of a small *cyprinus* fish, the *bleak*, by means of which artificial pearls are made by lining the interior of hollow glass beads with it.

ESSENTIAL OILS, a series of oils forming the odorous principles of plants. They are obtained in a variety of ways, as by pressure, distillation, digesting in alcohol, confinement and absorption of the odour into certain inodorous fixed oils, &c. They are composed of carbon and hydrogen. Some contain oxygen also, and others sulphur in addition.

ESTRADE, the raised portion of a floor for supporting a throne or bed; and generally, any raised floor.

ESTRICH, the fine ostrich down of commerce.

ETHAL. This name is a compound of the words Ether and Alcohol. It is formed in the process of saponifying spermaceti.

ETCHING NEEDLE, a steel tool with a sharp point for tracing on copper.

ETHIOPS, a black mineral powder produced when sulphur is rubbed with mercury.

ETHYL (C_4 H_5), an organic radical found in alcohol and ether.

ETOILE, a star differing in the number of its points from a mullet. It has four rayant points.

EUCRASY, in a good or well balanced condition of health.

EUERGETES, a title signifying "benefactor," frequently given by the Greeks to eminent servants of the state for the proper discharge of their duties. It is more particularly preserved in connexion with the names of some of the Ptolemies, rulers of Egypt.

EUGUBINE TABLES, bronze tablets found near Gobbio, the ancient Eugubium, in 1444. Five of the inscriptions are in Etruscan and Umbrian characters, and two in Latin. Some progress in their interpretation has been made by Professor F. W. Newman.

EUPEPSIA, good digestion.

EUSTACHIAN VALVE, the valve separating the right auricle of the heart from the inferior, *vena cava*.

EUTHANASIA, easy death. It is also used as a term in various metaphorical senses by political writers.

EVERSION, overturning, destruction, an overthrow.

EVOCATI, soldiers of the old Roman army who were again called to give military service after having got their discharge or missio.

EXACERBATION, increased violence in the symptoms of disease.

EXÆRESIS, that department of surgery confined to removing portions of the body, as amputations, &c. (An old term.)

EXANGIA, diseases which rupture or perforate the large blood-vessels, or enlarge them without external openings, as Aneurism, Varix, &c.

EXANTHEMATOUS, any eruptive disease accompanied by fever.

EXAUCTORATI, those Roman soldiers who, after sixteen years' service, remained four years longer under a special standard or *vexillum* of their own.

EXAUGURATION, an act performed by the augurs of Rome, whereby, after they had consulted and obtained the consent of the gods, they changed any sacred thing or person to other or profane uses.

EXEGESIS, an interpretation or exposition, more particularly of the Sacred Writings.

EXOSTOME, the passage through the foramen of an ovule.

EXOTHECIUM, the coating of an anther.

EXOTICS, foreign plants requiring to be sheltered during winter. Also anything brought from one country to another by way of introduction. Literally, foreign ἐξωτικός.

EXPANSION GEAR, mechanical arrangements for cutting off the steam at the various parts of the stroke for the purpose of modifying the action of an engine to the work required. The effect produced is to admit less steam than usual into the cylinder, and allow it to complete the stroke of the piston by its expansion.

EXPECTORANTS, medicines for increasing the bronchial and tracheal secretions of mucus.

EXPECTORATION, the ejection of matters from the chest.

EXSICCATOR, an arrangement, generally a chamber, through which dry heated air may pass, occasionally charged with certain chemical vapours which absorb aqueous vapour, and thereby dry wet articles.

EXTINE, in botany, the outer membrane of pollen grains.

EXTRACT OF LEAD, a subacetate of lead, formed in an impure state by boiling litharge in vinegar. It is called Goulard's Extract of Lead, after the surgeon who first used it.

EXTRADITION TREATIES, treaties made between different states for surrendering or sending back escaped criminals to meet the demands of public justice.

EXTRAVASATION, fluids out of their proper vessels, as blood extravasated into any portion of the body in which it ought not to be.

EXTRORSE, any member or part of a plant turned away from its proper axis or direction is extrorse or extrorsal.

EXTROVERSION, portions of the body turned wrong side out from malformation.

EYELETEER, a pointed instrument for piercing eyelet-holes.

EYE OF A DOME, the aperture at the top for admitting light.

EYE OF A VOLUTE, the circle in the centre of a volute.

EYE-PIECES, those lenticular arrangements by which the eye is enabled to examine the image formed at the focus of object glasses of telescopes and microscopes, &c.

EYSELE, an old name for vinegar.

EYEBRIGHT, *Euphrasia Officinalis*, a remedy for weak eyes, and one of the ingredients of British herb tobacco.

F

FAGOPYRUM, a genus of plants indigenous in Central Asia, known as the Buckwheat.

FAKE, a single circle of any rope or cable lying coiled.

FALCATED, crescent-shaped; applied to the appearance of the moon in her first and fourth quarter, when she, as described in Hudibras, "on silver horns hangs out her light."

FALCHION, a broad-bladed sword, with convex edge increasing in breadth toward the point. It was more particularly a characteristic weapon of the thirteenth century.

FALCIFORM PROCESS, a process of the *dura mater*, extending from the *tentorium* to the *crista galli*, between the hemispheres of the brain.

FALCULATE, a curved elongated and sharp-pointed claw.

FALLACY IN DICTIONE, a term in logic applied to that class of fallacies in which the conclusion is not justified by the premises, though at first sight it may appear to be so. A fallacy of this kind occurs in the great aphorism of Epicurus: "Nothing but matter can touch or be touched." Here the premiss includes matter and touch, and the conclusion the correlative limitation of the two. The fallacy is in the comprehensive sense in which the word "touch" is here used. Touch in man is not matter, but one of the metaphysical senses exercised through matter. If, therefore, in the contact with matter, as in the case of the hand touching an object, the sense of touch be also present, then the metaphysical is in contact with the physical, or, in other words, matter with the immaterial. The fallacy lies in the words *touch* and *touched*, which Epicurus uses in their most comprehensive meaning, forgetting at the same time that in this comprehensiveness touch is a *sense*, as well as a mere contact of matter with matter. Hence the Epicurean postulate is a *fallacy in dictione*, because the metaphysical may *touch* or *be in contact* with matter; and something more than matter may therefore touch matter. This is in fact the connecting point between the metaphysical and the physical, the oversight of which, both by Epicurus and Bishop Berkeley, led to the denial of anything but matter by the former, and the denial of the existence of matter by the latter.—[J. A. S.]

FALLACY EXTRA DICTIONEM, a fallacy which is exterior to the language or terms, and resides in the matter or facts.

FALLOW, an agricultural term applied to arable lands not under crop. A "Naked Fallow" signifies, rested for a whole year without any cropping; a "Winter Fallow" is a resting of the land from the autumnal reaping of one year to the spring seed time of the next. This is also sometimes called a "Green Crop Fallow," when green crop follows grain.

FALLOW DEER, the popular name of the *Cervus Dama*, Lin.

FALSE CADENCE, a cadence in music in which the bass, instead of rising a fourth or falling a fifth, rises only a tone or semitone.

FAMILIA, the household or persons, free or bound, who were under the will and authority of one man, among the Romans, whether in estate or household: also that division of the *gens* which gave the *cognomen* or family name.

FAN VAULTING, the name given to that remarkably fine style of perpendicular Gothic consisting of Voussoirs rising concentrically from the springing up towards the centre, and meeting or cutting into each other, or finished with a pendant forming a sort of similarly ornamented keystone, as exemplified in the Peterborough and Ely cathedrals, &c.

FASTERN'S EVE, the name still given to Shrove Tuesday in Scotland.

FEATHERING, turning the blade of an oar into a horizontal position between the strokes in rowing.

FERIÆ, the religious festivals or holidays of the Romans.

FERN ROOT, the medicinal root of the *Aspidium Filix Mas*, a celebrated vermifuge, especially found to be efficacious in cases of tapeworm. The dose is two drachms of the dry root powdered, along with or followed by an active purge.

FERONIA, the elephant or wood apple of India, *F. Elephantum*. Its trunk, when wounded, exudes the East India gum arabic of commerce.

FERRIC ACID, a teroxide of iron, formed in combination with potash. It is unstable, not found free.

FERRUGO, the rust disease in plants, consisting of several species of parasitical fungi of the order *Pucciniæi*.

FEUILLÆA, one of the climbing *Cucurbitaceæ* of tropical America, *F Cordifolia*. It is known under the name of Cacoon, or Sequa, in Jamaica, as an antidote to poisons It is emetic and purgative.

FEUILLANS, a religious order founded at Feuillant, Languedoc, in 1577; a branch of the Bernardines.

FEUILLANS, CLUB DES, a French political club of the Revolution, which separated from the Jacobines in 1791, and held meetings at the convent of the Feuillans, till its extinction in the following year.

FICOIDEÆ, the order *Mesembryaceæ*; a natural order of perigynous exogens, allied to the *Cactaceæ*, with perigynous stamens, superior calyx, and embryos curved round mealy albumen.

FIELD-VOLE, the *Arvicola agrestis* of Cuvier, or field-mouse.

FILE, two soldiers, one belonging to the front line and one to the rear.

FILE MARCHING, a line of soldiers two deep, when marching in file, that is, facing right or left, and two abreast.

FILEFISH, a genus of acanthopterygious fishes with rough shagreened skins and deeply serrated anterior dorsal spines. The genus *Balistes*.

FILIBUSTERS, a word said to come from the English word "freebooter," adopted in America through the French corruption *flibustier*, and used of any piratical depredators.

FIMBRIÆ, the processes of the abdominal openings of the Fallopian tube.

FISSION, breaking up into parts.

FITCHET, the *Putorius fœtidus*, or Polecat.

FLAGELLA, an old botanical name for the younger shoots or twigs of plants.

FLEA, the *Pulex* of entomology.

FLOATING SCREEDS, strips of plaster adjusted to guide the floating rule in plastering or floated work.

FLORETS, the smaller interior flowers in the disc or anthodium of composite flowers, as distinguished from the marginal flowers in the circumference of the disc.

FLOTA, the Spanish synonym of "fleet," applied to those ships which sailed in fleets or under convoy between the Peninsula and the transatlantic possessions of Spain and Portugal.

FLOTILLA, a fleet of small vessels, however numerous.

FLUELLITE, native fluoride of aluminium.

FLUOCERINE, or FLUCERINE, native fluoride of cerium.

FLUOBORIC ACID, a gas composed of one atom of boron and three of fluorine; also called Fluoride of Boron.

FŒTUS, the name given to the unborn child between the fifth month of pregnancy and the time of its birth. Previous to this period it is called "the Embryo," *q. v.*

FOOL'S PARSLEY, a poisonous plant distinguished from parsley, for which it is apt to be mistaken, by the involucels, each having three leaflets always next the circumference of the umbel. The *Æthusa Cynapium*.

FORAMINIFERA, the *Rhizopoda*, a class of *Protozoa* or *Acrita* of which *Amœba* is the type. They are mostly microscopic organisms, and the calcified shells of some of them enter largely into the composition of chalk and other sedimentary strata.

FORCES, composition and resolution of, the accumulation of two or more forces into a mechanically united equivalent.

FORENSIC, relating to courts of justice. *Forensic Medicine* is that branch of medical science which relates to *Medical Jurisprudence*, or medical questions arising before courts of law.

FORMICATION, a creeping sensation of the skin, as if ants (*formicæ*) were creeping over it.

FORMYLE, $=C_2$ H, the hydrocarbon base of formic acid.

FOSSULATE, a surface characterised by one or more long narrow depressions.

FOUSEL or FUSEL OIL, Amylic alcohol, the hydrate of oxide of amyl, found in potato and corn spirit, and the cause of their harsh taste and offensive fluvour. Its formula is C_{10} H_{11} O + H O.

FOWLER'S MINERAL, solution of arsenite of potassa.

FOXGLOVE, *Digitalis purpurea*.

FRAPPING, increasing the tension of ropes running parallel or nearly so by drawing and tying them together.

FRATERCULA, the genus which includes the puffins.

FRATRICELLI, a sect of Franciscan Monks, founded by Maurato and Fossombroni about the end of the thirteenth century, but subsequently condemned by Boniface VIII., and persecuted by the Inquisition in the two following centuries, during which it is said more than two thousand of them became its victims. The remainder of the body became Lutherans at the Reformation.

FRAUNHOFER'S LINES, the dark lines of the solar spectrum, first examined by Fraunhofer, and which have latterly led to such important discoveries in spectrum analysis, *q. v.*

FRECKLES, the brownish or dark yellow specks produced by sunshine on the face and skin of fair persons. *See* COSMETICS.

FREEZING MIXTURES. These mixtures have in some instances reduced the temperature to 140° below 0°. Equal parts of sal ammoniac and powdered nitre mixed, in one and a half their quantity of water, reduce the temperature and the thermometer from 50° to 10°. Ice or snow mixed with one half their weight of salt, reduce the thermometer to 0°.

FRENCH POLISH. A solution of shellac in spirits of wine is the chief constituent. Linseed oil is used along with it, when applying it, and friction with a ball of cotton wool in a cloth applied rapidly.

Tripoli and oil are used in finishing off when dry.

FRENCH WHITE, talc finely pulverised. *See* FRENCH CHALK.

FRENCH ULTRAMARINE, an artificial ultramarine first manufactured from a substance resembling lazulite, found in the ashes of furnaces in France. It is now regularly manufactured by heating to a red heat a mixture of kaolin, carbonate of soda, and sulphur, and perhaps a small quantity of iron; it being found that the colour of ultramarine cannot be produced without the presence of iron.

FRENUM, a ligament or rein. The term is applied to various ligaments anatomically; the ligament of the tongue is called *frenum linguæ*.

FRIABLE, capable of being crumbled into powder.

FRIAR'S BALSAM, an alcoholic solution of benzoin, tolu balsam, styrax, and aloes; the compound tincture of Benzoin of the Pharmacopœia, applied to stimulate ulcers and wounds.

FRIESLAND GREEN, an ammoniochloride or oxychloride of copper, called also BRUNSWICK GREEN.

FRITT, a term applied in glass manufacture to the mass previous to fusion, after it has been heated together to expel water.

FRONDOSE, leaves unusually developed either in their size or number.

FRONTLET, the margin of the head behind the bill of birds.

FRUSTULES, fragments; the joints into which *Diatomaceæ* separate.

FRUTEX, a shrub or perennial plant whose branches proceed from the root direct without any uniting stem.

FULGORA, a genus of hemipterous insects of the family *Cicadariæ*, of which the *F. lanternaria*, or lantern fly, of South America, and *F. candelaria*, or candle fly, of China, are species.

FULGORITES, or, as they are sometimes called, FOSSIL LIGHTNING, certain tubes formed by the fusing and vitrification of sand by the passage of lightning through the sand.

FULMINATING and FULMINATES, *q. v.* Of these bodies the composition of fulminate of mercury, or fulminating mercury, is $2\,(Hg\,O)\,Cy_2\;O_3$; of fulminating silver, or fulminate of silver, $2\,(Ag\,O)\,Cy_2\;O_3$; an exceedingly dangerous compound to handle. Fulminating powder is a compound of three parts of nitre, two of carbonate of potash, and one of sulphur.

FUMARAMIDE, a white powder formed by mixing fumaric ether with ammonia.

FUMARIA, a genus of hypogenous exogens, consisting of herbs closely allied to the *Papaveraceæ*.

FUMARIACEÆ, the natural order of herbaceous plants of which *Fumaria* is the typical genus.

FUMARIC ACID, an acid found in fumitory, *Fumaria officinalis*. It is also obtainable from malic acid by the action of heat.

FUMARIMIDE, a red powder obtained by the action of heat on bimalate of ammonia.

FUMIGATION, a mode too frequently adopted with the view of disinfecting, and with the result of only concealing bad or pernicious smells. The little carbon liberated by the smoke of fumigation is about the only real disinfecting principle it contains; but that is too small to be of any great service. Disinfectants (*q. v.*) ought to be invariably substituted for fumigation.

FUNDUS, the base of any cone-shaped organ, especially the base of the uterus, gall bladder, and urinary bladder.

FUSCIN, a brown colouring body found in empyreumatic oils.

FUSE, or FUZE, in artillery, a wooden or metal case used for igniting shells, now generally superseded by the system of detonating shells communicated to the British Ordnance department before the Crimean War, but the authorship of which has never been acknowledged.

FUSEL OIL. *See* FOUSEL.

