

GLOSSARY

Of Geological and other Scientific Terms used in this Work.

Several of the Author's friends, who had read the first and second volumes of the Principles of Geology, having met with difficulties from their previous unacquaintance with the technical terms used in Geology and Natural History, suggested to him that a Glossary of those words would render his work much more accessible to general readers. The Author willingly complied with this suggestion, but finding that his own familiarity with the subject made him not a very competent judge of the terms that required explanation, he applied to the friends above alluded to for their assistance, and from lists of words supplied by them, the following Glossary has been constructed. It will be obvious to men of science, that in order to attain the object in view, it was necessary to employ illustrations and language as familiar as possible to the general reader.

ACEPHALOUS. The Acephala are that division of molluscous animals which, like the oyster and scallop, are without heads. The class Acephala of Cuvier comprehends many genera of bivalve shells, and a few genera of mollusca which are devoid of shells. *Etym.*, *a*, *a*, without, and *κεφαλη*, *cephale*, the head.

ALGÆ. An order or division of the cryptogamic class of plants. The whole of the sea-weeds are comprehended under this division, and the application of the term in this work is to marine plants. *Etym.*, *Alga*, sea-weed.

ALUM-STONE, ALUMEN, ALUMINOUS. Alum is the base of pure clay, and strata of clay are often met with containing much iron-pyrites. When the latter substance decomposes, sulphuric acid is produced, which unites with the aluminous earth of the clay to form sulphate of alumine, or common alum. Where manufactories are established for obtaining the alum, the indurated beds of clay employed are called Alum-stone.

ALLUVIAL. The adjective of alluvium, which see.

ALLUVION. Synonymous with alluvium, which see.

ALLUVIUM. Earth, sand, gravel, stones, and other transported matter which has been washed away and thrown down by rivers, floods, or other causes, upon land not *permanently* submerged beneath the waters of lakes or seas. *Etym.*, *Alluo*, to wash upon. For a further explanation of the term, as used in this work, see vol. ii. chap. xiv., and vol. iii. p. 145.

- AMMONITE.** An extinct and very numerous genus of the order of molluscous animals, called Cephalopoda, allied to the modern genus Nautilus, which inhabited a chambered shell, curved like a coiled snake. Species of it are found in all geological periods of the secondary strata; but they have not yet been seen in the tertiary beds. They are named from their resemblance to the horns on the statues of Jupiter Ammon.
- AMORPHOUS.** Bodies devoid of regular form. *Etym.*, α, α, without, and μορφη, *morphe*, form.
- AMYGDALOID.** One of the forms of the Trap-rocks, in which agates and simple minerals appear to be scattered like almonds in a cake. *Etym.*, αμυγδαλα, *amygdala*, an almond.
- ANALCIME.** A simple mineral of the Zeolite family, of frequent occurrence in the trap-rocks.
- ANALOGUE.** A body that resembles or corresponds with another body. A recent shell of the same species as a fossil-shell, is the analogue of the latter.
- ANOPLOTHERE, ANOPLOTHERIUM.** A fossil extinct quadruped belonging to the order Pachydermata, resembling a pig. It has received its name because the animal must have been singularly wanting in means of defence, from the form of its teeth and the absence of claws, hoofs, and horns. *Etym.*, ἀνοπλος, *anoplos*, unarmed, and θηριον, *therion*, a wild beast.
- ANTAGONIST POWERS.** Two powers in nature, the action of the one counteracting that of the other, by which a kind of equilibrium or balance is maintained, and the destructive effect prevented that would be produced by one operating without a check.
- ANTENNÆ.** The articulated horns with which the heads of insects are invariably furnished.
- ANTHRACITE.** A shining substance like black-lead; a species of mineral charcoal. *Etym.*, ἀνθραξ, *anthrax*, coal.
- ANTHRACOTHERIUM.** A name given to an extinct quadruped, supposed to belong to the Pachydermata, the bones of which were found in lignite and coal of the tertiary strata. *Etym.*, ἀνθραξ, *anthrax*, coal, and θηριον, *therion*, wild beast.
- ANTHROPOMORPHOUS.** Having a form resembling the human. *Etym.*, ἀνθρωπος, *anthropos*, a man, and μορφη, *morphe*, form.
- ANTICLINAL AXIS.** 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 side 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. For a farther explanation, with a diagram, see vol. iii. p. 293.
- ANTISEPTIC.** Substances which prevent corruption in animal and vegetable matter, as common salt does, are said to be antiseptic.
Etym., *αντι*, *against*, and *σηπω*, *sepo*, to putrefy.
- ARENACEOUS.** Sandy. *Etym.*, *Arena*, sand.
- ARGILLACEOUS.** Clayey, composed of clay. *Etym.*, *Argilla*, clay.
- ARRAGONITE.** A simple mineral, a variety of carbonate of lime, so called from having been first found in Arragon, in Spain.
- AUGITE.** A simple mineral of a dark green, or black colour, which forms a constituent part of many varieties of volcanic rocks.
- AVALANCHES.** Masses of snow which, being detached from great heights in the Alps, acquire enormous bulk by fresh accumulations as they descend; and when they fall into the valleys below often cause great destruction. They are also called *lavanges*, and *lavanches*, in the dialects of Switzerland.
- BASALT.** One of the most common varieties of the Trap-rocks. It is a dark green or black stone, composed of augite and felspar, very compact in texture, and of considerable hardness, often found in regular pillars of three or more sides, called basaltic columns. Very remarkable examples of this kind of rock are seen at the Giant's Causeway, in Ireland, and at Fingal's Cave, in the island of Staffa, one of the Hebrides. The term is used by Pliny, and is said to come from *basal*, an Æthiopian word signifying iron, not an improbable derivation, inasmuch as the rock often contains much iron, and as many of the figures of the Egyptian temples are formed of basalt.
- ‘**BASIN**’ of Paris, ‘**BASIN**’ of London. Deposits lying in a great hollow or trough surrounded by low hills or high land, sometimes used in geology almost synonymously with ‘formation.’
- BELEMNITE.** An extinct genus of the order of molluscous animals called Cephalopoda, that inhabited a long, straight, and chambered conical shell. *Etym.*, *βελεμνον*, *belemnion*, a dart.
- BITUMEN.** Mineral pitch, of which the tar-like substance which is often seen to ooze out of the Newcastle coal when on the fire, and which makes it cake, is a good example. *Etym.*, *Bitumen*, pitch.
- BITUMINOUS SHALE.** An argillaceous shale, much impregnated with bitumen, which is very common in the coal measures.
- BLENDE.** A metallic ore, a compound of the metal zinc with sulphur. It is often found in brown shining crystals, hence its name among the German miners, from the word *blenden*, to dazzle.

