

their blood by cultivating peace and procuring abundance of provisions: This is the moral end of every society of men who are anxious to improve their condition: And, with regard to the physical part of our nature, have the medical and other arts, whose objects are health and preservation, made an equal progress as the arts of destruction invented for the purposes of war and carnage? In all ages, it appears that man has reflected deeper and made more researches concerning evil than good. In every society there is a mixture of both; and as, of all sentiments which affect the multitude, fear is the most powerful, great talents in the art of doing mischief were the first which struck the mind of man; he was afterwards occupied with the arts of amusement; and it was not till after long experience in these two means of false honour and unprofitable pleasure, that he at last recognised his true glory to be science, and his true happiness peace.

I N D E X.

A

ÆTNA, Mount, a description of it, 147. 166. Dimensions of its crater, 150. Every eruption of it produces a new mountain, 151. Dangerous to descend its crater, 155. Sometimes falls in, 156. Ætna one of the primitive mountains, *ib.* Did not burn in the days of Homer, 157. The circumference of its base, 165. Not a single, but an assemblage of volcano's, 166. Its summit at present throws out nothing but smoke, 166. Pindar first takes notice of its eruptions, 168.

Agde, Cape, an extinguished volcano, 200.

Air, of its state on the top of high mountains, 117. Not more compressed in the plains than in the mountains, 118. Nearly of equal density at all heights, 120.

Albano. See *Lake*.

Aleutes, islands of, described, 373. 375.

Alps, fossil shells found in them, 42. 43. Description of their glaciers, 358.

America, a recent land, 13. Of its discovery, 17. Fossil shells found in it, 38. 39. And the tracks of elephants, 274. Of a north-east passage to it, 367. Of the north-west passage, 372. Tchutschis pass from Asia to America, 374. Account of the islands between America and the north of Asia, 375. Peopled probably from Asia, 380.

Ammonis. See *Cornus*.

Anadir. See *Andrien*.

Andrien islands described, 373.

Animals, useful ones, tamed by man, 403. Man's power over them, 404.

Arts first invented in the north of Asia, 384.

Arthenay, M. de, his account of Vesuvius, 172.

Ascension island formed by a volcano, 194.

Asia, doubtful whether the Russians ever doubled the northern point of it, 367. Of a north-east passage between it and America,

- America, *ib.* Captain Bering's account of the islands between the two Continents, 375. Science first arose in the north of Asia, 384.
 Astronomy first known and cultivated in the north of Asia, at a very remote period of antiquity, 385. Very imperfectly known till lately, 389.
 Atlantic, of its northern parts, 86.
 Atmosphere, of its height, 121.

B

- Barbarous nations, their ravages, 394.
 Barometer, how the height of mountains is measured by it, 117.
 Basalts found in the isle of Bourbon, 195. And in many other places, *ib.* 199. The manner in which they are formed, 212.
 Beds. See *Strata*.
 Bering, Captain, his account of the islands between the north of Asia and America, 375.
 Bomare, M. de, observed vestiges of volcano's in the territory of Cologne, 203.
 Bones found between two strata of rock, 249. And in a solid rock, 250. Those of the elephant and hippopotamus found in Siberia and North America, 277. Of some enormous animal found near the banks of the Ohio, 289. Large bones of the supposed King Teutobochus described, 338, &c.
 Bosphorus, the Mediterranean sea elevated by its rupture, 157.
 Bouguer, his experiments concerning the depth to which the sun's rays can penetrate water, 266. Remarks on them, 267.
 Bourbon, isle of, extinguished volcano's in it, 193, 194. Basalts found in it, 195.
 Brahmins calculate eclipses, 387.
 Brydone, Captain, his description of Scylla and Charybdis, 111. His facts and remarks praised by the Count de Buffon, 158. His remarks on the eruption of *Ætna* in 1755, 170.