FUSIBLE CALCULUS, a variety of urinary calculus capable of fusion under the blow-pipe, and composed of phosphate of lime, magnesia, and ammonia.

FUSIBLE SALT OF URINE, the old name of the ammonio-phosphate of soda deposited on the evaporation of urine.

FUSINÆ, the spindle-shells.

FUSION, aqueous, the liquefaction by heat of salts containing water of crystallization.

FUSION, IGNEOUS, liquefaction by heat of anhydrous bodies, or bodies without water.

G

G, as used in chronology, is the Seventh Dominical Letter. As a Roman abbreviation, it signifies *gaudium, gens, gratis*, &c. G. L. represents *Genio loci*; G. P. R., *Gloria populi Romani*; G. V., *Genio urbis*.

GABBRONITE, called also fuscite and compact scapolite. A silicate of alumina, soda, and potash, found in the titaniferous iron of Norway.

GABIAN OIL, a mineral naphtha or petroleum found at Gabian in Languedoc.

GAHNITE, another name of Automolite, a native aluminate of zinc.

GAINAGE, in old English law, horses, draught oxen, and agricultural implements, exempted from seizure by law not to impede agriculture.

GAINING TWIST, in gunnery, a spiral grooving of guns which increases as it advances from the breech.

GALACTIC CIRCLE, the great plane of the Galaxy, used astronomically to divide celestial space into two hemispheres.

GALACTIC POLES, two opposite points in celestial space perpendicular to the great plane of the Galaxy.

GALACTOPOIETIC, from γαλα and ποιεω, "I make milk;" diet and medicine given to promote the secretion of milk.

GALANTHUS, the genus of flowers known as the snowdrop.

GALE, a small fragrant bush growing in boggy places belonging to the order *Myricaceæ*, The *Myrica Gale*.

GALE, a nautical term applied with some gradations distinctively to winds of varying force; as a *fresh* gale, *strong* gale, *hard* or *heavy* gale, or *whole* gale.

GALIACEÆ, the natural order of plants of which *Galium*, *q v.*, is the typical genus.

GALIPEA, the genus of *Rutaceæ*, from which Angostura bark is obtained; sometimes called Cusparia bark, from *G. Cusparia*, one of the species. It is used to stupefy fish in Guiana, to which it is native, and has tonic properties medically.

GALVANOSCOPE, a modification of the Galvanometer, *q. v.*, for detecting feeble currents of electricity, but not provided, as in the latter instrument, with arrangements for measuring the angles of deflection of its needle.

GAMBA, the elongated metatarsus of ruminant and soliped mammals.

GAMBIR, an astringent drug, used as a substitute for catechu, obtained from *Uncaria Gambir*.

GAMMARINA, a family of amphipodous crustaceans, of which the *Gammarus* or sandhopper is the typical genus.

GAMOMORPHISM, the stage of development of the germinal or spermatic elements of reproductive organisms, in which they are in maturity for fecundation.

GANGLIONEURA, the molluscous and articulate divisions of the animal kingdom, distinguishsd by the ganglionic character of the nervous system. The articulated section of this arrangement are called *Homogangliata*, from the ganglia being symmetrically arranged along the central line of the body connected by a double chord. The molluscous system are called *Heterogangliata* from the dispersed and frequently unsymmetrical arrangement of the ganglia.

GANGRENE, a diseased condition of the soft portions of the body, nearly approaching *sphacelus*, or mortification or death, (from γαγγραινα, "feeding upon or eating away.") *Dry gangrene* is more characteristic of advanced age, or poisoning from ergot of rye. It is generally characterised by ossification of the small arterial trunks, pain, heat, and redness being followed by darkening and drying of the parts, chiefly in the extremities. *Moist gangrene* is accompanied by the exudation of serum and extravasation of blood, which coagulates and becomes black, and gases formed by decomposition are emitted. *Hospital gangrene* is a form of disease like the latter, arising from the air of hospitals being poisoned by overcrowding of patients with sores, &c., and defective accommodation and sanitary arrangements. It is needless to say that gangrene, unless it can be arrested in its first stages, is so closely on the verge of mortification, that it rapidly passes into that stage and becomes fatal.

GANOCEPHALA, an order of fossil reptiles with ganoid bony plates covering and defending the head, including the super-temporal and post-orbital plates over the temporal fossæ. They are found in all the carboniferous rocks.

GAPE, a term applied in ornithology to the opening between the mandibles of birds.

GARANCINE, a colouring matter derived from madder.

GARLIC, OIL OF, the sulphide of the radical *allyl* obtained from the distillation of garlic with water.

GASCOIGNE'S POWDER, an antidote to poisons formerly in considerable repute, composed of a mixture of absorbent powders with bezoar.

GASOMETRIC ANALYSIS, a process for separating and ascertaining the several constituents of any gaseous mixture by Eudiometers, *q. v.*, or by exploding the gas with oxygen, and observing the volumes after and prior to explosion.

GASTRÆUM, the entire prone or under surface of an animal's body.

GASTRITIS, an inflammation of the stomach accompanied by great irritation, prostration of strength, and danger, indicated by hiccup and other symptoms, and requiring prompt treatment. It is usually traceable to gout or to irritating substances introduced in the form of food or liquids.

GASTRODYNIA, a painful affection of the stomach, which frequently accompanies dyspepsia.

GASTRONOMY, the science of eating and drinking.

GASTRORAPHY, the surgical operation of sewing up abdominal wounds.

GAZELLE, the *Antilope Dorcas* of Linnæus. *See* GAZEL.

GAZOLITES, aërolites or meteors.

GEHLENITE, a basic silicate of alumina and lime with iron and magnesia, found in the Tyrol.

GELALÆAN ERA, the era of Yezdegird, as reformed by Gelal-Edin, Sultan of Korassan.

GELATINES, the *Acalephes* of Cuvier and *Radiaires Molasses* of Lamarck, so called by Kirby from their generally gelatinous bodies.

GEMMATION, development or increase by bud ling.

GENA, the cheek or region between the eye and the mouth.

GENETHLIAC, from γενεθλη, "birth;" a birth or birthday poem in honour of an individual.

GENIOGLOSSI, the pair of muscles by which the tongue is protruded.

GENIPA, the genipap fruit of *G. Americana*, a cinchonaceous plant. It is called the Marmalade Box in Surinam.

GENNET, an order of chivalry founded by Charles Martel in 726, after he had defeated the Saracens at Tours. It was named in honour of St. Martin of Tours, from the Wood Martin, or Gennet, and was the first order of chivalry founded in France.

GENRE PICTURES, those pictures of ordinary and humble life which do not belong to any of the specific departments of art. They are not necessarily vulgar pictures, though some of the cleverest Dutch painters have occasionally made them so, and have even fully merited the name of "dirt painters." But such subjects as Hogarth and Sir David Wilkie have most meritoriously distinguished themselves by painting, come within the denomination of "Genre Pictures."

GENTIANACEÆ, the natural order of plants of which *Gentiana* is the typical genus. *See* GENTIAN.

GENTILE. Though this term became latterly a word of indiscriminate use, it was distinctively employed, both in the Old Testament and by St. Paul in the New, to denote the descendants of Japheth, Genesis x. 5.

GEOTHERMOMETER, a thermometrical instrument for ascertaining the Earth's subterranean heat at various depths. The temperature by means of it has been found to increase about 1° Fahr. for every 70 or 80 ft. of descent.

GERMEN, the ovary or *ovarium*.

GERMINAL VESICLE, a nucleated cell forming the first and essential portion of the *ovum*.

GESTURE LANGUAGE, a language much employed by savage tribes for facilitating interchange of meaning, often in cases where their spoken language is defective. It has been found by experiments made in Germany lately that it admits of extensive use, and has general intelligibility in mixed audiences of different civilized nations.

GHEA BUTTER, or GALAM, the produce of a West African palm; consisting of a fat similar in constituents to palm oil. It is obtained from the *Bassia Parkii* or *Micadenia*, and is a greyish white solid mass below 97° Fah.

GILBERTINES, a religious order of England founded by Gilbert of Sempringham, Lincolnshire, in the twelfth century. At the dissolution it had about twenty-five, houses in England.

GINKGO TREE, a deciduous tree of Japan, the *Salisburia adiantifolia*, called also the Maidenhair tree, from its foliage resembling in form and venation that of the Maidenhair fern.

GIROUETTE, a term applied in France to unprincipled and unstable political characters. It is synonymous with Weathercock, and an amusing *Dictionnaire des Girouettes* was published at one time in France, giving the names of the more celebrated revolutionary characters with a number of weathercocks against the names of each, corresponding to the number of their turn-coat manœuvres in political affairs; a work which has admitted of much enlargement from time to time in that unfortunate and fine country.

GLACE DE MARIE, or GLACIES MARIÆ, the large foliated varieties of mica.

GLACIAL DRIFT, a phenomenon common over the face of northern Europe and America after the post-tertiary settlement of those continents, consisting of drifted boulders and rock fragments mixed with sand and clay in curious heterogeneous heaps, of which *gravel* is an almost universal component. The phenomenon is partially attributed to the action of *Glaciers*, but it is certain that the greater features of it are due to *Icebergs*. Various explanations have been attempted by geologists with no very clear or exhaustive result in point of intelligibility. *See* DELUGE.

GLACIERES, the name given to Ice Caves, or caves full of ice, by geologists, and found in Alpine regions unconnected with any glacial system; they vary from 50 to 500 feet in depth, and seem so far to form an exception to the increasing temperature of the earth, as ascertained by the geothermometer (*q. v.*) elsewhere.

GLADIUS, the internal horny plate of the calamaries.

GLAIRIN, a nitrogenous substance found in some sulphur springs.

GLANDS, BUCCAL, the glands which secrete the saliva for lubricating the mouth.

GLANS, an inferior indehiscent fruit, represented by the acorn.

GLAUBER'S SAL AMMONIAC, the sulphate of ammonia.

GLAUBERITE, native double sulphate of soda and lime.

GLAUCOLITE, a blue-green silicate of alumina, lime, and potassa, found in Siberia.

GLAUCONITE, the "green earth" of the green sandstone and some trap rocks; a hydrated silicate of alumina and iron with some alkalies.

GLENOID, γληνοειδης, a term applied generally in anatomy to the *socket-like* surfaces for receiving the articulating extremities of bones, such as the cavity of the shoulder, in which the upper end of the humerus works, &c.

GLOBULINE, a term applied to various

organic substances, as the colourless part of the blood corpuscles; the green globules among the cells of cellular tissues; the cellular or vesicular tissues or granules which Turpin considers to be the organic elements of vegetation; also a modified albumen found in the humours of the eye.

GLOSS, an Aristotelian expression signifying such unusual idioms as may be occasionally and judiciously employed to adorn style in rhetoric, yet in some degree requiring interpretation from the context. A gloss hence came to mean not the idiomatic expression itself, but its interpretation, in which sense it is now most usually understood.

GLOSSARY, a dictionary or vocabulary of exceptional words or phrases often appended to the particular work in which they occur.

GLOSSOPETRÆ, the fossil teeth of some fishes.

GLOTTALITE, a white hydrated silicate of lime and magnesia found on the Clyde.

GLUCIC ACID, an acid body obtained from the spontaneous decomposition of grape sugar with alkalies. Synonymous with Kalisaccaric acid.

GLUCINUM, a primary metallic element, the metallic base of the earth glucina, its oxide. It has little metallic lustre, and is very difficult of fusion. It was discovered by Vauquelin in 1798. Its equivalent is 6·9. Glucina is a rare oxide: it occurs in the beryl euclase and emerald, and is a fine white soft powder when extracted.

GLUT, in political economy, the over production or over supply of goods for sale in a market, causing temporary stagnation of trade or transactions in them, and commercial depression.

GLYCERYL, the radical of glycerine = $C_6 H_7$.

GLYCOL, a viscid sweetish liquid containing two more atoms of oxygen than alcohol, and $= C_4 H_6 O_4$. It is soluble in alcohol and water.

GLYPHOGRAPHY, engraving made through a thin film of white wax on a blackened copper-plate.

GMELINITE, synonymous with Hydrolite; hydrated silicate of alumina, potash, and peroxide of iron.

GNATHOTHECA, the integument of the beak in ornithology, whether horny or cutaneous.

GNOMONICS, the art of dialling or constructing dials.

GOBIUS, the genus of osseous fishes of which the three spined goby of England is an example.

GOLDFINCH, the *Carduelis elegans* (*Fringilla carduelis* of Lin.)

GOMPHIASIS, the disease of the teeth under which they loosen and fall out of their sockets.

GOMPHIOI, the grinders or grinding teeth.

GOMPHOLOBIUM, a beautiful genus of Australian leguminous shrubs. They are poisonous to sheep.

GONIOMETRY, the measurement of angles, as distinct from trigonometry, the measurement of triangles.

GORILLA, the larger species of chimpanzee. This animal sometimes attains a height of nearly 6 feet, and in its anatomical structure more nearly approaches that of man than any of the other species.

GORSE, the *Ulex Europæus*, or common furze, called "whins" in Scotland.

GOSHAWK, the *Astur Palumbarius* of Cuvier.

GOSPEL, the name given to revealed religion from its containing God's revelation of His forgiveness of sins, and His mercy and love to man.

GOTHIC, one of the low German class of languages. It has been preserved in the translation of the Bible into it made by Bishop Ulfilas in the end of the 4th century, and is more primitive in its grammar than the Anglo-Saxon of Beowulf.

GOURDS, the species *Cucurbita*.

GRACIOSO, the buffoon of the Spanish stage.

GRAPHIC ACID, a crystalline body obtained from graphite under the continued action of sulphuric acid and chlorate of potash.

GRAPHOTYPE, a mode of producing engravings for working in letter-press like wood blocks, and said to be an economy. It is done upon a surface of prepared and compressed chalk by an ink which indurates the chalk, allowing the untouched parts to be brushed away with a camel's-hair pencil, or otherwise removed, so as to leave the ink drawing in relief. It is, in fact, an artificial lithography, but does not yet appear to have met with much commercial success.

GREENFINCH, the *Fringilla Viridis* of Linnæus.

GREENSTONE, a variety of trap rock consisting of hornblende with imperfectly crystallised felspar in abundance.

GREGORITE, a variety of titanic iron ore.

GREY STONE LIME, a lime so called in London, obtained from the chalk marl of Godstone, Dorking, &c. It contains about 8 per cent. of silicate of alumina, and is similar to *clunch* lime.

GRIFFITHS' MIXTURE, a tonic containing protocarbonate of iron: the *Mistura ferri Composita*.

GROUND ICE or GRU, ice formed at the bottom of running streams. It is maintained by some that all ice by which running streams become frozen is first formed at the bottom.

GRYPHOSIS, a growing of the nails inwards.

GUIDONS, the silken flags or colours of dragoon regiments.

GULF WEED, the *Sargassum bacciferum*; a mass of seaweed which floats in the Atlantic, and extends over about 250,000 square miles.

GURGOYLE or GARGOYLE, the spouts in Gothic architecture, generally passing through the mouths of animals projecting from the side walls, by which the rain from the roof is carried free of the walls.

GUTTUR, the entire under surface of the neck of mammals.

GYN, a machine used for mounting and dismounting ordnance from the gun carriages.

GYRATE, curled inwards like a crozier, in botany. The young fronds of ferns develop from this form.

GYRODUS, a family of fossil *Pycnodont* fishes found in the Baden oolite.

GYROSE, bent backward and forward, like the anthers of the gourd.

H

HADDOCK, the *Morrhua Æglefinus* of the Northern Ocean: a well-known fish of the British coasts, but not found in the Baltic.

HÆMATINE, the colouring principle of logwood.

HÆRESIARCH, or HERESIARCH, the founder of a heretical sect.

HAIR SALT, efflorescent sulphate of magnesia.

HALCYONIDÆ, the family of Fissirostral birds, of which the kingfisher is the type.

HATTI-SCHERIFF, the Turkish name for an edict under the hand of the Sultan.

HELIOGRAPH, an instrument for obtaining photographs of the sun, invented by Mr. Warren de la Rue, consisting of a modification of the equatorial telescope.

HELLADOTHERIUM, a fossil mammal resembling the giraffe, found in Greece. It forms a separate genus from the *Camelopardalis*.

HELLANODICÆ, the name given to the judges who presided in courts martial of the Lacedemonian soldiers; also the judges in the Olympic Games.

HELVINE, a compound of the silicates of glucina, manganese, and iron.