- BLUFFS.** High banks presenting a precipitous front to the sea or a river. A term used in the United States of North America.
- BOTRYOIDAL.** Resembling a bunch of grapes. *Etym.*, βοτρυς, *botrys*, a bunch of grapes, and εἶδος, *eidos*, form.
- BOWLERS.** A provincial term for large rounded blocks of stone lying on the surface of the ground, or sometimes imbedded in loose soil, different in composition from the rocks in their vicinity, and which have been therefore transported from a distance.
- BRECCIA.** A rock composed of angular fragments connected together by lime or other mineral substance. An Italian term.
- CALC SINTER.** A German name for the deposits from springs holding carbonate of lime in solution—petrifying springs. *Etym.*, *Kalk*, lime, *sintern*, to drop.
- CALCAIRE GROSSIER.** An extensive stratum, or rather series of strata, belonging to the Eocene tertiary period, originally found in, and specially belonging to, the Paris Basin. See Table II. E, p. 390. *Etym.*, *Calcaire*, limestone, and *grossier*, coarse.
- CALCAREOUS ROCK.** Limestone. *Etym.*, *Calx*, lime.
- CALCEDONY.** A siliceous simple mineral, uncrystallized. Agates are partly composed of calcedony.
- CARBON.** An undecomposed inflammable substance, one of the simple elementary bodies. Charcoal is almost entirely composed of it. *Etym.*, *Carbo*, coal.
- CARBONATE of LIME.** Lime combines with great avidity with carbonic acid, a gaseous acid only obtained fluid when united with water,—and all combinations of it with other substances are called *Carbonates*. All limestones are carbonates of lime, and quick lime is obtained by driving off the carbonic acid by heat.
- CARBONATED SPRINGS.** Springs of water, containing carbonic acid gas. They are very common, especially in volcanic countries, and sometimes contain so much gas, that if a little sugar be thrown into the water it effervesces like soda-water.
- CARBONIC ACID GAS.** A natural gas which often issues from the ground, especially in volcanic countries. *Etym.*, *Carbo*, coal, because the gas is obtained by the slow burning of charcoal.
- CARBONIFEROUS.** A term usually applied, in a technical sense, to the lowest group of strata of the secondary rocks, see Table II. L, p. 393; but any bed containing coal may be said to be carboniferous. *Etym.*, *Carbo*, coal, and *fero*, to bear.
- CATACLYSM.** A deluge. *Etym.*, κατακλυζω, *catacluso*, to deluge.
- CEPHALOPODA.** A class of molluscous animals, having their organs of motion arranged round their head. *Etym.*, κεφαλη, *cephale*, head, and ποδα, *poda*, feet.

- CETACEA.** An order of vertebrated mammiferous animals inhabiting the sea. The whale, dolphin, and narwal, are examples. *Etym.*, *Cete*, whale.
- CHALK.** A white earthy limestone, the uppermost of the secondary series of strata. See Table II. F, p. 390.
- CHERT.** A siliceous mineral, approaching in character to flint, but less homogeneous and simple in texture.
- CHLORITIC SAND.** Sand coloured green by an admixture of the simple mineral chlorite. *Etym.*, *κλωρος*, *chloros*, green.
- COAL FORMATION.** This term is generally understood to mean the same as the Coal Measures. See Table II. L, p. 393. There are, however, 'coal formations' in all the geological periods, wherever any of the varieties of coal form a principal constituent part of a group of strata.
- COLEOPTERA.** An order of insects (Beetles) which have four wings, the upper pair being crustaceous and forming a shield. *Etym.*, *κολεος*, *coleos*, a shield, and *πτερον*, *pteron*, a wing.
- CONGENERS.** Species which belong to the same genus.
- CONGLOMERATE.** Rounded water-worn fragments of rock, or pebbles, cemented together by another mineral substance, which may be of a siliceous, calcareous, or argillaceous nature. *Etym.*, *Con*, together, *glomerio*, to heap.
- CONIFERÆ.** An order of plants which, like the fir and pine, bear cones or tops in which the seeds are contained. *Etym.*, *Conus*, cone, and *fero*, to bear.
- COOMB.** A provincial name in different parts of England for a valley on the declivity of a hill, and which is generally without water.
- CORNBRAH.** A rubbly stone extensively cultivated in Wiltshire for growth of corn. It is a provincial term adopted by Smith. Brash is derived from *breçan*, Saxon, to break. See Table II. H, p. 391.
- CORNSTONE.** A provincial name for a red limestone, forming a subordinate bed in the Old Red Sandstone group.
- COSMOGONY, COSMOLOGY.** Words synonymous in meaning, applied to speculations respecting the first origin or mode of creation of the earth. *Etym.*, *κοσμος*, *kosmos*, the world, and *γονη*, *gonce*, generation, or *λογος*, *logos*, discourse.
- CRAIG.** A provincial name in Norfolk and Suffolk for a deposit, usually of gravel, belonging to the Older Pliocene period. See Table II. C, p. 389.
- CRATER.** The circular cavity at the summit of a volcano, from which the volcanic matter is ejected. *Etym.*, *Crater*, a great cup or bowl.

- CRETACEOUS.** Belonging to chalk. *Etym.*, *Creta*, chalk.
- CROP OUT.** A miner's or mineral surveyor's term, to express the rising up or exposure at the surface of a stratum or series of strata.
- CRUST OF THE EARTH.** See Earth's crust.
- CRUSTACEA.** Animals having a shelly coating or crust which they cast periodically. Crabs, shrimps, and lobsters are examples.
- CRYPTOGAMIC.** A name applied to a class of plants in which the fructification, or organs of reproduction are concealed. *Etym.*, *κρυπτος*, *kryptos*, concealed, and *γαμος*, *gamos*, marriage.
- CRYSTALS.** Simple minerals are frequently found in regular forms, with facets like the drops of cut glass of chandeliers. Quartz being often met with in rocks in such forms, and beautifully transparent like ice, was called *rock-crystal*, *κρυσταλλος*, *crystallos*, being Greek for ice. Hence the regular forms of other minerals are called crystals, whether they be clear or opaque.
- CRYSTALLIZED.** A mineral which is found in regular forms or crystals, is said to be crystallized.
- CRYSTALLINE.** The internal texture which regular crystals exhibit when broken, or a confused assemblage of ill-defined crystals. Loaf-sugar and statuary-marble have a *crystalline* texture. Sugar-candy and calcareous spar are crystallized.
- CYCADEÆ.** An order of plants, which are natives of warm climates, mostly tropical, although some are found at the Cape of Good Hope. They have a short stem, surmounted by a peculiar foliage, termed pinnated fronds by botanists, which spreads in a circle. The growth of these plants is by a cluster of fresh fronds shooting from the top of the stem, and pushing the former fronds outwards. These last decay down to their bases, which are broad, and remain covering the sides of the stem. The term is derived from *κυκας*, *cykas*, a name applied by the ancient Greek naturalist Theophrastus to a palm, said to grow in Ethiopia.
- CYPERACEA.** A tribe of plants answering to the English sedges; they are distinguished from grasses by their stems being solid and generally triangular, instead of being hollow and round. Together with *gramineæ* they constitute what writers on botanical geography often call *glumaceæ*.
- DEBACLE.** A great rush of waters, which breaking down all opposing barriers, carries forward the broken fragments of rocks, and spreads them in its course. *Etym.*, *debacler*, French, to unbar, to break up as a river does at the cessation of a long-continued frost.