C

- Caille, l'Abbé de la, his account of extinguished volcano's in the isle of France, 193. And of the isle of Bourbon, *ib.*

Calcareous

- Calcareous substances capable of being vitrified, 32. Composed entirely of the relics of aquatic animals, 273, 274.
 Canada, fossil shells found in it, 39.
 Caspian sea only a lake, 100. Formerly much larger, 352.
 Catania, often destroyed by the eruptions of *Ætna*, 159, 164.
 Cataracts, remarks concerning them, 76. That of Terni falls 300 feet, 77. That of Niagara only 156, *ib.*
 Caverns, the effects of their sinking, 60. Of those formed by the primitive fire, 222.
 Ceylon, island of, formerly united to the continent, 354.
 Charlotte islands, smoke issues from one of them, 195.
 Charybdis, its current described, 111.
 Chinese calculate eclipses in a rude manner, 388. Never invent nor bring any thing to perfection, 388, 389.
 Climate, may be warmed by human art and industry, 396.
 Coal, of its composition, 343.
 Cold, its phenomena in Greenland, 88.
 Collinson, Mr. his account of enormous bones found near the banks of the Ohio, 288.
 Columbus vindicated from an asperson, 18.
 Columns, basaltic, how they are formed, 212.
 Compass, Mariners, of its invention, 16. Known in the days of Homer, 17.
 Condamine's description of Vesuvius, 174, 179. His account of the nature of lava, 217.
 Continents, of their extent, 8. Calculation of our Continent into leagues square, 9. Calculation of the Continent of America into leagues square, 10. Of the form of Continents, 12. Analogies between the figure of the New and Old Continents, *ib.* Formerly covered with the ocean, 45. Period when the two Continents were separated, 286.
 Cook, Captain, his discoveries in the southern hemisphere, 15.
 Cordeliers, fossil shells found in them, 319.
 Corn never found in a natural state, 405.
 Cornua Ammonis, their great variety, 46, 48, 49. An immense one found in Champagne, 304.
 Croghan, Mr. his account of enormous bones found near the banks of the Ohio, 289.
 Currents, run perpetually from Guinea to the Antilles, 18. The probable cause of this phenomenon, 19. Double currents in some

some parts of the ocean, 79, 80, &c. Description of the current of Mosche or Male on the coast of Norway, 107. Of that of Scylla and Charybdis, 111.

D

Deslandes, his experiments which prove the existence of double currents in some parts of the ocean, 80, &c.

Dunkirk, the sea has been gradually retiring from its coast, 255.

E

Earth, of its distance from the sun, 1. Of its interior rock, 30. Of the inequalities on its surface, 50. Effects produced by the sinking of its caverns, 60. Causes of its fissures, 62. Elevated at the equator and depressed at the poles, 259, 261. Possesses an internal heat, 260, 261. The materials of which it is composed generally of a vitreous nature, *ib.* 270. Was formerly in a state of fluidity, 261, 285. Genfanne's experiments on its internal heat, 263. Mairan's experiments on the same subject, *ib.* Its whole surface has been covered with the ocean to the height of 1500 or 2000 fathoms, 319. Its declivity more rapid on the west than on the east coasts, 349.

Earthquakes, the causes of them, 138. Generally precede eruptions of volcano's, 141. A mountain in Iceland sunk by one, 143. Other dreadful effects of them, 144. Generally precede eruptions of volcano's, 158.

Eclipses calculated by the Brahmans, 387.

Elephants, their tusks and skeletons found in Siberia, 274. And in North America, 275. Formerly inhabited the northern regions, 276.

Empedocles, the ruins of his tower still exists on Mount Ætna, 155.

Engrafting, the usefulness of its invention, 408.

Epochs of Nature, 276.

Eruptions of volcano's described, 158. Cease after the flowing of the lava, 159. New mountains formed by them, 162. A great one in 1669 from Ætna, 163. Those of Ætna first mentioned

mentioned by Pindar, 168. A dreadful one in 1755, 169. Eruptions of Mount Hecla, 187.

F

Fire, its effects in hardening bodies, 63, 64. Of the caverns formed by the primitive fire, 212. Subterraneous fire one of the chief causes of the revolutions which the globe has undergone, 228.

Fishes, can live in water so hot as from 50 to 60 degrees of the thermometer, 321, 322. Of petrified fishes found in slate, 341. Fissures of the earth, their causes, 62. Metals found in them, 307.