HEMELYTRA, the wing sheaths of tetrapterous insects like those of the *Hemiptera*.

HEMIDESMUS, a genus of *Asclepiadaceæ*. The roots of *H. Indicus* are used as a substitute for sarsaparilla.

HENOCTICON, the Edict of Union of the Emperor Zeno, in A.D. 482, for terminating the Monophysite controversy.

HERPESTES, the generic name of the various species of Ichneumon. Their instinct to destroy serpents, and cure themselves of any bite received in the conflict by rubbing the wound on the plant *Ophiorhiza Mungos*, is well known.

HETEPOSITE, a native phosphate of iron and manganese.

HETMAN, the head man. The commander of a regiment of Cossacks.

HIEROMANCY, divination from the appearances of sacrificed victims.

HIPPARION, a fossil genus of Miocene *Equidæ*, differing slightly from the existing horse.

HIPPURIS, the common mare's-tail of botany.

HISINGERITE, a hydrated silicate of peroxide of iron.

HOMINY, a meal of maize or Indian corn.

HOMŒOZOIC BELTS, the climatic lines defining the geographical distribution of marine animals.

HORNBEAM, the *Carpinus Betulus*, a white, hard, and heavy timber wood liable to become shaky, and therefore not of much value. It is most valued as a hedging plant, and bears pruning well.

HUMANITARIANS, those who deny the Divinity of Christ.

HYALOID, the transparent membrane investing the vitreous humour of the eye; also applied generally to transparent membranes.

HYBERNATION, the state of sleep into which certain animals fall during the more inclement part of winter.

HYDRIDES, the compounds of hydrogen with other elementary bodies or with radicals.

HYDROCARDIA, dropsy of the pericardium.

HYDROCELE, watery or serous fluid accumulated in the *tunica vaginalis testis*.

HYDROMEL, water sweetened with honey. Mead is formed from it by fermentation.

HYGROLOGY, the doctrine of the fluids or humours of the body.

HYGROSCOPE, a modification of the hygrometer, with the same object.

HYPERÆMIA, congestion of blood in any portion of the body.

HYPERCATHARSIS, excessive purging.

HYPNOTICS, medicines which tend to produce sleep.

HYPOGLOSSAL NERVES, the lingua nerves.

HYPONITRIC ACID, a name now replaced by peroxide of nitrogen. It is a compound of one atom of nitrogen and four of oxygen.

HYPOPHYLLOUS BODIES, bodies which grow on the inner side of a leaf.

HYPSOMETRY, the mensuration of heights, relative or absolute, by trigonometry, or by barometric appliances.

HYSTERANTHUS, the appearance of the flowers before the leaves in botany, characteristic of many plants, such as the almond.

I

ICHOROLOGY, the doctrine of the secretive and lymphatic systems.

ICHTHIDIN, an albuminous substance found in the roe of some fishes.

ICHTHYOLITES, fossil remains of fishes.

ICHTHYOPHAGI, fish eaters. Certain savages who lived wholly on fish were so called by the ancients.

ICTERUS, the jaundice.

IDRIALINE, an inflammable substance found in the quicksilver mines of Idria, Carniola.

IGASURIC ACID, an acid found in combination with strychnia in *nux vomica*.

ILICIN, a crystalline neutral substance found in holly leaves.

ILMENIUM, a metallic base said to be identical with columbium or niobium. It is found in the Yttro-ilmenite of the Ilmen Mountains.

ILVAITE, a silicate of iron and lime found in Elba.

ILYANTHUS, a genus of sea anemones, They are non-adherent and large in column comparatively.

IMBIBITION, the absorption of a liquid into the pores of a solid. A property of some importance in organic tissues.

IMPARIPINNATE. odd-winged or leaved; used to signify in botany that there is an odd terminal floret or leaflet, and not an equal number of pairs.

IMPASTATION, binding different matters together by cements in sculpture, so that they can resist the action of fire.

IMPASTO, the body of colour, or thickness of the layer, relatively, in painting. A thin layer of pigment is equal to a thin impasto, &c.

INCANDESCENCE, the luminosity exhibited by any body from interior heat.

INCENSE WOOD, the aromatic resinous wood of certain species of *Icica*, as *I. Heterophylla*, *I. Guianensis*, &c. The juice of some is also used for incense.

INCINERATION, burning to ashes, sometimes resorted to for the purpose of obtaining the incombustible remains of the substance. Cremation is the name applied to the process when the human body is incinerated for the purpose of obtaining the ashes of the dead.

INCRASSATE, bodies more than usually thick in proportion to their usual dimensions in botany, as in the case of many succulent leaves, &c.

INCUBATION, ARTIFICIAL. This mode of hatching independently of the hen is of great antiquity, having been early practised by the Egyptians and Chinese. It may be effected either by the oven, stove, or steam. The *Eccaleobion*, or egg-hatching machine, of the Crystal Palace, Sydenham, by which the best and most improved breeds of poultry are now regularly produced for sale, is doing much toward the introduction of a better class of general stock for the whole country.

INCURVED or INCURVATE, curved inwards.

INDIAN FIRE, a pyrotechnic mixture of twenty-four parts of nitre, seven of sulphur, and two of realgar, producing a brilliant white light.

INDUCTION, ELECTRICAL, that electric action produced in adjacent bodies by any body under electrical excitement.

INDULT, a form of indulgence or dispensation, or licence to transgress or sin against ordinary law, granted by the Pope.

INDUSIAL LIMESTONE, a freshwater limestone of Auvergne, composed largely of the cases or indusiæ of the larvæ of *Phryganea*, incrusted by travertin.

INDUVIÆ, the withered remains of leaves not articulated with the stem.

INDUVIATE, covered with induviæ.

INERTES, the order of birds of Temminck which includes the *Apteryx* and *Dodo*.

INFORMED STARS, stars not included in any of the recognised stellar arrangements called constellations.

INITIAL VELOCITY, the velocity of a projectile at the outset, or immediately after it leaves the muzzle of the gun.

INOSIC ACID, an acid found in the juices of the flesh of animals.

INSTANTANEOUS AXES, the series of varying and successive axes on which any non-concentric body moves in the course of its rotation. Motion produces many such axes in bodies, according to the nature of the rotation and its combination with other motions, as, for example, when a body slides as well as rotates, instantaneous sliding axes being thereby produced.

INSTRUMENTAL ERRORS, errors arising from defect of the mathematical instruments employed in measurements, observations, &c.

INTERCOSTAL, between the ribs. An adjective used anatomically of vessels so situated.

INTERMEDIATE SHAFT, the connecting shaft of a pair of marine engines, at the ends of which the two paddle-wheels are fixed.

INTERNODE, between the knots: the space on a branch between the leaves upon it.

INTESTINALIA, a class of animals, intestinal worms or parasites, which infest the interior of other animals. They are arranged under two classes, *Cœlelmintha* and *Stereomintha*. Each subdivided into three orders, the first class comprehending *Nematoidea*, *Acanthotheca*, and *Syngamoidea*, and the second, *Acanthocephala*, *Trematoda*, and *Tœnioidea*.

IODATES, salts of iodic acid.

IODIDES, compounds of iodine with the metals.

IODITE, a native iodide of silver.

IOLITE, a violet-tinted crystalline mineral found native in grains and masses.

IRIARTEA, a genus of South American palms. The cylindrical roots of this palm rise in a conical mass above the ground like the stem of a tree.

IRIDÆA, one of the rose-spored division of edible sea-weeds.

IRIS, the anterior coloured portion of the choroid coat of the eye with its muscular fibres, in the centre of which is the pupil.

IRISCOPE, an instrument for showing prismatic colours, consisting chiefly of a plate of highly polished black glass, with its surface smeared with a solution of fine soap, and afterwards dried with a piece of chamois leather. When breathed on through a tube, the vapour on its surface displays brilliant prismatic tinted rays or spectra.

IRITIS, inflammation of the iris of the eye.

ISCHIOCELE, hernial tumours at the foramen of the ischium.

ISCHOPHONIA, or ISCHNOPHONIA, loss of voice, a weak voice with imperfect speech.

ISCHURIA, retention of urine.

ISERINE, a variety of titaniferous iron, from the Iser, Silesia.

ISLANDS OF THE BLESSED, the Happy Islands of Greek Mythology, supposed to be situated in the Western Ocean.

ISOGONIC LINES, lines of terrestrial magnetism on the surface of the earth, which have the characteristic or definition, that the declination of the magnetic needle, or its inclination to the horizon, is the same throughout any one of them.

ISOPYRE, an amorphous mineral, consisting of silicate of alumina, peroxide of iron, and lime, found in the granite of St. Just, Cornwall.

ISTHIONIC ACID, a body obtained from the boiling of a solution of ethionic acid. It is isomenic with sulpho-vinic acid.

ITAKA WOOD, the finely-mottled tiger wood of British Guiana, from the timber of *Machærium Schomburgkii*.

ITALIAN JUICE, the extract of Calabrian liquorice, as Spanish juice is prepared from the liquorice of Catalonia. The Solazzi juice of Italy has hitherto been considered to be the finest.

IULIDÆ, a family of Myrapods, of which the gally-worm, or Iulus, is the type.

IVORY, VEGETABLE, the nuts of *Phytelephas Macrocarpa*, consisting in substance of indurated albumen, and now much used in turnery.

IVY, the *Hedera Helix* of botany.

IXOLYTE, a fossil resin found in the bituminous coal of Oberhart, Austria.

J

JABIRU, a wading bird of the genus *Mycteria*.

JACCHUS, a genus of South American quadrumana or monkeys, characterised by the digits of the fore foot being all in one direction, while the hind feet have thumbs; and also by other peculiarities, chiefly dental.

JACOB'S LADDER, the garden flower, *Polemonium Cæruleum*.

JAMBOSA, a genus of myrtaceous Indian trees, of which *J. Malaccensis* yields the Malay apple, and *J. Vulgaris* the rose apple.

JAMESONITE, a name of sulphantimonite of lead.

JARRAH, the durable mahogany-like wood of *Eucalyptus rostrata*, a West Australian timber tree.

JERVIN, an alkaloid fonnd in the root of white hellebore, or *Veratrum album*.

JESUITES DE ROBE, secular Jesuits of high rank, bound to the order by vows of obedience, but without taking the spiritual vow. They are part of the most mischievous political organisation of this order, which has been sometimes too much for the endurance even of the Popedom itself.

JETERUS, a disease of plants, characterised by their becoming yellowish, whence it has acquired the name of Vegetable Jaundice.

JEWS' PITCH, a species of asphaltum.

JINJAL or GINGAL, a large Oriental musket, used by the Hindoos and Chinese to defend walls.

JOGUES or YUGS, four eras of great extent in Hindoo mythology, analogous to those of the Greek mythology mentioned by Hesiod. They are called Suttee, Tirtah, Dwapaar, and Collee.

JUBA, the mane of animals.

JUBILATE, the third Sunday after Easter. So called from the psalm of the day commencing "*Jubilate Deo.*"

JUDICA, the fifth Sunday after Lent. So called from the psalm of the day beginning "*Judica me, Domine.*"

JUGAL BONE, the cheek bone.

JUGATA, applied to medals with two heads represented side by side, or connected with each other.

JUGULARS, all fishes with ventral fins anterior to the pectoral fins.

JUGULUM, the fore part of the neck between the throat and chest.

JUMPING HARE, a rodent quadruped of the Cape of Good Hope, typical of the genus *Helamys*, in the family *Dipodidæ* or Jerboas.

JUNK WAD, a wad of oakum and spun yarn, made to fit the bore of a gun, and to ram down between the projectile and the charge.

JURASSIC ROCKS, a geological formation of limestones and clays, somewhat analogous to the Kimmeridge clay and Portland rocks of England, but with less defined under strata, forming a large portion of the Jura and Alpine Chain.

JUTE, a valuable Indian fibre, obtained from *Corchorus capsu'aris* and *C. olitorius*. It was chiefly used in India for making coarse cloth and cordage, but is capable of better treatment.

K

KAINOZOIC, the tertiary formation of geology.

KAKOXENE, native phosphate of iron.

KALAKAIKA, a popular Hungarian dance.

KALE, SEA, the *Crambe Maritima*.

KAMMERERITE, hydrated silicate of alumina and magnesia found sometimes along with chromate of iron.

KAMPTULICON, a variety of floor-cloth composed of gutta-percha, india-rubber, and cork.

KANEITE, native arsenical manganese.

KARELINITE, an oxysulphide of bismuth.

KATHETOMETER, an instrument for measuring heights, consisting of a telescope sliding up and down upon a graduated scale, and furnished with cross wires to intersect the field of view. Minute differences in height are thus determinable by sliding the telescope up or down, when two different heights are to be compared.

KEELING, the *Morrhua vulgaris*, or common cod-fish.

KENTISH RAG, part of the lowest cretaceous group of England, yielding a tough and durable building stone.

KERATONYXIS, the operation of couching, as performed by the German surgeons, by introducing a needle through the cornea, and breaking or depressing the opaque lens of the eye. This distinctive name is from κερας, "a horn," and νυξις, "a puncture,"—puncturing the cornea.

KERMESITE, oxysulphide of antimony.

KERNED, in typography, letters which have part of their faces hanging over either or both sides of their bodies.

KEROLITE, a hydrated silicate of manganese.

KEUPER, the upper division of the Trias in the Continental geology of Europe.

KHUS-KHUS, the *Andropogon Muricatus*, a fragrant grass of India; spelt also "cuscus."

KIESEL SCHIEFER, a siliceous schistose deposit found in the lower division of the upper carboniferous rocks of the Rhine and elsewhere.

KIKEKUNEMALO, an excellent varnish resin of America, resembling copal, and in some places used medicinally.

KIMERIDGE CLAY, a thick blue slate-clay deposit of England, containing carbonate and sulphate of lime, at the base of the upper division of the English oolite, and containing the Kimeridge coal, a bituminous shale.

KIRSCHWASSER, an alcoholic liquor produced by fermenting the small sweet black cherry,—the cherry-water of Germany. When distilled and sweetened, and flavoured with the almond flavour of the bruised kernels, it becomes the liqueur known as noyau.

KISH, a substance resembling plumbago in appearance, found sometimes in smelting furnaces for iron. It is composed of manganese and carbon.

KITT, the name of a composition used in waterproofing canvas. It consists of 60 parts resin, 55 parts pitch, 55 parts bees' wax, and 15 parts tallow, by weight, boiled together slowly. It also adheres to metal.

KIVI-KIVI, the *Apteryx Australis* of New Zealand.

KLINOMETER, an instrument for measuring the inclination of strata to the horizon.

KNEPH, a ram-headed divinity of the ancient Egyptians called AMEN-RA, or by the Greeks AMMON.

KOALA, the *Phascolarctos*, a marsupial quadruped of Australasia.

KOFF, a small two-masted Dutch fishing vessel, with a large sprit sail abaft each mast.

KONIGITE, an emerald-coloured variety of the mineral *Brochantite*.

KOTTIGITE, a native arsenate of zinc with nickel and cobalt, found in Saxony, and containing also a trace of lime.

KREATINE, an organic crystallisable substance found in the muscular fibre of animals $= C_8 H_9 O_4 N_2 + HO$.

KREMNITZ WHITE, a very pure variety of carbonate of lead, or white lead. It is the finest flake white pigment of artists.

KRUM HORN, an old cornet-like musical instrument. It is said to have given name to the Cremona stop of the organ; but seeing how the name Cremona is connected otherwise with music, this may be disputed

KUHNITE, a native arsenate of lime an magnesia.

KUNKUR, a remarkable deposit of the wide-spread peninsula of India, analogous to, and corresponding in character and circumstances with, the glacial drift of Northern Europe and America. It is found as a deposit on *all levels*, even as high as 3,000 feet above the sea. From the different levels on which it is found it obviously cannot be the result of deposits on an ancient and gradually elevated sea-bed, but must have been deposited after the permanent arrangement of heights and depressions of India.

KUPFERBLENDE, copperblende or Tenantite, with part of the iron replaced by zinc.

KURRAJONG, an Australian fibre and series of fibrous plants, including *Commersonia platyphylla*, *Hibiscus heterophyllus*, *Plagianthus sidoides*, and others.

KYANISE, to preserve timber by Kyan's patent preparation, *q. v.*

KYPHOLITE, a variety of serpentine.

KYROSITE, a variety of marcasite, or white iron pyrites, containing copper and arsenic, found both in South America and in Europe.