- DELTA.** When a great river before it enters the sea divides into separate streams, they often diverge and form two sides of a triangle, the sea being the base. The land included by the three lines, and which is invariably alluvial, is called a delta from its resemblance to the letter of the Greek alphabet which goes by that name Δ. Geologists extend the boundaries of the delta, so as to include all the alluvial land outside the triangle, which has been formed by the river.
- DENUDATION.** The carrying away of a portion of the solid materials of the land, by which the inferior parts are laid bare. *Etym., denudo, to lay bare.*
- DESICCATION.** The act of drying up. *Etym., desicco, to dry up.*
- DIAGONAL STRATIFICATION.** For an explanation of this term, see vol. iii. p. 174.
- DICOTYLEDONOUS.** A grand division of the vegetable kingdom, founded on the plant having two *cotyledons* or seed-lobes. *Etym., δις, dis, double, and cotyledon.*
- DIKES.** When a mass of the unstratified or igneous rocks, such as granite, trap, and lava appears as if injected into a great rent in the stratified rocks, cutting across the strata, it forms a dike; and as they are sometimes seen running along the ground, and projecting, like a wall, from the strata on both sides of them being worn away, they are called in the north of England and in Scotland *dikes*, the provincial name for wall. It is not easy to draw the line between dikes and veins. The former are generally of larger dimensions, and have their sides parallel for considerable distances; while veins have generally many ramifications, and these often thin away into slender threads.
- DILUVIUM.** Those accumulations of gravel and loose materials which, by some geologists, are said to have been produced by the action of a diluvian wave or deluge sweeping over the surface of the earth. *Etym., diluvium, deluge.*
- DIP.** When a stratum does not lie horizontally, but is inclined, the point of the compass towards which it sinks is called the dip of the stratum, and the angle it makes with the horizon is called the angle of dip or inclination.
- DIPTERA.** An order of insects, comprising those which have only two wings. *Etym., δις, dis double, and πτερον, pteron, wing.*
- DOLERITE.** One of the varieties of the trap-rocks, composed of augite and felspar.
- DOLOMITE.** A crystalline limestone, containing magnesia as a constituent part. Named after the French geologist Dolomieu.
- DUNES.** Low hills of blown sand that skirt the shores of Holland,

Spain, and other countries. *Etym.*, *dun* or *dune* is an Anglo-Saxon word for hill.

EARTH'S CRUST. Such superficial parts of our planet as are accessible to human observation.

ELYTRA. The wing-sheaths, or upper crustaceous membranes, which form the superior wings in the tribe of beetles, being crustaceous appendages which cover the body and protect the true membranous wing. *Etym.*, *ελυτρον*, *elytron*, a sheath.

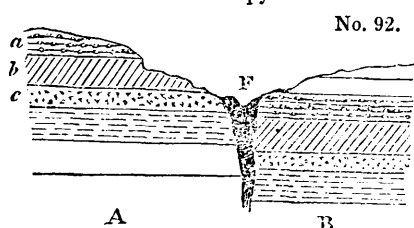
Eocene. See explanation of this word, vol. iii. p. 55.

ESCARPMENT, the abrupt face of a ridge of high land. *Etym.*, *escarper*, French, to cut steep.

ESTUARIES. Inlets of the land, which are entered both by rivers and the tides of the sea. Thus we have the estuaries of the Thames, Severn, Tay, &c. *Etym.* *Æstus*, the tide.

FALUNS. A provincial name for some tertiary strata abounding in shells in Touraine, which resemble in lithological characters the 'crag' of Norfolk and Suffolk.

FAULT, in the language of miners, is the sudden interruption of the continuity of strata in the same plane, accompanied by a crack or fissure varying in width from a mere line to several feet, which is generally filled with broken stone, clay, &c., and such a displacement that the separated portions of the once continuous strata occupy different levels.



The strata *a*, *b*, *c*, &c., must at one time have been continuous, but a fracture having taken place at the fault *F*, either by the upheaving of the portion *A*, or the sinking of the portion *B*,

the strata were so displaced, that the bed *a* in *B* is many feet lower than the same bed *a* in the portion *A*.

FAUNA. The various kinds of animals peculiar to a country constitute its **FAUNA**, as the various kinds of plants constitute its **FLORA**. The term is derived from the **FAUNI**, or rural deities in Roman Mythology.

FELSPAR. A simple mineral, which constitutes the chief material of many of the unstratified or igneous rocks. The white angular portions in granite are felspar. It is originally a German miners' term. *Etym.*, *feld*, field, and *spath*, a very old minera-