Fossil shells. See *Shells*.

Fossil wood, found in many places, 343.

Fougeroux, M. de Banderoy, his description of Solfatara, 205. Of those in other parts of Italy, 206. His account of the nature of lava, 218. His description of petrified wood, 244.

Fountains, description of hot ones, 205, &c.

Foxes, islands of, described, 375.

France, height of its mountains, 53, 54. Extinguished volcano's in it, 196.

France, isle of, full of extinguished volcano's, 193. Basalts found in it, 195.

G

Genfanne, M. de, his experiments on the internal heat of the earth, 263.

Giants, of different animals, formerly existed, 324. Examples of them, 325. Individual human giants produced in every climate, 331. Races of them in Asia, 331, 332. Dispute concerning the large bones of the supposed King Teutobochus, 333. Other examples of a similar kind, 337.

Gibraltar, Straits of, the Mediterranean sea elevated by its rupture, 157.

Glaciers, a description of them, 338. Are constantly arguing, 363.

Globe.

Globe. See *Earth*.

Gold, and sometimes silver and copper, found in a pure state, 309.

Grain, of which bread is made, an artificial production, 405.

Greenland, of its situation with regard to temperature, 88.

Guatemala destroyed by an eruption of Pacayita, 172.

Guettard, his account of extinguished volcano's in France, 196.

His description of turf, 234. His account of bones found in a rock, 250.

Guiana, its rivers near each other, and deposit vast quantities of mud in the sea, 355. Its temperature heated by cultivation, 398.

H

Heat, of the sun, how far it can penetrate water, 262.

Heberden's description of the Peak of Teneriff, 190.

Hecla, Mount, a description of it, 185. Its eruptions, 188.

Hæcœt, his dispute with Riolan concerning the large bones of the supposed King Teutobochus, 333.

Hills. See *Mountains*.

Hippopotamus, bones of it found in Siberia, 274. And in North America, 275. Formerly inhabited the northern regions, 276.

Homer; Mount Ætna did not burn in his days, 157.

Hadson's Bay, its discovery revived the project of a north-west passage, 94.

I

Japanese islands abound with volcano's, and more subject to earthquakes than any other country, 354.

Ice found in much lower latitudes in the southern than in the northern hemisphere, 14. Floating mountains of it, their origin, 89, 90.

Indian ocean has undergone great revolutions, 353.

Josephus, the Jewish historian, first mentioned the period of fix hundred years, without understanding its value, 389.

Iron

Isle of France, full of extinguished volcano's, 193.

Iron, some mountains entirely composed of it, 313.

Ivory, great quantities of it found in Siberia and North America, 276, 277. Its structure, 281.

K

Kadjack, island of, described, 376.

L

Lakes, the Caspian sea only a lake, 108. Of the salt lakes in Asia, 102. Lake Albano the mouth of an ancient volcano, 181.

Land, of its sinking and derangement in certain places, 228. Of the changes of sea into land, 255.

Lava, not the first effect of volcano's, 158. Eruptions cease after the lava flows, 159. The destruction produced by it, 16.

Catania often destroyed by it, 16. The vast extent of some of its torrents, 160. Long before it acquires a vegetable soil, 161. Its great thickness, 16. Antiquity of the world computed from successive strata of lava and vegetable soil, 163.

Lavas of Vesuvius described, 176. Of the motion of lavas, 209. Require a long time to cool, 215. Of the nature of lavas, 217. See *Eruptions and Volcano's*.

Lavanges, or great masses of snow and ice rolling down from high mountains, described, 125. Precautions used by the natives against their dreadful effects, 127.

Light, how deep it can penetrate water, 265. That of the moon has no sensible heat, 268.

Load-stone, mountains composed of it, 314.

Lunifolar period first discovered in the north of Asia, 385.

M

Madagascar, basalts found in it, 195. Formerly united to the continent, 354.

Maillés, a savage people, described, 351.

Mairan, his experiments on the internal heat of the earth, 263.

VOL. IX.