L

LABLAB, a genus of leguminous tropical plants. The pulse yielded by *L. Vulgaris* is used as an article of food, and the young pods like kidney beans, as well as those of *L. Cultratus*.

LABRUS, the bream. The typical genus of the *Labridæ*, or bream tribe of fishes.

LACINIATE, having fringe-like margins, in botany.

LACONICUM, a dry bath. Heated air used by the Romans to produce sudorific effects, and said to have been first used in Laconia.

LACTONE, a volatile liquid product of the destructive distillation of lactic acid.

LACTUCIC ACID, an acid somewhat similar to oxalic acid, found in the juice of *Lactuca Virosa*.

LACUSTRINE DEPOSITS. The deposits of fresh-water lakes and pools are so called by geologists.

LADIES' SLATES, a term denoting a particular size of slates for roofing. They are 16 inches by 8 inches.

LAGOMYS, the rat-hares of Siberia, a genus of rodent quadrupeds differing from the true hares in having no tail, nearly equal legs, shorter ears, and nearly perfect clavicles.

LAGONITE, an earthy ochreous yellow mineral incrustation, found at the Tuscan lagoons.

LAGRIMOSO, a direction in music to perform the part indicated in a plaintive, tearful manner.

LAKE IRON ORE, the bog iron ore of Sweden and Finland, found generally on the slopes declining toward the larger lakes.

LAMANTIN, the manatee, or sea cow.

LAND-FALL, a nautical term signifying the first land seen after a voyage. When it appears as calculated on, it is called a good landfall.

LANIADÆ, the family of shrikes or butcher birds.

LANTERN WHEEL, a pinion wheel with trundle or spindle teeth.

LANTHANUM, an elementary metal discovered by Mosander in cerite.

LAPILLI, "little stones," small volcanic cinders.

LAPIS CAUSTICUS, caustic potash.

LAPIS DIVINUS, a compound in which alum, nitre, and verdigris were melted together, or white vitriol in place of verdigris, with the occasional addition of camphor.

LAPIS INFERNALIS, lunar caustic, a fused nitrate of silver.

LAPIS LYDIUS, a siliceous slate called the Lydian stone. It is a touchstone for determining the quality of gold or silver, according to the colour of the streak.

LARARIUM, the apartment in the dwellings of the ancients in which the household gods or lares were kept.

LASURITE, blue carbonate of copper.

LATICIFEROUS TISSUE, one of the vascular elementary tissues of plants, in the tubes of which the latex circulates and is conveyed.

LEAD GLANCE, native sulphide of lead.

LECTERN, a desk or stand for supporting a book for the use of the public readers in churches.

LECTICARII, the bearers of the lectica of the Romans, or litter-bearers.

LEOPARD WOOD, the wood of the South American tree *Brosimum Aubletii*. It belongs to the order *Artocarpaceæ*.

LEPIDOLITE, a silicate of lithea, alumina, and iron with fluoride of potassium.

LETTIC, a division of the Aryan languages, including the Old Prussian and still existing dialects of Livonia, Lithuania, and Courland.

LEVANT, from the Italian word *levante*, "rising," an Italian geographical term for that part of the world which is toward the East or rising sun, but distinctively, in general acceptation, that part of the Mediterranean Sea and shores to the east of the meridian of Candia.

LIBER ALBUS, a book of the ancient laws and customs of the City of London, of great antiquarian as well as practical interest. It has been printed by direction of the Master of the Rolls.

LICH GATE, a shed covering the entrance to a burying ground, where the corpse-bearers rested on the way to interment. From *Leiche*, the German for a corpse.

LIEBERKUHN, a speculum or concave reflector used with a microscope to throw focal light on the object under examination.

LIGNEOUS, woody, or resembling wood.

LIGURE, a gem stone worn in the breastplate of the High Priest of Israel.

LIMONITE, a hydrated peroxide of iron, or brown iron ore.

LINGULA FLAGS, a group of rock deposits belonging to the middle members of the Lower Silurian formation, found in the Cambrian district of England, but not belonging to what is called the Cambrian series.

LIPAROCELE, a fatty tumour.

LIPPITUDO, bleared eyes. A disease of the eye-lids easily cured, as well as sty, by the application of red precipitate ointment, prepared in a weakened form for the eye by any druggist.

LITHOLOGICAL, the structure, character, and composition of any mineral or stone.

LITHOPHYTES, stony polypes, or those having a stony axis, as distinct from those having a horny axis.

LLANDEILO SLATES or FLAGS, a group of dark-coloured sandy grit beds belonging to

the Silurian series of South Wales. They abound with graptolites and other fossils. They correspond with the Utica slates of America and the Angers slates of France.

LODESTAR, the Pole star.

LOGAN STONES, the rocking stones. Many of them are apparently natural and purely accidental results of the depositation of the glacial drift, *q. v.*

LOIMIC, (from λοιμικος,) relating to pestilential diseases, such as the plague and other infectious diseases.

LOTOPHAGI, (from λωτοφαγος,) the lotus-eaters, the people among whom Ulysses was carried, according to Homer, when trying to double Cape Malea. Those who ate the fruit of the lotus were visited with forgetfulness, and lost all recollection of their country and friends, preferring a quiet life of inaction in the land of the lotus. The legend is unquestionably one of great poetic beauty.

LUDLOW SERIES, a series of deposits consisting of the upper sands and shales of Ludlow, the Aymestry limestone beneath, and under these the lower Ludlow shales and limestone concretions. Together these are the upper member of the English Silurian formation.

LUSIAD, the great epic poem of the Portuguese poet Camoens. A great work, frequently translated.

LUXATION, dislocation of a joint, in anatomy.

LYRA, the Lyre, one of the constellations; also the name given to a lyre-like disposition of the cerebral fibres of the under posterior surface of the *Corpus Callosum*.

M

MACAUCO, a name used to designate several species of quadrumana of the genus *Lemur*.

MACER, the astringent bark of the root of a Malabar tree, very effective in the cure of diarrhœa.

MACLUREITE, a silicate of magnesia, with some oxide of iron, potash, and fluorine, found in imperfect crystalline masses in New Jersey.

MACRAUCHENIA, a colossal genus of three-toed or Perissodactyle Mammalia, allied to the Llamas and Camels.

MACROPIPER, a genus of shrubby cordate-leaved Polynesian plants, of which the species *M. Methysticum* supplies the kava or ava root, from which the narcotic beverage kava is obtained.

MAGDEBURG HEMISPHERES, an apparatus originating with Otto Guericke, of Magdeburg, consisting of two hollow hemispheres fitting each other closely at the edges. When the interior air is abstracted by the air pump, they exemplify the force of atmospheric pressure from without by the force with which they are held together.

MAGNETITE, oxydulated iron or magnetic iron ore.

MAHARANGA, a genus of *Boraginaceæ*, of which the species *M. Emodi* yields the rutton roots of Indian commerce, used for colouring oils for staining.

MAIDÆ, the family of crabs, typified by the genus *Maia*, of which the sea spider is an example.

MAIN BEAM, in mechanics the beam which receives its impulse of rotation direct from the piston rod.

MAIZENA, the finer kind of flour prepared from Indian corn or maize.

MAJOLICA, a variety of pottery manufactured by the Moors at Majorca during their possession of that island, consisting of earthenware coated with lead glaze, and highly coloured. *English Majolica* has been produced by Mr. Minton and others.

MALACOLITE, a dark green variety of augite.

MALEIC ACID, an acid product of the distillation of malic acid at a high temperature. It is isomeric with fumaric acid.

MALMSEY, a fine-flavoured variety of Madeira wine formerly made at Malvasia, in the Morea.

MANCINITE, brown silicate of zinc.

MANGANITE, hydrated peroxide of manganese, or grey oxide of manganese.

MANGONEL, an ancient warlike engine for throwing missiles in sieges.

MANTLETS, shields proof against small shot, capable of being moved from point to point, to protect sappers or gunners during sieges.

MAPLE, the *Acer* family of trees, which includes many valuable species, as the sugar maple, *Acer Saccharinum*, common maple, *A. Campestre*, Norway maple, *A. Platanoides*, &c.

MARASCHINO, a liqueur prepared from the Dalmatian marasquin cherry by fermentation and distillation, the fruit being bruised and the kernels used as flavouring.

MARC, oil cake—the refuse or residue of seeds after oil has been expressed from them. They are frequently used as manures.

MARGARITE, hydrated silicate of alumina, soda, and lime.

MARIONITE, a hydrated carbonate of zinc.

MARMATITE, a blende in which part of the zinc is replaced by iron, and occasionally by cadmium.

MARSH'S APPARATUS, a test suggested by Mr. Marsh in 1836, for the detection of arsenic. It consists of a jet of pure hydrogen inflamed, to the flame of which a surface of white porcelain is subjected. When the hydrogen contains any trace of arsenic, it is revealed by a steel grey deposit of the metal within a dark ring of its suboxide. When the hydrogen is pure, no metallic deposit takes place.

MARTIAL REGULUS, metallic antimony

produced from the decomposition of sulphide of antimony by iron.

MASTICATORIES, medicines which promote the secretion of saliva.

MASTOTHECA, the abdominal pouch of marsupial mammals.

MAUVE, a beautiful purple aniline dye, obtained also from benzol.

MEAN SUN, an imaginary sun, assumed to move regularly and uniformly at the mean velocity of the true sun. It thus marks and distinguishes *mean time* from true time, and the *mean solar day* from the true solar day, and thereby affords a measure for reducing observations to practical accuracy.

MECHANISTS, a set of philosophers who considered the changes of the material universe due to the operation of mechanical forces.

MEDLAR, the fruit of a plant common in Central Europe in the wild state, the *Mespilus Germanica*.

MEDULLARY RAYS, the cellular tissue radiating from the centre of the stem outward to the bark of exogens, observable when the trunks of timber trees are cut in transverse sections.

MEGALICTHYS, a genus of fossil fishes, some species of which are of great size. Dental and other remains of *M. Hibberti* have been found in coal fields of Edinburgh and Fife.

MELAM, a product of the distillation of sulpho-cyanide of potassium mixed with sal ammoniac.

MELANIC ACID, a black amorphous body obtained from hydride of salicyl.

MELANOCHROITE, a chromate of lead found in Siberia, which becomes black under the action of the blow-pipe.

MELANOTANNIC ACID, a dark body resulting from the action of potassa in excess on tannic acid.

MELILITE, or HONEY STONE, a silicate of alumina, magnesia, peroxide of iron, lime, potash, and soda.

MELOPSITE, a variety of lithomarge, of a pale greenish or yellowish colour.

MENDIPITE, an oxychloride of lead found in the Mendip Hills.

MENEGHINITE, a double sulphide of lead and antimony.

MENILITE, an opaque brownish opal found near Paris.

MERCAPTAN, *Corpus Mercurium captans*, a liquid compound of carbon, sulphur, and hydrogen, so called from its powerful action on mercury.

MERICARP, half of the double fruit of umbellifers.

MESITYLENE, a hydrocarbon product of the action of sulphuric acid on acetone. Its formula is $C_9 H_{12}$.

MESOZOIC ROCKS, the group of rocks usually called Secondary, so called by Professor Phillips from their being supposed to represent a middle life period in the animated habitation of the world: a distinction which it might have been fairly anticipated subsequent geological discovery and maturer scientific considerations would destroy; and, as might have been expected, though the term may remain, its propriety is already gone. The so-called Mesozoic includes the cretaceous series and the new red sandstone, with all the intervening series.

METACARPUS, the portion of the hand between the fingers and wrist.

METACENTRE, Bouguer's term for the point or centre of stability of floating bodies. The centre of buoyancy and the centre of gravity coincide or vary according to the lading, and the position of the Metacentre or centre of stability depends upon and is subordinate to the relative position of these, and, like them, it varies in intensity or quantity, as well as position.

METALLIC COLOURS, those colours which are obtained from a metallic base, such as the lead, chromium, cadmium, vermilion, and other pigments, as distinguished from animal and vegetable colours, such as cochineal, which is an insect product, and madder, indigo, &c., which are vegetable products.

METALLOCHROMES, a beautiful series of prismatic tints, produced on polished steel plates by Nobili by the depositing upon them, under electrolyte action, thin films of peroxide of lead.

METAXITE, a fibrous serpentine. The name has also been applied to chrysolite.

METHYLATED SPIRIT, alcohol or spirits of wine mixed with a tenth of its volume of wood spirit, and sold duty free for the purpose of facilitating the manufacture of varnishes and other uses in the productive arts.

METOPOSCOPY, divination by inspection of the forehead.

MEZZO RILIEVO, in middle relief, or between basso and alto rilievo.

MICHAELITE, a pearly white fibrous variety of opal from the island of St. Michael, Azores.

MILK WEEDS, the genus *Asclepias*.

MISE-EN-SCENE, the getting up of the piece, in dramatic language.

MOHSITE, a crystallised titaniferous iron.

MONILIFORM, like a necklace, applied in botany to certain seed pods.

MONKSHOOD, or ACONITE, the *Aconitum Napellus*.

MOSS AGATE, agates with dentritic or moss-like interior arrangements and markings.

MOTHER-CELLS, cells from which other cells are developed.

MOUSING A HOOK, a nautical term, signifying the securing a hook to anything to which it is attached, by passing a piece of spun yarn round the back and point of it,

so as to prevent the thing to which it is attached from slipping out.

MUCRONATE, any organ terminating in a sharp, hard point.

MURCHISONITE, a red and yellow or golden variety of felspar discovered by Sir Roderick I. Murchison.

MURICATE, surfaces covered with short pointed cones not closely set together.

MUSCIDÆ, the family of dipterous insects, of which *Musca* (the fly) is the typical genus.

MUSKAT, a sweet and fine rich wine from the over-ripe Muscadine grapes of the south of France.

MYCELIA, the flocculent filaments of fungi.

MYDRIASIS, unnatural dilation of the pupil of the eye.

MYELON, the spinal chord and spinal marrow collectively.

MYTILACEANS, the family of bivalve shells of which the *Mytilus*, or common mussel, is the typical genus.

N

NABONASSAR, ERA OF, an era of Astronomy adopted from the Chaldeans by Hipparchus and Ptolemy, and said to refer the observation of eclipses to the beginning of the reign of Nabonassar. Niebuhr and Sir G. C. Lewis are at conflict as to Nabonassar. Mr. Grote says, in his History of Greece, that the earliest astronomical observation of the Chaldeans known to Ptolemy was a lunar eclipse of March 19th, 721 B.C., the 27th year of the Era of Nabonassar. This is, after all, everything that appears requisite, the era of Nabonassar being held to begin with February 26th, 747 B.C. The date is a sufficiently definite one for astronomical purposes.

NACRITE, a silicate of alumina, consisting of fine talcose pearly scales.

NANDU, the *Rhea Americana*, or American ostrich.

NAOS, the portion of a temple enclosed by the walls. It was situated between the *pronaos* in front, and the *posticum* in the rear, of the edifice. It is the origin of the word "nave," which, however, is applied to the middle portion of Gothic churches, between the two side aisles and to the west of the choir.

NARDOO, the *Narsilia Macropus* or *Salvatrix*, an Australian plant, the seeds or spores and spore cases of which furnish a meal from which the natives make bread and a kind of porridge.

NATATORY, that characteristic of a limb by which it is adapted for swimming.

NATIVE AMALGAM, a native alloy of silver and mercury, sometimes found in perfect crystals.

NATURE PRINTING, an art first practised by M. Auer, of the Imperial Printing Office, Vienna, and since brought to great efficiency by Mr. Henry Bradbury and others. The process consists of taking any indented impression, on thin sheets of fresh cut lead, of specially dried plants, or leaves with the juice squeezed out between thick blotting paper. After the plants are separated from the sheets of lead, the latter are subjected to a metallic deposit of copper, which reproduces the impression of the plants in relief. This again is subjected to a second deposit of copper, reproducing the first impression, as taken by the lead, but on a plate sufficiently hard for printing purposes. By this means Nature is made her own draughtsman, and a perfect *fac-simile* is the result.

NAUMANNITE, native selenide of silver.

NAVAL ARCHITECTURE, the designing and draughting of the designs of ships. It involves a consideration of many details and principles, and is in most respects an inversion of house building,—the vessel depending for stability on her floating power from above and her power of resisting pressure from below, while the house depends on the foundation and the power of resisting pressure downwards.

NEGATIVE, in photography, the first impression of an object, from which other impressions are printed.