- logical word in Germany, which seems to have been at first specially applied to a transparent kind of gypsum called selenite.
- FELSPATHIC.** Of or belonging to felspar.
- FERRUGINOUS.** Anything containing iron. *Etym., ferrum*, iron.
- FLOETZ ROCKS.** A German term applied to the secondary strata by the geologists of that country, because these rocks were supposed to occur most frequently in flat horizontal beds. *Etym., Flötz*, a layer or stratum; the word is applied in some parts of Germany to pavements and plastered floors.
- FLORA.** The various kinds of trees and plants found in any country constitute the Flora of that country in the language of botanists.
- FLUVIATILE.** Belonging to a river. *Etym., fluvius*, a river.
- FORMATION.** A group, whether of alluvial deposits, sedimentary strata, or igneous rocks, referred to a common origin or period.
- FOSSIL.** All minerals used to be called fossils, but geologists now use the word only to express the remains of animals and plants found buried in the earth. *Etym., fossilis*, anything that may be dug out of the earth.
- GALENA**, a metallic ore, a compound of lead and sulphur. It has often the appearance of highly polished lead. *Etym., γαλεω*, *galeo* to shine.
- GARNET.** A simple mineral generally of a deep red colour, crystallized, most commonly met with in mica slate, but also in granite and other igneous rocks.
- GAULT.** A provincial name in the east of England for a series of beds of clay and marl, the geological position of which is between the upper and the lower greensand. See Table II. F, p. 390.
- GEOLOGY, GEOGNOSY.** Both mean the same thing, but with an unnecessary degree of refinement in terms, it has been proposed to call our description of the structure of the earth *geognosy*. (*Etym. γέα*, *gea*, earth, and *γινωσκω*, *ginosco*, to know,) and our theoretical speculations as to its formation *geology*. (*Etym., γέα*, and *λογος*, *logos*, a discourse.)
- GLACIER.** The vast accumulations of ice and hardened snow in the Alps and other lofty mountains. *Etym. glace*, French for ice.
- GLACIS.** A term borrowed from the language of fortification, where it means an easy insensible slope or declivity, less steep than a *talus*, which see.
- GNEISS.** A stratified primary rock, composed of the same materials as granite, but having usually a larger proportion of mica, and a laminated texture. The word is a German miner's term,

GRAMINEÆ, the order of plants to which grasses belong. *Etym.*, *gramen*, grass.

GRANITE. An unstratified or igneous rock, generally found inferior to or associated with the oldest of the stratified rocks, and sometimes penetrating them in the form of dikes and veins. It is composed of three simple minerals, felspar, quartz, and mica, and derives its name from having a coarse *granular* structure; *granum*, Latin for grain. Westminster, Waterloo, and London bridges, and the paving-stones in the carriage-way of the London streets are good examples of the most common varieties of granite.

GRAUWACKE, a German name, generally adopted by geologists for the lowest members of the secondary strata, consisting of sandstone and slate, and which form the chief part of what are termed by some geologists the *transition* rocks. The rock is very often of a grey colour, hence the name, *grau* being German for grey, and *wacke* being a provincial miner's term.

GREENSAND. Beds of sand, sandstone, limestone, belonging to the Cretaceous Period. See Table II. F, p. 390. The name is given to these beds, because they often, but not always, contain an abundance of green earth or chlorite scattered through the substance of the sandstone, limestone, &c. See vol. iii. p. 324.

GREENSTONE, a variety of trap, composed of hornblende and felspar.

GRIT, a provincial name for a coarse-grained sandstone.

GYPNUM, a mineral composed of lime and sulphuric acid, hence called also *sulphate of lime*. Plaster and stucco are obtained by exposing gypsum to a strong heat. It is found so abundantly near Paris, that Paris plaster is a common term in this country for the white powder of which casts are made. The term is used by Pliny for a stone used for the same purposes by the ancients. The derivation of it is unknown.

GYPSEOUS, of, or belonging to, gypsum.

GYROGONITES. Bodies found in fresh-water deposits, originally supposed to be microscopic shells, but subsequently discovered to be the seed-vessel of fresh-water plants of the genus *chara*. See vol. ii. p. 273, and 2d Edit. p. 280. *Etym.* *γυρος*, *gyros*, curved, and *γονος*, *gonos*, seed, on account of their external structure.

HEMIPTERA, an order of insects, so called from a peculiarity in their wings, the superior being coriaceous at the base, and membranous at the apex, *ἡμισυ*, *hemisu*, half, and *πτερον*, *pteron*, wing.

HORNBLLENDE, a simple mineral of a dark green or black colour,

which enters largely into the composition of several varieties of the trap rocks.

HYDROPHYTES. Plants which grow in water. *Etym.*, ὑδωρ, *hydor*, water, and φυτόν, *phyton*, plant.

HYPOGENE ROCKS. For an explanation of this term, see vol. iii. p. 374.

ICEBERG. The great masses of ice, often the size of hills, which float in the polar and northern seas. *Etym.*, ice, and *berg*, German for hill.

ICHTHYOSAURUS, a gigantic fossil marine reptile, intermediate between a crocodile and a fish. *Etym.*, ἰχθύς, *ichthus*, a fish, and σαύρα, *saura*, a lizard.

INDUCTION, a consequence, conclusion or inference, drawn from propositions or principles first laid down, or from the observation and examination of phenomena.

INFUSORY ANIMALCULES. Minute living creatures generated in many *infusions*; and the term *infusoria* has been given to all such animalcules whether found in infusions or in stagnant water, vinegar, &c.

INSPISSATED. Thickened. *Etym.*, *spissus*, thick.

INVERTEBRATED ANIMALS. Animals which are not furnished with a back-bone. For a further explanation, see "Vertebrated Animals."

ISOTHERMAL. Such zones or divisions of the land, ocean, or atmosphere, which have an equal degree of mean annual warmth, are said to be isothermal, from ἴσος, *isos*, equal, and θερμη, *therme*, heat.

JURA LIMESTONE. The limestones belonging to the oolite group, see Table II. H, p. 391, constitute the chief part of the mountains of the Jura, between France and Switzerland, and hence the geologists of the Continent have given the name to the group.

KIMMERIDGE CLAY, a thick bed of clay, constituting a member of the Oolite Group. See Table II. H, p. 391. so called because it is found well developed at Kimmeridge in the isle of Purbeck, Dorsetshire.

LACUSTRINE, belonging to a lake. *Etym.*, *Lacus*, a lake.

LAMINÆ. Latin for plates; used in geology, for the smaller layers of which a stratum is frequently composed.