D D

Man,

- Man, account of his original state, 381. The first monuments of his art, *ib.* His progress in the arts, 382. The first men of science were produced in the north of Asia, 384. His powers, 392. 396. 404. Tames animals for his use, 403. Mariner's compass, of his invention, 16. Known in the days of Homer, 17.
- Mazars, M. l'Abbé, his account of a quarry of petrified wood, 242.
- Mediterranean sea elevated by the rupture of the straits of Gibraltar and of the Bosphorus, 157.
- Metals, of the situations in which they are found, 307. Some of them exist in a pure state, 309.
- Mines, the degrees of heat discovered in them, 264.
- Moon, its light has no sensible heat, 268.
- Mosée, its bones found in northern regions, 279.
- Mosche or Male, a famous current on the coast of Norway, described, 107.
- Mountains, primitive ones composed of vitrescent materials, 31.
- Fossil shells found in very high mountains, 44. Of their height, 50. Height of the most elevated in the province of Quino in Peru, *ib.* Those of South America the highest, 51. The height of Norwegian mountains, and of those of France, 53. 54. Of the direction of mountains, 55-60. Of their formation, 60. Of the inclination of their strata, 67. Of their peaks, 70. How to measure their height by the barometer, 117. Mount Aëna described, 147. Mount Hecla described, 185. Some mountains composed entirely of iron, 313. Others of load-stone, 314.

N

- Naples, its streets paved with lava, 176. Mountains in its environs are masses of burned matter, 181.
- Nature, monuments of her great antiquity, 274. 275. Her epochs, 276. 305. Man's power over her, 392. 396. 404.
- Niagara, cataract of, falls 156 feet, 76.
- North-west passage, Captain Phipps's remarks on it, 90, 91.
- Raynal's observations on this subject, 94.
- Norway, height of its mountains, 53. Their direction, 58.
- Description of the current of Mosche or Male on its coast, 107.
- Nux, M. de la, his account of water spouts, 129.

Ocean.

O

- Ocean. See *Sea*.
- Ohio, enormous bones found near its banks, 289.
- Olympus, its height, 53.
- Osahitic, stones in it bear evident marks of fire, 194.

P

- Pacayita, a water volcano, destroyed the city of Guatimala, 172.
- Pallas, M. found bones of the elephant, and a skeleton of the rhinoceros, in Siberia, 288. Supposes the Caspian sea to have been formerly much larger than it is at present, 352.
- Paris, fossil shells found in its neighbourhood, 41.
- Passage, of the practicability of a north-east one between the Old and New Continents, 167. Of the north-west passage, 372.
- Peak of Teneriff, its height, 53. Dr. Heberden's description of it, 190.
- Peaks of mountains, how formed, 224.
- Peru, petrified shells found there, 39.
- Perronet, his account of the sinking of certain lands, 228.
- Petrified shells. See *Shells*.
- Petrified wood, an account of it, 237. How its age may be ascertained, 239.
- Phipps, Captain, account of his voyage to the north seas, 90, 91.
- Pindar, first mentions the eruptions of Aëna, 168.
- Planets, additions concerning their formation, p. 1. Of the matter of which they are composed, 3. Of the relation between their density and celerity, 4. Of the relation between their density and the degrees of heat to which they are exposed, 6.
- Plants, can vegetate in water so hot as from 50 to 60 degrees of the thermometer, 321, 322.
- Pyrenees, fossil shells found in them, 42. 223.

Q

- Quito, height of its mountains, 50.

R

- Recupero, Signior, his account of an ancient lava, 160. Computes the antiquity of the world from successive strata of lava and vegetable soil, 163.
- Rhinoceros, its bones found in Siberia, 274. And in North America, 275.
- Rhone, basaltic columns found on its banks, 199.
- Riolan, his dispute with Habicot concerning the large bones of the supposed King Teutobochus, 335.
- Russia, great quantities of ivory found in it, 277.