NEMOPHILA, a genus of flowering annuals belonging to the order *Hydrophyllaceæ*, and familiarly exemplified by the garden annual *N. Insignis*.

NEOLITE, a massive variety of talc, in which alumina partially replaces silica.

NEOTYPE, a variety of Natrocalcile, so called because of its novelty of form on first discovery, due to its containing barytes.

NEPHROTOMY, the surgical operation of extracting stone from the kidneys.

NEREIDES, the sea nymphs, daughters of Nereus, the son of Ocean and Earth.

NEURICITY or NEURILITY, the fibrous structure of the nerves.

NICKEL BLOOM, arsenate of nickel.

NICTITATION, a nervous affection of the eyelids, consisting of inordinate winking.

NIGGED ASHLAR, rough-dressed stone; the same as hammer-dressed stone. It is used in the basements of various public buildings and private dwellings where stone is employed.

NITRO-CALCITE, native nitrate of lime.

NOOTH'S APPARATUS, an arrangement for introducing carbonic acid gas into water, now superseded by the *gasogene*.

NORHAGHE, a remarkable series of Sardinian monuments of great antiquity and unknown use, but supposed to be tombs of illustrious individuals. They are elliptical or circular truncated cones, with doors opening to the south-east, and giving access to a corridor communicating with two ranges of chambers, through which the central tower is reached. They are sometimes single, sometimes composed of several united; sometimes,

also, they embrace a considerable enclosure, and others of them are surrounded by apparently defensible works. They are very numerous in Sardinia, and the surprise is that there should be any doubt as to their origin or use.

NORDHAUSEN ACID, a nearly anhydrous sulphuric acid, consisting usually of a brown fuming liquid, formerly manufactured at Nordhausen.

NUPHAR, the water-lily, the well-known aquatic plant which sends up its beautiful flowers from the surface of the British fresh-water streams amid its broad, round, floating leaves.

NUTCRACKER, a British bird of the genus *Nucifraga* and order *Picæ*.

O

OBSTETRICS, the science of midwifery.

OCCUPATION ROADS, roads made by the owners or occupiers of land for their own convenience in communicating with the various portions of a property, and therefore not public. Over such roads railways and canals must construct bridges; and where they divide fields in their course, they are bound, for the convenience of the proprietors and their tenants, to construct *occupation bridges*.

ODERITE, a Swedish variety of black mica.

ODIN, the Scandinavian Zeus.

ODONTOLITE, fossil bones and teeth, found in the tertiaries of Languedoc, coloured with oxide of copper, called also *Bone Turquoise*.

ODORIN, a product with strong empyreumatic odour, obtained from the distillation of the volatile oil resulting from distilled bone.

ŒNOMETER, a hydrometer for telling the strength of wines.

ŒSOPHAGITIS, inflammation of the œsophagus.

OLEIC ACID, an acid found along with margaric acid when almond oil is saponified with potash, and the soap decomposed by hydrochloric acid. Its symbol is $C_{36}N_{34}O_4$

OLERACEOUS, having the nature of or belonging to pot herbs.

OMANDER WOOD, a calamander wood of Ceylon, the wood of *Diospyros Ebenaster*.

OPHTHALMOSCOPE, an instrument for examining the interior of the eye during life, the invention of Helmholtz, and subsequently varied by numerous other inventors. The light placed at the side of the patient's head being reflected by a small mirror into the eye, the illuminated interior is then capable of examination through a small aperture in the centre of the mirror, to which various magnifying powers can be applied. The invention has proved of great service not only in ocular, but in difficult brain disease, and photographs of the retina have been obtained.

ORDER OF THE DAY, the business of the day in Parliament previously set down in the order in which it is to come on and be proceeded with. A motion for the order of the day to be read is a frequent mode of superseding any other matter already before the House, and, if carried, the orders or remaining orders of the day must then be read and proceeded with in the sequence in which they are set down. Such a motion, however, is frequently superseded by a motion to adjourn. The practice of moving the Order of the Day appears to have been first introduced on All Fools' Day, 1747, and many a disappointed politician has since thought the practice worthy of its birthday.

ORGANOGENESIS, the formation of any organ from its origin or first stage of development.

ORLO, the plinth to the base of a pedestal or column.

ORMOLU, the decorative art of copper or bronze gilt.

ORTHITE, a massive and acicular crystaline variety of Allanite.

ORTHOCLASE, or POTASH FELSPAR, a silicate of alumina and potash, with frequently the potash partially replaced by soda, lime, magnesia, &c. It is a common constituent of granite, forming frequently large white, grey, or reddish crystals.

ORTHOMORPHIC, (from ὀρθος, "straight," and μορφη, "shape,") the normal form or perfect development of organic bodies previous to their germinal condition.

OSCILLATING ENGINES, an arrangement of steam engines by which the cylinder oscillates on trunnions near its base, like those of a piece of ordnance. By this arrangement connecting rods between the piston rod and crank pin are dispensed with, and the space required for their action saved, while the stroke of the piston is more directly applied, and brought more nearly at right angles to the maximum-power points of the crank. They are chiefly valuable in steam navigation, where complete action and compactness are concurring requisites.

OSMIRIDIUM, a native alloy of iridium and osmium, called also iridosmine, these terms being mere inversions of each other.

OSTEOGENY, formation and growth of bone.

OSTEOLITE, earthy phosphate of lime, supposed to be altered apatite.

OTALGIA, ear ache.

OTITIS, inflammation of the ear or any part of that organ.

OUZEL, WATER, the *Cinculus Aquaticus*, or Dipper, a small English bird of aquatic habits.

OVIDUCT, the Fallopian tube of mammals, and analogous passage in other animals.

OXALITE, native oxalate of iron.

OYSTER PLANT, the *Steenhammaria Maritima*, so called from the leaves having the flavour of oysters.

OZOKERITE, a variety of mineral and wax-like resin found in Newcastle and Linlithgowshire coal, and more abundantly in Moldavia. It is now used for the manufacture of candles, and gives a superior light. It has an aromatic smell, as well as many wax-like qualities : hence its name.

OZONE, an allotropic condition or modification of oxygen. It may be obtained from phosphorus partially covered with water, under the electrolytic decomposition of water, by passing an electric spark through oxygen, and in various other ways. It is insoluble in ether, water, and alcohol. It resumes the condition of ordinary oxygen at a temperature of 500°. It forms an invaluable disinfectant and aid to sanitary arrangements, and has been conveniently reduced to practical use in Condy's Fluid.

OZONOMETRY, a term applied to several modes of testing and determining the quantity and presence of Ozone in the atmosphere, chiefly by specially prepared test papers.

P

PALE, THE, that portion of Ireland within which the practical dominion of the English Sovereigns was maintained for some centuries after the English invasion. The Province of Leinster was the main territory of the Pale, with a varying and fluctuating boundary.

PALLA, the cloak or pallium worn by Roman ladies. It was a rectangular outer garment, which when worn had a portion of it thrown over the left shoulder.

PALMYRA WOOD, the wood of *Cocos Nucifera*, and also that of *Borassus Flabelliformis*.

PAMPEAN SERIES, a series of highly fossiliferous South American deposits, belonging to the more recent tertiaries of geology.

PAMPELMOUSE, a fruit of the citron class, yielded by the *Citrus Decumana*.

PANCREATIC JUICE, the liquid secretion of the pancreas. It has the power to change fats into fat acids and glycerine.

PARACENTESIS, tapping of any part of the body to withdraw an extraneous gathering of fluid.

PARACLETE, the Holy Spirit in His character of Comforter and Intercessor.

PARACROSTIC, a poem constructed on the principle of giving in the first verse all the letters in their order with which the subsequent verses commence, as in the original Sibylline verses according to Cicero.

PARAFFIN or PARAFINE OILS, a name given to petroleum oils, as distinguished from benzoline or petroleum spirit.

PARAPHONIA, alteration of voice.

PARKIA, a genus of leguminous plants named after Mungo Park, of which *P. Africana*, or the African locust tree, useful for its edible seeds, is one of the best known examples.

PARONYCHIA, an abscess or whitlow affecting the nail.

PARTURITION, bringing forth or giving birth.

PELIOM, a Bavarian variety of iolite.

PELOKONITE, a South American variety of cupreous manganese.

PENICILLIUM, a genus of moulds or mildews. *P. Glaucum*, one of the species, is present in the vinegar plant, and also in yeast.

PENNINE, a chlorite from the Pennine Alps.

PEPSINE, a principle contained in small quantity in gastric juice along with the acid in which it constitutes the dissolving and digestive power of that fluid.

PERIAGUA, a large canoe of the Pacific made from the trunks of two trees.

PERIDIUM, the outer coat enveloping the sporules of certain fungi.

PERMANENT WHITE, a pigment formed of sulphate of baryta, which retains its whiteness under circumstances in which white lead and zinc white become discoloured.

PERMANGANIC or HYPERMANGANIC ACID, an acid composed of seven atoms of oxygen to two of manganese.

PERONEAL MUSCLES, the muscles which connect the fibula with the foot.

PERRY, a fermented liquor from pears, prepared similarly to cider.

PETITION OF RIGHT, the Parliamentary declaration of the liberties of the people, which obtained the royal assent in the third year of Charles I. ; also a mode of obtaining restitution or possession from the Crown of real or personal estate, now simplified and regulated by the Act 23 and 24 V., c. 34.

PHANTASCOPE, an instrument for regulating the optical axis of the eyes, invented by Professor Locke, for showing certain phenomena of binocular vision.

PHARMACOLOGY, the science which teaches the properties and uses of drugs.

PHILOSOPHIC CANDLE, a jet of hydrogen gas.

PHOTOGEN, paraffin oil, an inflammable oily product of the distillation of various shales and bituminous coals. It forms a series of hydrocarbons of variable proportions and high illuminating power. It is also obtained by distillation from the natural petroleums.

PHOTOLOGY, the science of light.

PHYCOLOGY, the branch of botany devoted to the *Algæ* or sea-weeds.

PICHURIM BEAN, the medicinal seeds of *Nectandra Puchury*, used as a cure for colic.

PINE WOOL, or VEGETABLE WOOL, a fibre of the leaves of the *Pinus Sylvestris*, or silver fir, from which a fabric like flannel may be made. It is highly useful and valuable for r der clothing, being anti-rheumatic and specially healthy.

PISTACITE, a greenish variety of iron and lime epidote, composed of silicate of alumina, lime, and iron.

PLESIOSAURUS, the genus of fossil lizards or marine saurians characterised by their great length of neck.

PLEURITIS, inflammation of the pleura, or pleurisy.

PLUMBUM CORNEUM, fused chloride of lead, formerly called horn lead.

PLYMOUTH BRETHREN, a body of Christians opposed to sectarianism and all its distinctions, and holding adhesion only to what they consider to be vital or essential truths.

PODAGRA, gout affecting the foot.

POLARISCOPES, a variety of instruments for the purpose of detecting the polarisation of light.

POLYGAMOUS, applied in botany to grasses which have spikelets of unisexual and also of hermaphrodite organs.

POLYGAMY, plurality of wives: a custom peculiar to the Semitic and Hamitic races, but apparently never adopted nationally by any of the Japhethites.

POLYONYMY, the description of one object under a variety of names.

POMELLOES, the smaller varieties of shaddock, known as the Forbidden fruit.

PORTREEVE, the chief magistrate of a maritime town or port under the Anglo-Saxons. It is a corruption of portgrieve, and is said to have been the title of mayors of seaports.

POSIDONIA SCHIST, a schistose deposit of the lias formation, consisting of bituminous shale full of the remains of a flat bivalve shell, the *Posidonia*. It is rich enough in carbon to be of value for distillation.

POSOLOGY, the administration of medicine, as regards quantity or doses.

POT METAL, an alloy of copper and lead.

POUDRETTE, a manure composed of dried night soil and clay. The night soil of Paris is so prepared for manure.

PRAAM, a kind of Dutch and Baltic lighter.

PRÆFLORATION and PRÆFOLIATION, the condition of flowers or leaves in the flower-bud or leaf-bud before expansion.

PRÆ-RAPHAELITISM, a modern school of painting, which has revived the system of art characteristic of the fifteenth century, with some modifications.

PRÆTORIUM, the portion of a Roman camp occupied by the General's tent, raised some feet above the level of the rest of the camp.

PRAKRIT, the old languages or dialects of the lower classes during the period when the older Sanscrit was a spoken language, the Sanscrit itself, or *polished* language, being confined to the educated and upper classes.

PRICKLY PEAR, the *Opuntia* or Indian fig.

PRIMURIES, the pinion feathers or quills in the wings of birds.

PRISTIS, the genus of sharks of which the sawfish, *P. Antiquorum*, is an example.

PROCURATOR FISCAL, an officer in Scotland who makes the preliminary inquiries into crime, and acts as public prosecutor in all the less important criminal prosecutions of the inferior courts of Scotland other than the police courts.

PROEM, a poetical introduction to a larger poem. The word is sometimes used in the same sense as a preface.

PROLUSION, a trial or essay in literature.

PROPER MOTION, the actual motion of stars, as contradistinguished from their apparent motion.

PROTEIN, the azotised base of albumen, casein, and fibrin.

PROTOGENESIS, the first beginning of life; a term intended to signify the development of an organic vitalised body from inorganic and non-vitalised matter. The phenomenon has been sought for, but not found.

PROTOPLASM, the vegetable matter formed on the inside walls of a cell after the cell is formed.

PSOROPHTHALMIA, ulceration and itching inflammation of the eyelids.

PTYALISM, salivation, or an increased secretion of saliva.

PUGMILL, the mill in which brickmakers mix and prepare the materials of which their bricks are made.

PULP, the juicy tissue of fruits and plants; also applied to the macerated fibre from which paper is made.

PULQUE, a drink consisting of the fermented juice of the agave.

PUMPKIN, the esculent gourd *Cucurbita Pepo*.

PUNIC WARS, the wars between Rome and Carthage.

PUPIPAROUS, insects which bring forth their young in the nymph or pupe form.

PURPURE, a tincture or colour in heraldry indicated by lines running diagonally from the sinister side of the shield downwards. It is equal to amethyst among gems and mercury among planets.

PUTAMEN, the endocarpium or stone of fruit.

PYCNITE, a silicate of alumina, in which fluorine replaces about a seventh part of the oxygen. It is a massive variety of topaz.

PYCNOTROP, a variety of serpentine.

PYRAMIDS, MEXICAN. The pyramidal structures of Mexico are very extensive works of remote antiquity, remarkable for their extent of base and truncated forms. Some of them, as that of Cholula, seem to have been merely extensive bases for temples erected upon them after they reached a certain height. Many of them cover a larger area than that of the Pyramids of Egypt.

PYRIDINE, an organic oily base obtained from the distillation of bones.

PYRO ACIDS, acids obtained from some of the organic acids by subjecting them to heat, by which they become altered in their composition. They generally retain the name of the organic acid from which they are obtained, with the prefix "pyro," as pyro-citric acid, pyro-gallic acid, &c.

PYROXANTHIN, a yellow crystalline product of the action of alkalies on wood tar.

Q

QUADER SANDSTONES, two divisions of cretaceous deposits found extensively in Germany. The lower quader corresponds with the upper greenstone and freestones of England, and the upper quader with the English chalk, though chalk is little more than a cement to the quader.

QUADRAGENE, a Papal indulgence extending to forty days.

QUADRANS, one-fourth of a Roman *as*.

QUADRILATERALS, a tribe of crabs, with a nearly square carapace.

QUARTZITE or QUARTZ ROCK, a rock occasionally found stratified, composed of only partially crystallised quartz.

QUATERNIONS, CALCULUS OF, a geometrical calculus invented by Sir William Rowan Hamilton.

QUATTROCENTISMO, the Præraphaelitism or Italian art purism of the fifteenth century.

QUELLERZ, a German synonym of bog iron ore or limonite. It is the brook iron ore of Germany.

QUERCITANNIC ACID, the tannic acid of bark, as distinguished from that of oak galls.

QUESTION, PREVIOUS, the name given to a motion only competent in the *House*, in Parliament, and not in *Committee*. It is equivalent to the motion in Committee *that the Chairman do now leave the chair*.

QUINCITE, a rich red hydrated silicate of magnesia and protoxide of iron, from Quincey, France.

QUINQUINA, the bark of the various species of Peruvian cinchona.