LAMANTINE. A living species of the herbivorous cetacea or whale

- tribe, which inhabits the mouths of rivers on the coasts of Africa and South America ; the sea-cow.
- LAMELLIFEROUS.** A stone composed of thin plates or leaves like paper. *Etym.*, *lamella*, the diminutive of *lamina*, plate, and *fero*, to bear.
- LANDSLIP.** A portion of land that has slid down in consequence of disturbance by an earthquake, or from being undermined, by water washing away the lower beds which supported it.
- LAPIDIFICATION**—Lapidifying process. Conversion into stone. *Etym.*, *lapis*, stone, and *fo*, to make.
- LAPILLI.** Small volcanic cinders. *Lapillus*, a little stone.
- LAVA.** The stone which flows in a melted state from a volcano.
- LEUCITE.** A simple mineral found in volcanic rocks, crystallized, and of a white colour. *Etym.*, *λευκος*, *leucos*, white.
- LIAS.** A provincial name, adopted in scientific language, for a particular kind of limestone, which being characterized, together with its associated beds, by peculiar fossils, is formed in this work into a particular group of the secondary strata. See Table II. I, p. 392.
- LIGNIPEROUS.** A term applied to insects which destroy wood. *Etym.* *lignum*, wood, and *perdo*, to destroy.
- LIGNITE.** Wood converted into a kind of coal. *Etym.*, *lignum*, wood.
- LITHODOMI.** Molluscous animals which bore into solid rocks, and lodge themselves in the holes they have formed. *Etym.*, *λιθος*, *lithos*, stone, and *domus*, house.
- LITHOLOGICAL.** A term expressing the stony structure or character of a mineral mass. We speak of the lithological character of a stratum as distinguished from its zoological character. *Etym.*, *λιθος*, *lithos*, stone, and *λογος*, *logos*, discourse.
- LITHOPHAGI.** Molluscous animals which bore into solid stones. *Etym.*, *λιθος*, *lithos*, stone, and *φαγειν*, *phagein*, to eat.
- LITTORAL.** Belonging to the sea-shore. *Etym.*, *littus*, the shore.
- LOAM.** A mixture of sand and clay.
- LYCOPODIACEÆ.** Plants of an inferior degree of organization to Coniferæ, some of which they very much resemble in foliage, but all recent species are infinitely smaller. Many of the fossil species are as gigantic as recent coniferæ. Their mode of reproduction is analogous to that of ferns. In English they are called club-mosses, generally found in mountainous heaths in the north of England.
- MADREPORE.** A genus of corals, but generally applied to all the

- corals distinguished by superficial star-shaped cavities. There are several fossil species.
- MAGNESIAN LIMESTONE.** An extensive series of beds lying in geological position, immediately above the coal-measures, so called because the limestone, the principal member of the series, contains much of the earth magnesia as a constituent part. See Table II. K, p. 392.
- MAMMILLARY.** A surface which is studded over with rounded projections. *Etym.*, *mammilla*, a little breast or pap.
- MAMMIFEROUS.** Animals which give suck to their young. *Etym.*, *mamma*, a breast, and *fero*, to bear.
- MAMMOTH.** An extinct species of the elephant (*E. primigenius*), of which the fossil bones are frequently met with in various countries. The name is of Tartar origin, and is used in Siberia for animals that burrow underground.
- MARL.** A mixture of clay and lime; usually soft, but sometimes hard, in which case it is called indurated marl.
- MARSUPIAL ANIMALS.** A tribe of quadrupeds having a sack or pouch under the belly, in which they carry their young. The kangaroo is a well-known example. *Etym.*, *marsupium*, a purse.
- MASTODON.** A genus of fossil extinct quadrupeds allied to the elephant. So called from the form of the hind teeth or grinders, which have their surface covered with conical mammillary crests. *Etym.*, *μαστος*, *mastos*, mammilla or little pap, and *οδων*, *odon*, tooth.
- MATRIX.** If a simple mineral or shell, in place of being detached, be still fixed in a portion of rock, it is said to be in its matrix. *Matrix*, womb.
- MECHANICAL ORIGIN, Rocks of.** When rocks are composed of sand, pebbles, or fragments, to distinguish them from those of an uniform crystalline texture, which are of chemical origin.
- MEDUSÆ.** A genus of marine radiated animals, without shells; so called because their organs of motion spread out like the snaky hair of the fabulous Medusa.
- MEGALOSAURUS.** A fossil gigantic amphibious animal of the saurian or lizard and crocodile tribe. *Etym.*, *μεγαλη*, *megale*, great, and *σαυρα*, *saura*, lizard.
- MEGATHERIUM.** A fossil extinct quadruped, resembling a gigantic sloth. *Etym.*, *μεγα*, *mega*, great, and *θηριον*, *therion*, wild-beast.
- MELASTOMA.** A genus of MELASTOMACEÆ, an order of plants of the evergreen tree, and shrubby exotic kinds. *Etym.*, *μελας*, *melas*, black, and *στομα*, *stoma*, mouth; because the fruit of one of the species stains the lips.

- MESOTYPE.** A simple mineral, white, and needle-shaped, one of the Zeolite family, frequently met with in the trap rocks.
- METAMORPHIC ROCKS.** For an explanation of this term, see vol. iii. p. 374.
- MICA.** A simple mineral, having a shining silvery surface, and capable of being split into very thin elastic leaves or scales. It is often called *talc* in common life, but mineralogists apply the term *talc* to a different mineral. The brilliant scales in granite are mica. *Etym., mico*, to shine.
- MICA-SLATE, MICA-SCHIST, MICACEOUS SCHISTUS.** One of the lowest of the stratified rocks, belonging to the primary class, which is characterized by being composed of a large proportion of mica, united with quartz.
- MIOCENE.** See an explanation of this term, vol. iii. p. 54.
- MOLASSE.** A provincial name for a soft, green sandstone, associated with marl and conglomerates, belonging to the Miocene tertiary period, extensively developed in the lower country of Switzerland. See vol. iii. p. 212.
- MOLLUSCÆ, Molluscous Animals.** Animals, such as shell-fish, which, being devoid of bones, have soft bodies. *Etym., mollis*, soft.
- MONITOR.** An animal of the saurian or lizard tribe, species of which are found in both the fossil and recent state.
- MONOCOTYLEDONOUS.** A grand division of the vegetable kingdom, founded on the plant having only one *cotyledon*, or seed-lobe. *Etym., μονος, monos*, single.
- MOSCHUS.** The quadruped resembling the chamois or mountain-goat, from which the perfume musk is obtained.
- MOUNTAIN LIMESTONE.** A series of limestone strata, of which the geological position is immediately below the coal measures, and with which they also sometimes alternate. See Table II. L, p. 393.
- MOYA.** A term applied in South America to mud poured out from volcanos during eruptions.
- MURIATE OF SODA.** The scientific name for common culinary salt, because it is composed of muriatic acid and the alkali soda.
- MUSACÆ.** A family of tropical monocotyledonous plants, including the banana and plantains.
- MUSCHELKALK.** A limestone which, in geological position, belongs to the red sandstone group. This formation has not yet been found in England, and the German name is adopted by English geologists. The word means shell-limestone: *muschel*, shell, and *kalkstein*, limestone. See Table II. K, p. 392.
- NAPHTHA.** A very thin, volatile, inflammable, and fluid mineral

substance, of which there are springs in many countries, particularly in volcanic districts.

