

before his time, and since its destruction by earthquakes and inundations navigation in the Atlantic had been impossible owing to the fine mud and detritus left by the vanished land.

The work of Aristotle (384-322 B.C.) marks the culminating point reached by the Greeks, both in the domain of speculative philosophy and in that of empirical observation. Although the physical and geological researches of the great Stagirite embrace less of original discovery than his researches in zoology and physiology, they group and define more precisely the best results of the Eleatic, Pythagorean, and Atomic philosophers, re-animate them with new thoughts, and frequently place them on a true scientific basis. Aristotle departs from the atomic philosophers in assuming that matter is diverse in quality, and that the universe is divided into an earthly and a heavenly half; the imperishable ether belongs to the heavenly half, while the four elements, earth, water, air, and fire, compose the earth and the planets. The earth forms, in Aristotle's conception, the stationary centre of the universe round which the planets move to the left; beyond their orbits is the great ethereal circle of the heavens in which the stars move towards the right. The development of the earth is comparable with that of an organism; it has periods of growth, maturity, and decay. During recurring periods of rejuvenescence the lower animals take origin in the mud of the earth, and from them develop, by sexual generation, the higher groups of animals. The plants are related to animals, and the different kinds of animals to one another by numerous transitional forms. Aristotle's works seldom treat special geological questions, and his meteorology, although it discusses earthquakes, the alternation of continent and ocean, the Deucalion flood and inundations of the Nile, does not contribute much that is new.

Theophrastus of Lesbos (368-284 B.C.), the most famous pupil of Aristotle, devoted himself chiefly to scientific studies. In addition to his valuable botanical treatises, he gave much information about minerals and fossils in a fragmentary treatise "On Stones." A special work on fossils, with which Pliny was apparently acquainted, has since been lost.

The Encyclopædists of the Alexandrine school occupied themselves chiefly with astronomy, mathematics, and geography. Eratosthenes (276-196 B.C.) by his measurement of the degree in Egypt for the first time laid the foundation of a more exact estimate of the size of our planet. He