QUINSEY, inflammatory sore throat, or inflammation of the tonsils. It commences by swelling and local displacement of the tonsils, which, if attended to, can always be cured by the external application of a warm lotion of vinegar and water, accompanied with rubbing upward from under the point of the lower jaw over the swollen tonsils to the back of the ear. The tonsils thereby gradually return to their proper place with a sensation of almost immediate relief in swallowing the saliva. The swelling of the tonsils may also be readily reduced in most cases by a strong gargle of alum and water. Some practitioners have been foolish enough to use the knife for swollen tonsils, and others from mismanagement have allowed quinsey to prove fatal by suffocation. It is said to terminate generally in resolution or *suppuration*, but in competent hands it ought never to get into this latter stage.

QUINTAIN, an old pastime of tilting at a board fixed to the end of a crossbeam turning on a pivot, with a sand bag at the other end of it. The dexterity of the sport was to strike the board, and escape the avenging sand bag.

QUODLIBETICAL, (from *quod libet*, "what you please,") not confined to any particular subject.

QUOTA, a proportional part or contribution; a share.

QUOTIDIAN, daily, or of daily occurrence. Applied to those agues or fevers whose paroxysms return daily.

R

RABBIT, the cony, or *Lepus Cuniculus* of Linnæus, a familiar rodent quadruped.

RACHILLA, the central stem on which the florets of grasses are developed.

RACHITIS, the disease called rickets.

RADIATING POINT, the point from which shooting stars or star showers diverge.

RANIDÆ, the family of Batrachian reptiles typified by the *rana*, or frog.

RANULA, a tumour under the tongue, ascribed to the development of a cyst in or near the salivary glands.

RAPHIDES, the needle-like crystals of various salts found in the tissue of plants.

RAPPAREE, the name said to be given to a set of wild plundering Irishmen, from the pike or rapery they carried.

RASPBERRY, the *Rubus Idæus*, a well known and favourite fruit-bearing plant allied to the bramble.

RECIPROCITY, MUTUAL, freedom of commercial intercourse between nations.

RECONNAISSANCE, the examination of the features of a country with reference to military movements and operations.

RECTIFICATION OF THE CIRCLE, the finding of a straight or right line equal to the circumference of the circle, as distinguished from quadrature, which is finding a square equal in its area to that of the circle.

RECTRICES, the tail feathers of birds.

RED FIRE, a pyrotechnic light com-

posed of nitrate of strontia and charcoal, with a little sulphur and chlorate of potassa.

RED PRECIPITATE, a decomposition of nitrate of mercury by heat. It is the peroxide of mercury.

RED SNOW, a phenomenon of Alpine and Arctic regions due to the brilliant scarlet colour of the minute alga *Protococcus Nivalis*.

REEMING IRON, an iron wedge tool used in opening the seams of ships to receive oakum.

REEVING, passing ropes through blocks and pulleys.

REFRACTORY, a term applied to metals and minerals which resist change of character at very high temperature. Thus platina is a refractory metal, and fire clay and porcelain clay are refractory minerals.

REMIGES, the quill feathers of the wings of birds.

RENAISSANCE, those styles of architecture which reproduced the ornamentation of the Greeks, belonging more particularly to the period of the revival of letters.

REREDOS, a screen behind an altar.

RETICULUM, the second cavity of the stomach of ruminants, called also the honey bag.

RETINITIS, inflammation of the retina.

RETUSE, with a rounded termination depressed in the centre.

REVALENTA ARABICA or ERVALENTA, the flour of a lentil, the *Ervum lens*.

REVOLVER, a fire-arm with revolving barrels, or a revolving breech containing several chambers.

RHIZOMA, a creeping underground or prostrate stem, which forms roots and throws up leaves as it extends, so that by cutting the underground connection at any point, separate plants may be obtained. The term is derived from ῥιζα, "a root."

RIGOR MORTIS, the stiffening of the body in consequence of death.

RINDERPEST or CATTLE PLAGUE, a disease now of frequent recurrence in ruminating animals, and the cause of much public and legislative anxiety and interposition. From the report of the Commission of 1866 it would appear to be due to the presence of an interior parasite manifested in minute living particles, which appropriate the pabulum of the tissues, and that the disease is highly contagious.

RIPIDOLITE, a hydrated silicate of aluminia, protoxide of iron, and magnesia.

ROMAN ALUM, an alum with more alumina than the ordinary octahedral alum, found in the volcanic rocks of Solfatara.

ROMANCE LANGUAGES. The languages of Italy, Spain, Portugal, the Grisons, France, and Wallachia fall under this denomination, in addition to that of the Troubadours or Provençal, which has ceased to be a distinct spoken language. They are modifications of the old languages or dialects of Italy.

RUBY WOOD, a synonym of the wood of *Pterocarpus Santalinus*, or Red Saunders wood.

RUTABAGA, the *Brassica campestris Rutabaga*, or Swedish turnip.

RUTHENIUM, an elementary metal somewhat similar to iridium.

RUTTON-ROOT, the root of *Maharanga Emodi*, used in India for its vegetable dye.

RYACOLITE, a greyish or white silicate of alumina, potash, soda, and lime, with a vitreous lustre, found in the ejected matter of Vesuvius.

RYTINA, an exterminated genus of *Sirenia*, all the individuals of which were killed by the whalers for the sake of their oil. They inhabited the northern shores of Siberia.

S

SAADS or SAAHDS, an Indian sect of religionists who have become converts to Christianity.

SABADILLINE, a poisonous alkaloid found in white hellebore.

SABOT, a wooden shoe or clog worn by the poorer classes in France; also a wooden wad fixed to a round shell to direct its passage into the gun, and keep the fuse from getting next the charge. The detonating shells have now almost entirely superseded the use of round shells.

SAHLITE, a variety of augite or pyroxene found in the Sahla silver mine of Sweden and elsewhere.

SAINTFOIN or SAINFOIN, a leguminous fodder plant, which thrives in calcareous soils. The *Onobrychis sativa* of botany.

ST. GEORGE'S ENSIGN, a naval flag, called also the White Ensign. It is the sign of an Admiral's presence in command of the fleet, and is carried at the main by his flag ship, so called from that circumstance; and is a red cross on a white field, with the Union Jack in the upper quarter of the field nearest the mast. Vice-Admirals carry it at the fore, and Rear-Admirals at the mizzen, but smaller, and without the Union Jack.

ST. SIMONIANS, the followers of Count St. Simon, whose political tenets were a kind of Socialism.

SAL MIRABILE, the sulphate of soda, or Glauber's salt.

SAL SEIGNETTE, Rochelle salt,—tartarate of potash and soda.

SALIFIABLE BASE, metallic oxides and vegeto-alkalis, which form distinct acids when combined in definite proportions with other acids. Ammonia is also a salifiable base in reference to the same characteristic.

SALIVATION, an excessive secretion of saliva. Sometimes it has occurred naturally;

but it is usually the result of using mercury or some similar remedy for a continuous period.

SALLET, a piece of head armour. The Salade of the fifteenth century.

SALPINX, the Eustachian tube, a trumpet like communication between the mouth and ear (from σαλπιγξ, "a trumpet").

SALT OF LEMONS and SALT OF SORREL, synonyms for oxalic acid or binoxalate of potassa.

SAND SHOT, shot cast in sand, and not in iron moulds. They are a smaller kind of iron shot.

SAPHENA, (σαφης, "distinct,") the large exterior vein of the leg extending over the ankle.

SAPODILLA WOOD, the wood of *Sapota Achras*, a fine cabinet wood of the West Indies.

SAPONIFICATION, the changing of fats into soap by the displacement of glycerine with alkalies.

SAPUCAIA NUTS, the nuts of the *Lecythis Zabucajo* of Para. They resemble Brazil nuts, but are much better and less indigestible.

SATIN WOOD, the fine veneering wood of the Indian tree *Chloroxylon Swietenia*.

SCALPRUM, the cutting edge of the incisor teeth of mammals.

SCAPOLITE, a silicate of alumina and lime.

SCARAMOUCH, a military braggadocio of the old Italian comedy.

SCARF SKIN, the epidermis, or cuticle, or outer skin, forming the surface of animated bodies.

SCLEROSKELETON, the tendinous ligaments of animals, approaching the character of true bone in their hardness.

SCOLOPENDRA, the genus of insects comprehending the centipedes.

SCULPSIT, a term frequently found at the foot of engravings after the engraver's name, signifying that he engraved it, in contradistinction to the term PINXIT, after the painter's name, signifying that he was the painter of the original work represented by the engraving.

SCUTUM, the shield of the Roman legions.

SEA-HOLLY, a spiny-leaved plant, *Eryngium maritimum*.

SEA-PINK, the *Armeria vulgaris*, or thrift.

SEA-WOLF, the fish *Anarrhichas Lupus*.

SEGMENT SHELL, a shell invented by Sir William Armstrong, consisting of a series of interior segments of iron built up in rings, surrounding a central cylinder for holding the bursting charge.

SELENOGRAPHY, that description and representation of the surface of the moon which corresponds with Geography, as the description of the surface of the earth.

SEMEIOTIC, relating to the symptoms o diseases.

SEMITIC LANGUAGES, the family of languages of the descendants of Shem. They include the Hebraic, Arabic, and Aramaic dialects, and those subsequently based upon them. The Aramaic includes the Chaldee and Syriac. The Arabic includes the Himyaritic inscriptions and the Ethiopic or Gees and Arabic. The Semitic languages differ from the Aryan (*q. v.*) in grammatical structure, and more prominently in the composition of their root words.

SEMOLINA, a preparation of wheat of a granular character.

SENECA OIL, the name given to the Pennsylvania petroleum.

SENEGAL ROOT, the root of *Cocculus Bakis*, a bitter diuretic.

SENSORY, a term of anatomy applied to parts of the neutral axis and to those nerves which convey sensation to them.

SERICULTURE, or SERICICULTURE, the cultivation of silk and the silkworm.

SHAKO, the head-dress worn by the infantry of the British Army and by some foreign troops.

SHEA BUTTER, the solid oil of the African Shea tree, *Bassia Parkii*.

SHEAR STEEL, steel bars welded together and again drawn out; wrought steel.

SIALAGOGUE, medicine which increases the secretion of saliva.

SIGURDR, the hero of the Volsunga Saga of Scandinavian mythology.

SINOPITE or SINOPIAN EARTH, the mineralogical name of the bole of Sinope.

SIRENIA, the order of mammals which includes the mermaids.

SITOLOGY, alimentary or dietetic science.

SKUNK-WEED, the *Symplocarpus fœtidus* of North America.

SLAVONIC or SCLAVE LANGUAGES, the class of languages which includes the Illyrian and Bulgarian, Polish, Russian, and Lithuanian. Cyril and Methodius translated the Scriptures into the Eastern Slavonic, or Bulgarian and Illyrian, in the ninth century.

SMARAGD, the emerald; a name given however by the Romans to several precious stones, and not very precise therefore in its original meaning.

SMELT, the genus *Osmerus Eperlanus* of Cuvier, *Salmo Eperlanus* of Linnæus, a fine fish of the salmon family.

SNAIL PLANT, the *Medicago scutellata*, so called from the snail-like appearance of its fruit.

SNAPDRAGON, the *Antirrhinum majus*.

SNOWBALL TREE, the Guelders or Guelder rose, *Viburnum Opulus*.

SODA ALUM, hydrated sulphate of soda and alumina, from the Solfatara, Naples, and other places; synonymous with SOLFATARITE.

SOLVEND, a substance dissolved in a solvent or liquid capable of dissolving it.

SOPORIFIC, anything producing sleep.

SORREL, SALT OF, the binoxalate of potash.

SOUARI WOOD, the timber of *Caryocar tomentosum*, an important Demerara wood.

SPANISH LIQUORICE, the roots of the plant *Glycyrrhiza glabra*.

SPAR, DERBYSHIRE, the fluoride of calcium or fluor spar.

SPECTROSCOPE, an instrument for developing and examining the spectrum of any ray of light emitted by a luminous body, consisting of a pair of telescopes capable of being placed at varying angles to each other on the same plane, with a prism or series of prisms between them. The first telescope is so constructed that an emergent ray from the luminous object under examination may be admitted by a fine slit at the one end of it, in the focus of an object glass placed at the other end nearest to the prism or prisms: the other telescope being so adjusted that, through the eye-piece at its extremity furthest from the prisms, the observer may examine the spectrum developed from the emergent ray by the prism—a micrometer being adjusted to the eye-piece, usually, for ascertaining the position of the *dark* or *bright bands*, which will be found dividing the spectrum at various points.

SPONTANEOUS AXIS, the axis formed by a body under the action of an instantaneous force, on which it rotates without progressing in any direction.

SPONTANEOUS GENERATION, an idea which has haunted philosophers in all ages, that inorganic matter is capable of acquiring spontaneous vitality. Extremely minute and crucial experiments have been made by Professor Huxley, Dr. Bastian, Professor Tyndall, and others, under all the advantages of modern science, with the result announced by Professor Huxley, and anticipated by those who have studied the subject on other bases than those of science, but not less absolutely true, that "*life can proceed from nothing but life.*"

SPORADIC, scattered, (from σποραδικος,) applied to solitary shooting stars, and also to diseases which do not become epidemic.

SPORES, the reproductive organisms of cryptogamic plants.

STEREOSCOPE, a well known optical instrument for producing the appearance of solidity in duplicate pictures by means of binocular vision, first suggested by Professor Wheatstone in 1838.

STIPES, the stalks of fern leaves. (Singular, *Stipe*.)

STOLON, a shoot or sucker, which takes root at various points, and forms new plants.

STOPPAGE IN TRANSITU, the right of a vendor of goods unpaid for to stop them at any point of their journey previous to delivery. The carrier is liable, if he receives intimation to retain the goods in such time as will fairly enable him to warn his subordinates before delivery.

SUPERHEATED STEAM, steam which, by additional application of heat, is raised to a higher temperature than that at which it is formed.

SWEETBREAD, the thymus glands of calves; an excellent food when not over highly cooked.

SYNECHIA, a diseased adhesion of the iris to the cornea of the eye, or to the capsule containing the crystalline lens.

SYNEDROUS, growing on the angle of a stem.

SYNONYMS, words of similar signification. When in different languages, they are translations of each other.

STEAM RAM, a ship of war propelled by steam power, and with a head or bow so constructed as to project a ramming horn or other structure under water, in advance, for the purpose of running into an enemy's ships, and penetrating them below the water line, and sinking them. Such vessels are very formidable auxiliaries to modern maritime warfare with the sinking power of heavy armour plating.

T

TAAG, the fibre of *Crotalaria juncea*, forming the Sunn or Bengal hemp.

TABLEAUX, groups of figures. *Tableaux Vivans* are groups of living figures.

TACTICAL POINTS, points on a battle-field where the operations of the enemy may be obstructed, and those of his opponent facilitated or strengthened.

TAGLIA, a system of fixed pulleys in one block, and of moveable pulleys in another, to which the weight to be raised is attached. The operation of raising draws the second block and its burden up towards the post.

TALA or TAL, the *Borassus flabelliformis*, or Palmyra palm.

TALKOID, a crystalline talc spar.

TAMANU, the heavy resin of the *Calophyllum inophyllum* of Society Islands.

TANGENT SCREW, a screw applied to the teeth of a wheel tangentially, by which motion is communicated to the wheel.

TANTALUS CUP, an ingenious toy, consisting of a syphon concealed within the figure of a man placed in the bottom of a cup, so that when water is poured into it the syphon never allows it to rise higher than the chin of the figure, unless poured in more rapidly than the syphon can carry it off.

TARTARATES, salts of tartaric acid in combination with bases.

TASTO SOLO, an instruction to stringed instruments to play single sounds in an accompaniment, until otherwise ordered.

TATTA, bamboo trellis work over windows in India, over which water trickles to cool the air.

TECTRICES, the covering feathers of the wings of birds other than the quill feathers.

TEGUMENTA, the scaly coverings of the leaf buds of deciduous trees.

TEGUMENT or TEGUMEN, the skin or covering of a body generally.

TELEGRAM, a telegraphic message.

TELEOLOGY, the doctrine of final causes.

TENSION, the force by which anything is stretched.

TERATOLITE, the *Terra miraculosa Saxoniæ*, so called from its supposed medicinal qualities at one time. It is hydrated silicate of alumina, peroxide of iron, lime, and magnesia, &c., from the Saxon coal formation.

TERATOLOGY, the department of physiology devoted to the consideration of monstrosities and malformations in organic nature.

TERCE MAJOR, a sequence of the three best cards in card playing.