NENUPHAR. A yellow water-lily.

NEW RED SANDSTONE. A series of sandy, argillaceous, and often calcareous strata, the predominant colour of which is brick-red, but containing portions which are of a greenish grey. These occur often in spots and stripes, so that the series has sometimes been called the variegated sandstone. The European formation so called lies in a geological position immediately above the coal-measures. See Table II. K, p. 392.

NODULE. A rounded irregular-shaped lump or mass. *Etym.*, diminutive of *nodus*, knot.

NORMAL GROUPS. Groups of certain rocks taken as a rule or standard. *Etym.* *norma*, rule or pattern.

NUCLEUS. A solid central piece, around which other matter is collected. The word is Latin for kernel.

NUMMULITES. An extinct genus of the Order of Molluscous animals, called Cephalopoda, of a thin lenticular shape, internally divided into small chambers. *Etym.*, *nummus*, Latin for money, and *λιθος*, *lithos*, stone, from its resemblance to a coin.

OBSDIAN. A volcanic product, or species of lava, very like common green bottle-glass, which is almost black in large masses, but semi-transparent in thin fragments. Pumice-stone is obsidian in a frothy state; produced most probably by water that was contained in or had access to the melted stone, and converted into steam. There are very often portions in a mass of solid obsidian, which are partially converted into pumice.

OGYGIAN DELUGE. A general inundation of fabulous history, which is supposed to have taken place in the reign of Ogyges in Attica, whose death is fixed in Blair's Chronological Tables in the year 1764 before Christ.

OLD RED SANDSTONE. A stratified rock belonging to the Carboniferous group. See Table L, p. 393.

OLIVINE. An olive-coloured, semi-transparent, simple mineral, very often occurring in the forms of grains and of crystals in basalt and lava.

OOLITE, Oolitic. A limestone, forming a characteristic feature of a group of the secondary strata. See Table II. H, p. 391. It is so named, because it is composed of rounded particles, like the roe or eggs of a fish. *Etym.* *ωον*, *oon*, egg, and *λιθος*, *lithos*, stone.

- OPALIZED WOOD.** Wood petrified by siliceous earth, and acquiring a structure similar to the simple mineral called opal.
- OPHIDIOUS REPTILES.** Vertebrated animals, such as snakes and serpents. *Etym.*, οφεις, *ophis*, a serpent.
- ORGANIC REMAINS.** The remains of animals and plants; *organized* bodies, found in a fossil state.
- ORTHO CERATA.** An extinct genus of the order of Molluscous Animals, called Cephalopoda, that inhabited a long chambered, conical shell, like a straight horn. *Etym.*, ορθος, *orthos*, straight, and κερας, *ceras*, horn.
- OSSEOUS BRECCIA.** The cemented mass of fragments of bones of extinct animals found in caverns and fissures. *Osseus* is a Latin adjective, signifying bony.
- OUTLIERS.** When a portion of a stratum occurs at some distance, detached from the general mass of the formation to which it belongs, some practical mineral surveyors call it an *outlier*, and the term is adopted in geological language.
- OVATE.** The shape of an egg. *Etym.*, ovum, egg.
- OVIPOSITING.** The laying of eggs.
- OXYGEN.** One of the constituent parts of the air of the atmosphere; that part which supports life. For a further explanation of the word, consult elementary works on chemistry.
- OXIDE.** The combination of a metal with oxygen; rust is oxide of iron.
- PACHYDERMATA.** An order of quadrupeds, including the elephant, rhinoceros, horse, pig, &c., distinguished by having thick skins. *Etym.* παχυς, *pachus*, thick, and δερμα, *derma*, skin or hide.
- PACHYDERMATOUS.** Belonging to pachydermata.
- PALÆOTHERIUM, PALEOTHERE.** A fossil extinct quadruped, belonging to the order pachydermata, resembling a pig or tapir, but of great size. *Etym.* παλαιος, *palaios*, ancient, and θηριον, *therion*, wild beast.
- PELAGIAN, PELAGIC.** Belonging to the *deep* sea. *Etym.* pelagus, sea.
- PEPERINO.** An Italian name for a particular kind of volcanic rock, formed, like tuff, by the cementing together of volcanic sand, cinders, or scorïæ, &c.
- PETROLEUM.** A liquid mineral pitch, so called because it is seen to ooze like oil out of the rock. *Etym.* petra, rock, and oleum, oil.
- PHANEROGAMIC PLANTS.** A name given by Linnæus to those plants

- in which the reproductive organs are apparent. *Etyim.* φανερος, *phaneros*, evident, and γαμος, *gamos*, marriage.
- PHYSICS.** The department of science, which treats of the properties of natural bodies, laws of motion, &c., sometimes called Natural philosophy and mechanical philosophy. *Etyim.* φυσικς, *physis*, nature.
- PHYTOLOGY, PHYTOLOGICAL.** The department of science which relates to plants—synonymous with botany and botanical. *Etyim.* φυτον, *phyton*, plant, and λογος, *logos*, discourse.
- PHYTOPHAGOUS.** Plant eating. *Etyim.* φυτον, *phyton*, plant, and φαγειν, *phagein*, to eat.
- PISLIAR,** a misprint for **PISTIA**, in vol. ii. p. 98, 1st ed., p. 102, 2d ed. The plant mentioned by Malte-Brun is probably the *Pistia stratiotes*, a floating plant, related to English duck-weed, but very much larger.
- PISOLITE.** A stone possessing a structure like an agglutination of pease. *Etyim.* πισον, *pson*, pea, and λιθος, *lithos*, stone.
- PIT COAL.** Ordinary coal; called so because it is obtained by sinking pits in the ground.
- PITCH STONE.** A rock of an uniform texture, belonging to the unstratified and volcanic classes, which has an unctuous appearance, like indurated pitch.
- PLASTIC CLAY.** One of the beds of the Eocene tertiary period (see Table II. E, p. 390.) It is so called because it is used for making pottery. *Etyim.* πλασσω, *plasso*, to form or fashion.
- PLESIOSAURUS.** A fossil extinct amphibious animal, resembling the saurian, or lizard and crocodile tribe. *Etyim.* πλησιον, *plesion*, near to, and σαυρα, *saura*, a lizard.
- PLIOCENE.** See explanation of this term, vol. iii. p. 53.
- PLUTONIC ROCKS.** For an explanation of this term, see vol. iii. p. 353.
- POLYPARIA. CORALS.** A numerous class of invertebrated animals, belonging to the great division called Radiata.
- PORPHYRY.** An unstratified or igneous rock. The term is as old as Pliny, and was applied to a red rock with small angular white bodies diffused through it, which are crystallized felspar, brought from Egypt. The term is hence applied to every species of unstratified rock, in which detached crystals of felspar are diffused through a base of other mineral composition. *Etyim.* πορφυρα, *porphyra*, purple.
- PORTLAND LIMESTONE, PORTLAND BEDS.** A series of limestone strata, belonging to the upper part of the Oolite group (see Table II.