S

- Salt lakes, of those in Asia, 102.
- Sea, of productions of it found in the bowels of the earth, 34, 35. Their form and number prove that they were formerly animals which existed in the ocean, 36. Formerly covered what is now dry land, 37. to the height of two thousand fathoms, 61. Of its saltness, 75. Limits of the South sea, 78. Double currents in it, 79, 80, &c. Caspian sea only a lake, 100. Nature of the soil at the bottom of the sea, 104. Sicilian sea has sunk considerably, 156. Of the retiring of the sea from various coasts. Equally warm as the interior parts of the earth at the same depths, 264. Its fluidity not owing solely to the sun's rays, 265. How far the light can penetrate through its water, 266. Has covered the whole surface of the earth to the height of 1500 or 2000 fathoms, 319. Caspian sea formerly much larger, 352.
- Scientists first invented in the north of Asia, 384. Neither originated in China nor in India, 388.
- Scylla, its current described, 111.
- Shells found in the bowels of the earth near Toulon, 24. Some fossil shells perfectly similar to those which now exist in the sea, 35, 36. Places where they are found, 38, 39, &c. Often differ from those in the neighbouring seas, 40, 274. Petrified more numerous than fossil shells, 45, 46. Beds of them found in the Pyrenees, 223. Likewise found in the Cordeliers, 319. And in the Alps, 42, 43, 364.

Siberia,

- Siberia, fossil shells found in it, 40. And the tusks of elephants, 274.
- Sicilian sea has sunk considerably within these 2500 years, 156.
- Sicily, Virgil wonderfully exact in his geography of it, 165.
- Slate, of petrified fishes found in it, 341.
- Soil, vegetable, account of it, 68. Nature of that at the bottom of the sea, 104.
- Solfataras, neither active nor extinguished volcano's, 203. That near Naples described, 203.
- Spitzbergen. See *Greenland*.
- Strata of the earth, a description of them in different parts of the globe, 22, 24, 26-29, 36. Of their inclination in mountains, 67.
- Steller, his remarks on the volcano's of Asia, 173.
- Sulphur sublimed in Solfataras, 204.
- Sun, of his distance from the earth, p. 1. Of the manner of which he is composed, 3. How far his rays can penetrate water, 262.
- Sweden, height of its mountains, 153.
- Switzerland, the height of its mountains, 54. Description of its glaciers, 359.

T

- Taprobana, a country swallowed up by the sea, 355.
- Teeth, of the hippopotamus and elephant, found in Siberia, 274. And in North America, 275. Enormous ones found near the banks of the Ohio, 288.
- Teneriff. See *Pant*.
- Terra Australis, of the many fruitless attempts to discover it, 14. Captain Cook's voyage and discoveries in the South seas, 15.
- Torré, P. de la, his description of Veluvius, 182.
- Toulon, a description of the strata in its neighbourhood, 22.
- Tychitchis, a people who pass from Asia to America, 374.
- Turf, concerning its nature and composition, 233. M. Gortard's account of it, 234.
- Tusks of elephants found in Siberia, 274. And in North America, 275.

Ulloa,

V

- Ulloa, Don, found petrified shells in the mountains of Peru, 39.
 Vapours, the heights at which they freeze in different places, 52.
 Vegetables, man's power of changing their nature, 405.
 Virgil, wonderfully exact in his description of Sicily, 165.
 Vesuvius, Mount, a description of it, 152. A feeble volcano when compared with *Ætna*, 153. A wind penetrates the mountain, 172. Its ancient compared with its modern state, 172. Condamine's account of it, 174-179. Its height, 175. Its state in the year 1753, *ib.* P. de la Torré's description of it, 182.
 Volcano's in South America, 51, 52. Of the changes they undergo, 147. That of *Ætna* described, *ib.* That of Vesuvius described, 152. Of their eruptions, 158. Often throw out torrents of water, 168, 172. Steller's remarks on those of Asia, 173. Volcano's communicate with the sea, 173, 174.
 Of extinguished volcano's, 192, 196.
 Voltaire, an apology for the author's treatment of him, 34.

W

- Water-spouts, a description of them, 189.
 Waters. See *S&c.* Theory of running waters, 72. Description of hot fountains, 206.
 Winds, of reflected ones, 116. Some winds have a regular variation, 123. Of their violence in some countries, 128.
 Wood, subterraneous, found in many places, 237. Examples of fossil wood, 343.

F I N I S.