TERRA JAPONICA, an old name given erroneously to catechu, from its being at one time supposed to be an earthy mineral substance.

TERTIALS, the large feathers of the secondaries of the wings of birds.

TERTIAN FEVER, an intermittent fever, whose paroxysms return every alternate day.

TERZETTO, a musical composition in three parts.

TESSELATED PAVEMENTS, pavements of small square pieces of stone or tesseræ of different colours, laid-in in patterns into a bed of cement over a hard substratum: a favourite paving for courts among the ancients.

TETE-DU-PONT, a fortified work for the defence of bridges, usually formed by resting its flanks on the river banks, and generally open at the gorge.

TETRAGRAM, a quadrilateral figure.

TETRAPHARMACON, an ointment of wax, lard, resin, and pitch, so called because it was composed of four remedies.

TETRASPASTON, an arrangement of four pulleys working together.

TEXTILE FABRICS, woven fabrics of texture or cloth.

THALLIUM, a primary or elementary metal discovered by Crookes in 1861, so called from its green line in the spectrum.

THEOLOGIUM, the upper stage of ancient theatres, on which the arrangements for producing celestial appearances were placed.

THERMOTICS, the science of heat.

THESPIAN ART, the tragic art.

THULE, ULTIMA, the last of the islands. Some indefinite locality known to the ancient navigators northward from Britain, referred to by Seneca.

TIGER WOOD, the wood of *Machærium Schomburgkii*, growing in British Guiana. It is a superior wood for cabinet purposes.

TILES, ENCAUSTIC, tiles of different coloured clays combined together, showing figures on their surfaces, recently revived by Mr. Wright, of Staffordshire, and Messrs. Minton, from the practice of the mediæval architects.

TIRAILLEURS, irregular soldiers, who separated themselves from the main body of an army and shot at the enemy without firing together. They are now in the French army skirmishers and sharpshooters.

TITANITE, the native oxide of titanium.

TOLMEN or DOLMEN, the name given by antiquaries to unhewn stones found resting on stone supports, supposed to be of Druidical origin, and to have been used as altars. The same name is given by others to large monoliths with holes through them like passages.

TOPHUS, gouty deposit in the smaller joints. Also a soft tumour on a bone.

TORPEDO, a new instrument of destruction introduced into modern maritime warfare, consisting of a conical or other shaped case filled with explosive materials, as gun cotton, dynamite, &c., so constructed that when vessels run against them they explode, and discharge their contents into the hull of the vessel from below. They may be moored, and partially concealed under water, for the protection of harbours or exposed coasts, otherwise open to the landing of an enemy; or towed to sea, and drawn into contact with the various ships of an enemy's fleet; or carried in front of steam rams, or invested with motion and driven against a vessel, so as to blow her to pieces.

TORREFACTION, the roasting of ores, to expel volatile ingredients associated with them. Drugs are also torrefied, when they are dried by partially roasting them, or subjecting them to considerable heat.

TRACTION ENGINE, a locomotive engine for drawing heavy weights on ordinary roads.

TRIAS, the lowest of the Mesozoic or Secondary deposits in geology.

TRIBASIC, a term applied to acids which, in contact with any metallic oxide, replace three atoms of hydrogen by three of the metal or a metallic equivalent.

TRICHINIASIS, the painful and fatal disease induced in the human body by the presence and ravages of the nematoid parasite, *Trichina Spiralis*, of which there is no known cure.

TRICECIOUS, plants which have male flowers on one plant, female flowers on another, and hermaphrodite flowers on a third.

TRIPLE PHOSPHATE, phosphate of ammonia and magnesia.

TULIP WOOD, the beautiful striped wood of *Physocalymma floribunda*, an ornamental wood of a rose colour.

TURNING LATHE, one of the most valuable of our mechanical instruments, now largely employed in the manufacture of other machinery, tools, &c. It is used in the turning and polishing under horizontal rotation of wood, ivory, metals, and stone; and some of the finer rose and eccentric chucks are fitted for turning a great variety of ornamental work, including medallions in bas relief, spirals, bank note plates, &c.

TURRET SHIPS, vessels of modern warfare, first introduced by Captain John Ericssen, of New York, since varied in construction by Captain Coles and others. They consist of an armour-plated screw steamer, with a revolving cupola or turret. Turret ships, however, are open to many objections, and will probably be long on their trial. The limited number of guns (generally only one) which they carry, notwithstanding their facility in turning their fire upon an enemy, is itself an objectionable feature, combined with their great weight and sinking powers, when attacked by a few smaller and lighter vessels with rams and torpedoes. Indeed it would not be very difficult to show how they could be defeated and sunk by a very trifling enemy.

U

UDALLER, a holder of real estate or heritage by udal right or tenure, *i.e.*, without any superior.

UIGITE, hydrated silicate of alumina, soda, and lime.

ULLMANNITE, a sulphide of nickel and antimony, in which arsenic frequently replaces the antimony.

ULNAGERS, public officers appointed after the introduction of the Flemings, or Flemish weavers, into England by Edward I., whose duty it was to protect the customs, and measure and certify the length and quality of each pannus or piece (web) of woollen cloth manufactured, before it could be exposed to sale, and tax it with the ulnage or duty. The customs accounts of the ulnagers are still in the Public Record Office.

ULTIMATE ANALYSIS, the resolution by chemical analysis of any compound body into its ultimate or elementary components, more especially in cases of organic chemistry.

ULTRAMONTANE. Those who believe in the Papal supremacy and infallibility are so called, as opposed to those who hold the supremacy of General Councils, and who contradistinctively are called *Cismontane*. They form two parties in the Roman Catholic Church, which the dogma of infallibility has neither extinguished nor reconciled.

UMBONATE, rounded parts, in botanical language, with a projection in the centre. The pileus of *agaricus* supplies an example. (From *umbo*, a "boss.")

UNCIAL LETTERS, a character suitable for diplomatic correspondence, compounded partly of the capital and partly of the small letters of the alphabet. The *unciales literæ* were in use for about six centuries previous to the tenth century.

UNGUICULATE, petals with a stalk or *unguis*.

UNICORN ROOT, the anthelmintic root of *Helonias dioica*.

UNILOCULAR, one-celled or chambered shells and seed vessels.

UPHERS, the fir poles used as uprights in scaffolding by builders.

URTICARIA, the nettle rash.

USTRINUM, a public place under the Romans, in which the bodies of the poorer classes were burned after death. The remains of an ustrinum were found in Cambridgeshire.

USTULATION. The progressive torrefaction and desiccation of substances was so called by the old chemists.

UTR, an oriental synonym of the otto or attar of roses.

UVA URSI, the bear's berry, *Arctostaphylos uva ursi*, the leaves of which have astringent medical properties in disorders of the kidneys.

UVEA, the posterior lamina of the iris of the eye,—the uveous coat of the eye.

UVEOUS, resembling a grape.

V

VACCINATION, Jenner's great remedy for the dreadful epidemic, small-pox. The success of this most important discovery has been so great, that the hope is justly entertained that its universal adoption will ultimately extinguish this loathsome and too frequently fatal disease; and it has now been made compulsory on parents and guardians of children in England. Some foolish and ignorant resistance has been shown to the operation of the law by one or two individuals; and, to get over such prejudices, a special vaccination direct from the matter of the cow might be ordered by the Court before which they are brought; but this would be really a concession to ignorance and prejudice only, as when the virus is transferred from one healthy child to another it is equally effective and safe from pernicious results.

VALERIC or VALERIANIC ACID, an acid found in *Valeriana officinalis*, giving

a slightly fœtid odour to the dried roots. This odour appears to have a fascination for some animals; cats, and even rats, it is said, being powerfully attracted by it.

VALOREM, AD, according to value. A basis of taxation which has sometimes been adopted for general purposes of revenue, though never very satisfactory. It is still in use in several cases, as in certain deeds charged with stamp duties according to the value or purchase price or consideration they express.

VAREC, an impure carbonate of soda, similar to kelp. It is also called blanquette, and is chiefly manufactured in Brittany.

VARIOLOUS, any pitted surface marked with impressions like those of small-pox.

VASCULAR SYSTEM, the organic vesicular tissue of plants, more especially devoted to the conveyance of air, *i.e.*, spirals or tracheæ.

VECTOR or RADIUS VECTOR, the line of direction from a planet to the centre of its orbital motion. As all orbital motions are ellipses, a vector is always one of the radii of an ellipse, hence it is called Radius Vector.

VEGETABLE SHEEP, the composite plant *Raoulia eximia* of New Zealand, which grows in remarkable woolly-like masses, resembling sheep resting.

VEGETABLE SILK, a fibre obtained from the seed pods of *Chorisia speciosa*.

VEGETABLE TALLOW, a fatty matter yielded by several plants, more especially *Vateria Indica* and *Stillingia Sebifera*.

VENATION, the arrangement of the veins or ribs of leaves, and other botanical organs.

VENESECTION, bleeding by opening a vein.

VENICE WHITE, or HAMBURG or DUTCH WHITE, a pigment composed of carbonate of lead and sulphate of baryta.

VENOSE, having many veins, as in certain leaves with complex or reticulated venation.

VENT or VENT HOLE, the hole or channel in a piece of ordnance through which the charge is ignited.

VENTRAL, relating to the region of the belly.

VENTRAL FINS, the fins on the belly of fishes.

VENUS' BATH, the plant *Dipsacus sylvestris*.

VENUS' HAIR STONE, transparent rock crystal, containing acicular crystals of titanium.

VENUS' PENCILS or CUPID'S PENCILS, a violet quartz, containing brownish gold fibres of oxide of iron.

VERBIUM, a rare elementary metal, found in orthite and gadolinite, in association with erbium and yttrium.

VERDERER, a forester of the royal forests, whose duty was to protect the cover or underwood, or over vert and nether vert, as it was called.

VERMEILLE or VERMEIL, a name given to orange-tinted crimson garnet by jewellers.

VERONICA, a legendary fabrication supported by the Church of Rome, which asserts that when our Lord was on His way to be crucified, Veronica put a handkerchief to His face to wipe it, and received a true impression of His likeness upon it. The rag is still exhibited at Rome as St. Veronica's handkerchief, and an engraving of it may be sometimes picked up, which is chiefly remarkable for the skill with which the artist has transferred the likeness to his plate, and completed the whole engraving of it with *one single line*, commencing on the tip of the nose and winding spirally outwards in a series of irregular rings. (From *vera* and εἰκων, "true image.")

VERRUCÆ, warty-like bodies, in botany, are so called. When Verrucæ cover continuously any surface, it is said to be verrucose.

VERTEX, the zenith, also the apex or point of a cone, and the point at which the lines of an angle intersect.

VERTIGO, giddiness. It is commonly symptomatic of nervous debility.

VESICANTS, blistering applications for the skin.

VESICATORIN, the blistering principle of cantharides, called also *Cantharidin*.

VETCH, a family of *Leguminosæ*, of which the common tare is an example.

VEXILLARY, a standard bearer, or anything relating to an ensign or standard, also that disposition of the petals of flowers by which one much larger portion is folded over the others. (*Vexillum*, "a standard.")

VIDETTE, a sentry planted so as to be able to watch the movements of an enemy, and forewarn of his approach.

VIKINGS, the sea kings.

VINEGAR PLANT, the *Penicillium glaucum*, developed in liquids undergoing fermentation. It is allied to the Yeast Plant, and is a mould of universal distribution.

VIVISECTION, the partial dissection of living animals with a view to enlarge the knowledge of physiology and vital actions.

VOGLITE, a hydrated carbonate of uranium, copper, and lime.

VOICE, the production of sound by the action of air upon the larynx. Speech is a modification of voice by the combined or alternate influence on the voice of the teeth, lips, and tongue, and the disposition of the mouth. The sustained power of the voice and its perfect intonation depend entirely on the command and regulation of the breath; and unimportant as cultivated elocution appears to most people, it is remarkable how few are capable of accurately and effectively exercising the organs of speech, and how much ill health is the result of slovenly habits in this respect. Cultivation of the voice is essentially and primarily correct cultivation of the breathing power; and when once thoroughly mastered and under-

stood, it is a protection to the lungs and a a healthy development of the chest and throat. Stammering or stuttering arises from want of a due reserve of breath, and want of knowledge and experience in storing and economising it, and only strong-lunged and strong-throated people can go on stammering with impunity. Singing from the throat, instead of from the chest, is also occasioned by blundering habits of breathing; and if the vocalist only knew how disagreeable and annoying it is to a discriminating ear, he would never attempt to sing until he had conquered his pernicious and unhealthy error. But so it is also of the oratory of the pulpit, the bar, and the senate, and the elocution of the stage. The great body of men in all these departments of public life, however eloquent in thought and feeling they may be, in reality do not know the physical laws of correct speech, and are feeble often where they might, with very little trouble, acquire the very highest and most impressive power. Any one with sound lungs may acquire the habit, with a little well-advised practice, of sustaining the voice for a full minute on any important passage of music or piece of elocution, and the highest, purest, and most expressive power of intonation will be found to reside in the vocal organs when so sustained, as well as their greatest force and energetic intensity; while the practice of so commanding the vocal faculties will be found to induce the truest and best habits of healthy breathing. Much of the cold, bronchitis, and consumption to which mankind are subject in variable climates is due to the neglect of these important considerations.—[J. A. S.]

VOLSUNG SAGA, the Saga of which Sigurder is the hero.

VORTICELLI, the wheel animalculæ, whose anterior vibratile organs attract their food by small whirlpools, into the *vortex* of which it is drawn, whence their name.

VULCANITE, Volcanic Garnet, a synonym of Augite or Pyroxene; also a synonym of Ebonite.

VULVA. An orifice in anatomy is so called; in conchology a spatulate mark in shells of the genus *Venus*.

VULVIFORM, cleft-like with projecting edges.

W

WADS, GUN, the round discs of millboard or other material fitted to the bore of fowling pieces, inserted between the charge of powder and the small shot in loading. Wads are similarly used in artillery, and are called, according to their peculiarities, grummet, junk, papier-maché, and coal dust wads.

WAGITE, a hydrated silicate of zinc, of a varying blue to green colour, found concretionary in the Ural Mountains.

WAGL TREATY or CAPITULATION, an agreement by which the Emperor Elect of Germany bound himself to respect the liberties and maintain the rights of the Empire and its special obligations.

WAINAMOINEN or KALEVALA, an epic poem of Finland, recently received to literature from purely oral tradition, said to possess merits, and completeness of structure and extent, equal to the Iliad of Homer, and remarkable as a composition of the agglutinate stage of language.

WAIWODE, the governor of a small Turkish province or town.

WAKES or VIGILS, revels held on the eve of festivals during the Middle Ages.

WALCHOWITE, a mineral resin from Walchow, Moravia.

WALLFLOWER, the *Cheiranthus Cheiri*.

WALLOWER, a trundle wheel or lantern wheel.

WALMSTEDITE, a native carbonate of magnesia or breunnerite.

WALNUT, literally, the foreign nut, the edible fruit of *Juglans regia*, a valuable and beautiful cabinet-wood tree.

WALPURGIS NIGHT, the German festival of the 1st of May, held in honour of Walburga, the niece of the German Apostle Boniface.

WAMPEE, the fruit of *Cookia punctata*.

WAR, ART OF, or, more properly, SCIENCE OF, for everything of great public concernment becomes science under the light and energy of modern intelligence, and, under these, the whole character and art of ancient warfare, familiar to the student of classical history, have undergone change and renovation. At present what were once called impregnable fortifications and defences would be blown away in a few hours' cannonading under the terrific powers of modern artillery, and cities which were considered safe within their ancient walls down to a late period in modern history can now, in a briefer space of time than it would take to build an ordinary cottage, be desolated by a shower of shell and shot from an enemy placed at the limit of what was once called the potential range of gunnery, *nine* miles' distance! The fate of Paris during the recent war between France and Germany has, there can be little doubt, startled and disturbed the whole security and self-confidence of the present age, and brought terribly near to its most ghastly embodiment that grim prophetic period when, if the passions of man break loose in the misapplication of those formidable resources which greatly increased knowledge has placed at his command, there shall be wars and rumours of wars such as never have been since the world began. Nitro-glycerine, dynamite, fulminates of mercury and silver, gun cotton, and other explosive materials in the charging of detonating shells, torpedoes and other resources of the skill and

of war, with the improvements ever progressing in modern gunnery, seem to render the defensive art powerless against the increasing means of attack. A ship of war may now be surrounded or covered with a flood of blazing petroleum oil, enclosed in detonating shells, and fired against her; or her crew may be suffocated by a shower of carbonic acid gas, easily capable of compression within shells constructed to burst by impact. The best remedy science can suggest is to keep the foe at a istance; and if Paris had done this, and been encircled by a cordon of railway defence twenty miles in diameter, mounted with an adequate service of artillery on locomotive carriages, all the armies of Europe could not have made a complete investment of such a circuit, and less than half her interior force would have been more than sufficient to man and maintain such a line, with its railway means of rapid transition to points of danger. Better defence than all, however, must be that moral principle which under Divine direction makes and keeps society true to itself.—[J. A. S.]