- H, p. 391.), found chiefly in England, in the Island of Portland on the coast of Dorsetshire. The great supply of the building stone used in London is from these quarries.
- POZZUOLANA.** Volcanic ashes, largely used as mortar for buildings, similar in nature to what is called in this country Roman cement. It gets its name from Pozzuoli, a town in the bay of Naples, from which it is shipped in large quantities to all parts of the Mediterranean.
- PRODUCTÆ.** An extinct genus of fossil bivalve shells, occurring only in the older of the secondary rocks. It is closely allied to the living genus *Terebratula*.
- PUBESCENCE.** The soft hairy down on insects. *Etym.*, *pubesco*, the first growth of the beard.
- PUMICE.**—A light spongy lava, of a white colour, produced by gases, or watery vapour getting access to the particular kind of glassy lava called obsidian, when in a state of fusion—it may be called the froth of melted volcanic glass. The word comes from the Latin name of the stone, *pumex*.
- PURBECK LIMESTONE, PURBECK BEDS.** Limestone strata belonging to the Wealden group. See Table II. G, p. 390.
- PYRITES (Iron).** A compound of sulphur and iron, found usually in yellow shining crystals like brass, and in almost every rock stratified and unstratified. The shining metallic bodies, so often seen in common roofing slate, are a familiar example of the mineral. The word is Greek, and comes from *πυρ*, *pyr*, fire, because, under particular circumstances, the stone produces spontaneous heat and even inflammation.
- QUADRUMANA.** The order of mammiferous animals to which apes belong. *Etym.*, *quadrus*, a derivation of the Latin word for the number four, and *manus*, hand,—the four feet of those animals being in some degree usable as hands.
- QUA-QUA-VERSAL DIP.** The dip of beds to all points of the compass around a centre, as in the case of beds of lava round the crater of a volcano. *Etym.*, *quâ-quâ versum*, on every side.
- QUARTZ.** A German provincial term, universally adopted in scientific language, for a simple mineral composed of pure siliceous earth of flints; rock-crystal is an example.
- RED MARL.** A term often applied to the New Red Sandstone, which

is the principal member of the Red Sandstone group. See Table II. K, p. 392.

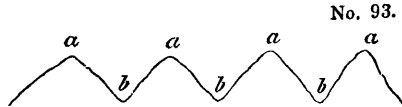
RETICULATE. A structure of cross lines, like a net, is said to be reticulated, from *rete*, a net.

ROCK SALT. Common culinary salt, or muriate of soda, found in vast solid masses or beds, in different formations, extensively in the New Red Sandstone formation, as in Cheshire, and it is then called *rock-salt*.

RUMINANTIA. Animals which ruminate or chew the cud. *Etym.*, the Latin verb *rumino*, meaning the same thing.

SACCHAROID, SACCHARINE. When a stone has a texture resembling that of loaf-sugar. *Etym.*, σακχαρ, *sacchar*, sugar, and εἶδος, *eidos*, form.

SALIENT ANGLE. In a zig-zag line, *aa* are the salient angles, *bb* the re-entering angles.



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Etym., *salire*, to leap or bound forward.

SALT SPRINGS. Springs of water containing a large quantity of common salt. They are very abundant in Cheshire and Worcestershire, and culinary salt is obtained from them by mere evaporation.

SANDSTONE. Any stone which is composed of an agglutination of grains of sand, which may be either calcareous or siliceous.

SAURIAN. Any animal belonging to the lizard tribe. *Etym.*, σαυρα, *saura*, a lizard.

SCHIST. Synonymous with slate. *Etym.*, part of the Latin verb *scindo*, to split, from the facility with which slaty rocks may be split into thin plates.

SCHISTOSE ROCKS. Synonymous with *slaty* rocks.

SCORIÆ. Volcanic cinders. The word is Latin for cinders.

SEAMS. Thin layers which separate two strata of greater magnitude.

SECONDARY STRATA. An extensive series of the stratified rocks which compose the crust of the globe, with certain characters in common, which distinguish them from another series below them, called *primary*, and from a third series above them called *tertiary*. See vol. iii. p. 324, and Table II. p. 390.

SECULAR REFRIGERATION. The periodical cooling and consolidation of the globe, from a supposed original state of fluidity from heat. *Sæculum*, age or period.

SEDIMENTARY ROCKS, are those which have been formed by their

materials having been thrown down from a state of suspension or solution in water.

- SELENITE.** Crystallized gypsum, or sulphate of lime—a simple mineral.
- SEPTARIA.** Flattened balls of stone, generally a kind of iron-stone, which, on being split, are seen to be separated in their interior into irregular masses. *Etym., septa, inclosures.*
- SERPENTINE.** A rock usually containing much magnesian earth, for the most part unstratified, but sometimes appearing to be an altered or metamorphic stratified rock. Its name is derived from frequently presenting contrasts of colour, like the skin of some serpents.
- SHALE.** A provincial term, adopted in geological science, to express an indurated slaty clay. *Etym., German schalen, to peel, to split.*
- SHELL MARL.** A deposit of clay, peat, and other substances mixed with shells, which collects at the bottom of lakes.
- SHINGLE.** The loose and completely water-worn gravel on the seashore.
- SILEX.** The name of one of the pure earths, being the Latin word for *flint*, which is wholly composed of that earth. French geologists have applied it as a generic name for all minerals composed entirely of that earth, of which there are many of different external forms.
- SILICA.** One of the pure earths. *Etym., silex, flint, because found in that mineral.*
- SILICATE.** A chemical compound of silica and another substance, such as silicate of iron. Consult elementary works on chemistry.
- SILICEOUS.** Of or belonging to the earth of flint. *Etym., silex, which see.* A siliceous rock is one mainly composed of silex.
- SILICIFIED.** Any substance that is petrified or mineralized by *siliceous* earth.
- SILT.** The more comminuted sand, clay, and earth, which is transported by running water. It is often accumulated by currents in banks. Thus we speak of the mouth of a river being silted up when its entrance into the sea is impeded by such accumulation of loose materials.
- SIMPLE MINERAL.** Individual mineral substances, as distinguished from rocks, which last are usually an aggregation of simple minerals. They are not simple in regard to their nature, for when subjected to chemical analysis, they are found to consist of a variety of different substances. Pyrites is a simple mineral in

- the sense we use the term, but it is a chemical compound of sulphur and iron.
- SOLFATARA.** A volcanic vent from which sulphur, sulphureous, watery, and acid vapours and gases are emitted.
- SPORULES.** The reproductory corpuscula (minute bodies) of cryptogamic plants. *Etym.*, σπορα, *spora*, a seed.
- STALACTITE.** When water holding lime in solution deposits it as it drops from the roof of a cavern, long rods of stone hang down like icicles, and these are called *stalactites*. *Etym.*, σταλαζω, *stalazo*, to drop.
- STALAGMITE.** When water holding lime in solution drops on the floor of a cavern, the water evaporating leaves a crust composed of layers of limestone; such a crust is called *stalagmite*, from σταλαγμα, *stalagma*, a drop, in opposition to *stalactite*, which see.
- STILBITE.** A white crystallized simple mineral, one of the Zeolite family, frequently included in the mass of the trap rocks.
- STRATIFIED.** Rocks arranged in the form of *strata*, which see.
- STRATIFICATION.** An arrangement of rocks in *strata*, which see.
- STRATUM, STRATA.** When several rocks lie like the leaves of a book, one upon another, each individual forms a *stratum*;—*strata* is the plural of the word. *Etym.*, *stratum*, part of a Latin verb signifying to strew or lay out.
- STRIKE.** The direction or line of bearing of *strata*, which is always at right angles to their prevailing dip. For a fuller explanation, see vol. iii. p. 346.
- SUBAPENNINES.** Low hills which skirt or lie at the foot of the great chain of the Apennines in Italy. The term Subapennine is applied geologically to a series of *strata* of the Older Pliocene period.
- SYENITE.** A kind of granite, so called because it was brought from Syene in Egypt. For geological acceptance of the term, see vol. iii. p. 358.
- SYNCLINAL AXIS.** See explanation of this term, vol. iii. p. 293.
- TALUS.** When fragments are broken off by the action of the weather from the face of a steep rock, as they accumulate at its foot, they form a sloping heap, called a *talus*. The term is borrowed from the language of fortification, where *talus* means the outside of a wall of which the thickness is diminished by degrees, as it rises in height, to make it the firmer.
- TARSI.** The feet in insects, which are articulated, and formed of five or a less number of joints.
- TERTIARY STRATA.** A series of sedimentary rocks, with characters

which distinguish them from two other great series of strata,—the secondary and primary, which lie *beneath* them. See Tables, p. 61, &c.

TESTACEA. Molluscous animals, having a shelly covering. *Etym.*, *testa*, a shell, such as snails, whelks, oysters, &c.

THIN OUT. When a stratum, in the course of its prolongation in any direction, becomes gradually less in thickness, the two surfaces approach nearer and nearer; and when at last they meet, the stratum is said to thin out, or disappear.

TRACHYTE. A variety of lava essentially composed of glassy felspar, and frequently having detached crystals of felspar in the base or body of the stone, giving it the structure of porphyry. It sometimes contains hornblende and augite; and when these last predominate, the trachyte passes into the varieties of trap called greenstone, basalt, dolorite, &c. The term is derived from *τραχυς*, *trachus*, rough, because the rock has a peculiar rough feel.

TRAP and TRAPPEAN ROCKS. Volcanic rocks composed of felspar, augite, and hornblende. The various proportions and state of aggregation of these simple minerals, and differences in external forms, give rise to varieties, which have received distinct appellations, such as basalt, amygdaloid, dolorite, greenstone, and others. The term is derived from *trappa*, a Swedish word for stair, because in Sweden the rocks of this class often occur in large tabular masses, rising one above another, like the steps of a staircase. For further explanation, see vol. iii. p. 359.

TRAVERTIN. A limestone, usually hard and semi-crystalline, deposited from the water of springs holding lime in solution. The word is Italian, and a corruption of the term *Tiburtinus*, the stone being formed in great quantity by the river Anio, at Tibur, near Rome, and hence it was called by the ancients *Lapis Tiburtinus*.

TROPHI, of Insects. Organs which form the mouth, consisting of an upper and under lip, and comprising the parts called mandibles, maxillæ, and palpi.

TUFF, or TUFO. An Italian name for a variety of volcanic rock, of an earthy texture, seldom very compact, and composed of an agglutination of fragments of scorixæ and loose matter ejected from a volcano.

TUFACEOUS. A rock with the texture of tuff or tufo, which see.

TURBINATED. Shells which have a spiral or screw-form structure. *Etym.*, *turbinatus*, made like a top.

- VEINS, Mineral.** Cracks in rocks filled up by substances different from the rock, which may either be earthy or metallic. Veins are sometimes many yards wide ; and they ramify or branch off into innumerable smaller parts, often as slender as threads, like the veins in an animal, and hence their name.
- VERTEBRATED ANIMALS.** A great division of the animal kingdom, including all those which are furnished with a back-bone, as the mammalia, birds, reptiles, and fishes. The separate joints of the back-bone are called *vertebræ*, from the Latin verb *verto*, to turn.
- VESICLE.** A small circular inclosed space, like a little bladder. *Etym.*, diminutive of *vesica*, Latin for a bladder.
- VOLCANIC BOMBS.** Volcanos throw out sometimes detached masses of melted lava, which, as they fall, assume rounded forms (like bomb-shells), and are often elongated into a pear shape.
- VOLCANIC FOCI.** The subterranean centres of action in volcanos, where the heat is supposed to be in the highest degree of energy.
- ZEOLITE.** A family of simple minerals, including stilbite, mesotype, analcime, and some others, usually found in the trap or volcanic rocks. Some of the most common varieties swell or boil up when exposed to the blow-pipe, and hence the name of *ξέω*, *zeo*, to froth, and *λίθος*, *lithos*, stone.
- ZOOPHYTES.** Corals, sponges, and other aquatic animals allied to them, so called because, while they are the habitation of animals, they are fixed to the ground, and have the forms of plants. *Etym.*, *ζῶον*, *zoon*, animal, and *φυτον*, *phyton*, plant.