WARD'S PASTE, a medicine which, though of quack pretensions, has acquired some importance as a cure for old and relaxed piles and fistular tendencies, from the presence and active medical influence in it of *black pepper*.

WARWICKITE, borotitanate of iron and magnesia.

WASHINGTONITE, a steel grey titaniferous iron ore.

WATCH ON BOARD OF SHIP, the duration of duty of the subdivision of ships' crews, called the Starboard and Port Watches. A watch is usually four hours; but between four o'clock and eight P.M. the two *dog* or short watches occur of two hours each.

WATER CHESNUTS, the fruits of *Trapa natans*.

WATER CRESS, the *Nasturtium officinale*.

WATER DEVIL, the larva of a species of *Hydrophilus*.

WATER DROPS, round crystals of colourless topaz.

WATER LILY, the *Nymphæa* and *Nuphar* of British streams.

WATER SAPPHIRE, a nearly colourless pale blue variety of the Oriental sapphire.

WATERSHED, the superficial and natural drainage of a district by means of the rivers, streams, and rivulets, is so called in physical geography.

WATER-GLASS PAINTING, a new method of fresco painting, in which, after the painting, the picture is fixed by a coating of what is called *water glass*, which is a preparation of silica reduced to a liquid form by boiling it in alkali, either soda or potash. The frescoes in the Lobby of the House of Lords have been so treated, but with doubtful permanency or success.

WATER WEED, the *Anacharis alsinastrum*.

WATERING OF TEXTILE FABRICS, a variegated reflecting surface given to silks, &c., by passing them in a damp state through rollers, which may be engraved with definite patterns at pleasure, or merely indented in various ways. One fold of the fabric over another will also produce the effect.

WATERLANDIAN BAPTISTS, a sect of Baptists of Holland, so named from the district in which they originated. They claim chiefly the distinction of being moderate.

WATERPROOFING, rendering textile fabrics impervious to water, chiefly by means of the Mackintosh process of caouchouc between two layers of fabric. Oiled cloths are another form of waterproofing; and a useful and advantageous waterproofing for ladies' dresses, which has also the merit of rendering them incombustible, except by mere charring, is a solution of equal quantities of acetate of lead and powdered alum, dissolved in hot water separately, and mixed together. When the sediment subsides, and the pure liquid is drawn off, any fabric, however fine, may be dipt in it without injury, and rendered both waterproof and uninflammable even after washing.

WAVE, TIDAL, the great wave of the tides which follows the apparent motion of the sun and moon round the world every twenty-four hours in a direction from east to west, and therefore at the great rapidity in equatorial regions of about 1,000 miles per hour. It is not a *current*, but a successive *rise of water level*.

WAX or WAXY OPAL, an inferior and feebly iridescent variety of opal.

WAYFARING TREE, the *Viburnum lantana*.

WEIR or WEAR, a caul or dam in a river.

WEBSTERITE, the mineral subsulphate of alumina.

WELWITSCHIA, the *Jumboa* of tropical Africa, forming a genus of *Gnetaceæ*. According to Dr. Hooker, a remarkable plant of the sandy districts of the South African continent, in which it shoots upward like a small inverted cone between the horizontal leaves, rising from a few inches to about a foot in height, and increasing from a few inches across their upper surface to five or six feet, according to age, forming a series of remarkable wooden blocks.

WENDISH LANGUAGE, the dialect of the Aryan languages spoken in Lusatia.

WEREWOLF, the Lycanthrope, *q.v.*

WERGILD. Compensation for personal injuries was so called by the Anglo Saxon law, and it was payable either to the injured person, or, in the event of his death, to his next of kin. It was rated differently between noble and ignoble offenders: the former being charged six times the amount of the latter. A similar claim is open ↵

an injured person or his next of kin, within certain limits of propinquity, in the law of Scotland to the present day in the form of what is technically called an action for assythment and damages; for the law rightly holds that a *culpable* (for that is the element of liability) offender does not satisfy the requirements of justice by merely paying the penalty of the criminal law; he must also satisfy the civil law for the injury he has done as far as his means will allow. Thus, if a thief possessed of property steal a hundred pounds from any one, and spend or waste it, to give him sentence of three years' imprisonment would be no compensation to the injured person; he has a right to recover against the criminal's estate for the amount of his loss in his private interest, in addition to the criminal law's exaction for protection of the public interest. This principle forms the complete feature of the Christian atonement, and is thereby fully illustrated. Christ first *fulfilled* the law which man had broken, and *made* it honourable,—(*i. e.*, vindicated its justice,)—and He next *paid the penalty* man had incurred for breaking it.—[J. A. S.]

WERNERITE, a synonym of scapolite, a silicate of alumina, oxide of iron, and lime.

WHEEL ANIMALCULÆ, the ordinary name of the Rotifers or *Vorticelli*, *q. v.*

WHEEL-ORE, macled Bournonite.

WHERRY, a small boat with both bow and stern pointed.

WHETSTONE, a talc slate containing a mixture of silica. It is a good set stone or hone, though now much superseded by the superior qualities of Arkansas stone and some other of the American marbles.

WHEY, the watery portion of milk separated from the curd, which contains a small proportion of sugar of milk (over three per cent.).

WHITE ANTIMONY ORE, *valentinite*, a native oxide of antimony.

WHITE ARSENIC, arsenious acid, or oxide of arsenic.

WILL or VOLITION, *freedom of*, a great question of ethics, which has been much obscured by the wordy mystifications of metaphysicians, who have generally mixed it up more or less with *freedom of action*, with which it has absolutely nothing to do; for, (to apply the poet's sentiment,) to the will itself "stone walls do not a prison make, nor iron bars a cage." The will may be perfectly free, though but two alternatives be *actually* before it, for the freedom of the will is not limited in its operation to a restricted sphere of practical action. Thus the amount of actual and perpetrated crime in the world is very far from the true measure of human iniquity. The man who *would* commit a theft or murder if he were sure of impunity, is quite as morally vile and guilty as if the impunity were assured; for the mere impunity cannot constitute the innocence or weaken the guilt *or immorality of will* either before or after the act.—[J. A. S.]

WILSONITE, a hydrated silicate of alumina, with potash, and also soda and lime in smaller proportion.

WILUITE, a synonym of grossular.

WISERITE, a hydrated fibrous variety of carbonate of magnesia.

WISTARIA, a genus of leguminous climbing shrubs, of which the *W. Sinensis* of China, and *W. Frutescens* of America, with their beautiful blue racemes, are now well known flowering plants on walls.

WITCH BESOMS. Abnormal growths upon the *Pinus Sylvestris*, distorting the foliage and branches into bunches, occasioned by the attacks of the fungus *Peridermium elatinum*, have received this popular name.

WITCH MEAL or LYCOPODIUM, the pollen of the club moss, or *Lycopodium clavatum*, called also vegetable sulphur. It is used as a coating for pills, and also as theatrical lightning, from the rapidity with which it flashes into a blaze when thrown into a flame.

WITENAGEMOTE, the meeting of the councillors of the Anglo-Saxon monarchies, representative of the whole nation, as distinguished from the folkmote or meeting of the nation itself.

WITHAMITE, a ferro-silicate of alumina.

WOHLERITE, a mineral composed of columbate of zirconia, silicate of soda, and silicate of lime.

WOLCHITE, a native arsenio-sulphide of lead, copper, and antimony.

WOLFSBANE, a synonym of monkshood or aconite.

WOODBINE, the *Caprifolium perichlymenum*, or honeysuckle.

WOODRUFF or WOODROOF, the *Asperula odorata*, or woodrow.

WOOD SPIRIT, pyroxylic spirit, used in forming methylated alcohol.

WOOTZ, a superior kind of Indian steel, said to have been the source of the celebrated sword-blade manufacture of Damascus. Its production is very ancient, and was made by melting small quantities of wrought iron together with twigs of trees in suitable crucibles, covered with green leaves and closely luted with clay. The nodules of steel produced are little larger than a pigeon's egg, and required to be beaten out into thin ribbon-like pieces, which were welded together, and thus subjected to much hammering and working up for the sword blades which obtained so high a reputation.

WORM BARK, the medicinal bark of the cabbage bark tree, *Andira inermis*.

WORMWOOD, the *Artemisia Absinthium*, from which the bitter medical principle *absinthine* is obtained, which is the flavouring element of *creme d'absinthe*.

WRIST DROP, a disease generated among compositors from the lead poison introduced

into their thumb and fingers by the use of new type, and characterised by paralysis of the wrist. The remedy for it is a solution of potassium, in which the hand should be steeped, and expelling the lead.

WULFENITE, molybdate of lead.

WURTZITE, a synonym of spianterite.

X

XANTHEIN, the yellow colouring principle of flowers.

XANTHITE, a mineral composed chiefly of the silicates of alumina and lime.

XANTHOCHYMUS, a genus of arboraceous plants belonging to the *Clusiaceæ*.

XANTHOCONE, native arsenio-sulphide of silver.

XANTHOPHYLL, the yellow colouring principle of sere leaves.

XANTHOPHYLLITE, a variety of Clintonite (silicates of alumina and magnesia).

XANTHOPICRITE or XANTHOPICRIN, the crystalline bitter principle of the bark of *Xanthoxylon Caribæum*.

XANTHOPROTEIN, a yellow acid product of the action of nitric acid on fibrine.

XANTHORHAMNIN, a yellow extract from the fruit of *Rhamnus tinctoria* or Persian berries.

XANTHORRHIZA, a genus of plants belonging to the *Ranunculaceæ*.

XANTHORTHITE, a yellowish orthite.

XANTHOSIDERITE, a yellowish brown iron ore.

XANTHOXYLACEÆ, the natural order of hypogynous exogens, of which *Xanthoxylon* is the typical genus.

XENELASIA, literally "the expelling of strangers" (ξενηλασια). A Spartan ordinance ascribed to Lycurgus, which prohibited strangers from living in the city without leave, and authorized their expulsion.

XENOLITE, a silicate of alumina, forming a fibrous variety of Sillimanite.

XENOTIME, a native phosphate of Yttria, supposed at one time to be a new metal, and called Thorium, instead of the metallic base of Thorite, to which that name is now given.

XIPHIRHYNCHS, a family of Acanthopterygious fishes, typified by the *Xiphias* or sword-fish.

XYLITE, an asbestiform variety of Xylolite.

XYLOGRAPHY, wood engraving.

XYLOIDIN, a product of the action of nitric acid on starch and some conditions of lignin, consisting of white grains, with some of the properties of gun cotton.

XYLOL, a colourless hydrocarbon oil found in crude pyroxylic spirit.

XYLOPHYLLA, a genus of euphorbiaceous plants.

XYLOPHIA, a genus of plants belonging to the *Anoniaceæ*.

XYLORETINE, a resinous crystalline body obtained from some kinds of turf.

XYLOTILE, a fine fibrous chrysolite found in the Tyrol.

XYRIDACEÆ, a natural order of Endogenous plants, chiefly tropical, of which Xyris is the typical genus. They have a rush-like or sedge-like form and character.

Y

YACCA WOOD, the ornamental cabinet wood of *Podocarpus coriacea*.

YARURI, the elastic timber of *Aspidosperma excelsum* or paddle wood.

YEAST PLANTS, a variety of moulds or fungi, which promote or cause the fermenting action of what is called yeast, and develop it by their remarkably rapid germination. Among these *Mucor* and *Penicillium* occupy a prominent place.

YELLOWBERRIES, the berries of *Rhamnus infectorius*, used for dyes.

YELLOW COPPER ORE, another name for copper pyrites.

YELLOW LEAD ORE, Wulfenite.

YELLOW ORPIMENT, sulphuretted oxide of zinc, or yellow arsenic.

YONI, the emblem or special attribute of Vishnu. It is the female power in nature, of Hindu mythology, shown in the form of a vesica.

YUG or YOGUE, a Hindu era. There are four Yugs in all, comprehending millions of years.

YULAN, the *Magnolia Yulan*, a beautiful Chinese flowering tree.

Z

ZACHUN, an expressed fixed oil obtained from the seeds of *Balanites Ægyptiaca*.

ZAKKOUM, the oil of *Elæagnus hortensis Angustifolia*.

ZAMBARONE, the fibre of the *Agave*, from which Sicilian mats and cordage are made.

ZAMIA, a genus of palm and fern-like trees, belonging to the *Cycadeaceæ*.

ZASMIDIUM, a genus of fungi, typified by the species *Z. Cellare*, the cellar fungus.

ZAVALITE, a native hydrocarbonate of nickel.

ZEBRA WOOD, the fine cabinet wood of the Demerara tree, *Omphalobium Lamberti*; also the wood of the *Eugenia fragrans* of the West Indies.

ZENANA or ZANANA, the apartments set apart by the Orientals for the use of the female members of the family.

ZENDIKS, an Arabic sect of some an-

tiquity, said to be atheists, and to deny the resurrection of mankind.

ZEODARY, certain species of *Curcuma* possessing aromatic properties similar to ginger.

ZEUGITE, a native phosphate of lime found in certain guanos.

ZEUGLODON, a gigantic genus of *Cetaceæ*, found in the miocene of America and some parts of Europe.

ZEUXITE, a ferro-silicate of alumina, or iron tourmaline, from Huel, Cornwall.

ZEYSOUM, the flowers of *Santolina fragrantissima*, used instead of camomile.

ZIEGA, the separation of additional curd from milk, occasioned by the addition of acetic acid after rennet, called also *serai*.

ZIERIA, a genus of Australian plants belonging to the *Rutaceæ*, consisting of small shrubs and trees.

ZILLAH, the district or province of a Circuit Judge or Commissioner in India.

ZINC BLOOM, a compound of carbonate of zinc and hydrous oxide, or hydrated carbonate of zinc.

ZINC WHITE, a white powder produced from the combustion of zinc in air. It has been tried as a pigment on account of its apparent purity instead of white lead; but it darkens in use, and is unworthy of trust for fine-art purposes.

ZINCAMIDE, a solid white body, produced by replacing one-third of the hydrogen in ammonia with zinc.

ZINCETHYL, a product of the heating of zinc under pressure with iodide of ethyl.

ZINCITE, the native oxide of zinc.

ZINKENITE, a sulphantimonite of lead, found native in the Harz, and containing 60 per cent. of sulphide of antimony, and 40 of sulphide of lead.

ZINNWALDITE, a *Lithia-mica* found at Zinnwald.

ZINZEYD, the fruit of *Elæagnus Orientalis*, used as a Persian dessert.

ZIPPEITE, the native sulphate of uranium.

ZIRCONITE, a variety of zircon.

ZOOID, a term applied to the *Spermatozoa*, from their being like animals, (not like plants,) though not animals, (from ζωοειδης, "like an animal").

ZOOLATRY, the worship of animals, as exemplified in the religion of ancient Egypt.

ZOOTOCA, (ζωοτοκος, "viviparous,") Aristotle's name for the class of animals called *Mammalia*.

ZORGITE, Clausthalite, in which copper and cobalt partially replace lead.

ZOROASTRIAN SYSTEM, the system of the Bactrian prophet and legislator, Zarathustra or Zoroaster, son of Oromazes, which is expressed in the Zend Avesta.

ZOUAVES, a class of French soldiers, or light infantry, formed first in Algeria from the natives there incorporated with the French army.

ZUINGLIANS, the followers of the Reformer Zuinglius, one of the most enlightened and liberal of the leaders of the Protestant Reformation.

ZURLITE, a mellilite found in rectangular prisms at Vesuvius.

ZWIESELITE, a phosphate and fluoride of iron and manganese, from Zwiesel, Bavaria, forming a variety of iron apatite.

ZYGADITE, a silicate of alumina and lithia, found in the Harz.

ZYGÆNOCEPHALUS, a West African species of bat, related to the *Pteropus*.

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