

the desultory literary method of treating nature, to the more direct, more exacting system of observation and description. Plants, animals, and rocks were studied with enthusiasm, were examined, described, figured, and classified, so that in a relatively short space of time a fairly extensive botanical, zoological, and mineralogical literature sprang into existence.

*Various Opinions about Fossils.*—The Greek and Roman writers had correctly realised that fossils represented the remains of animals and plants, and most of the ancient writers had explained their preservation in the rocks as the result of great natural catastrophes which had changed the localities of land and water, and brought the swarming denizens of the sea into the middle of continents, burying them there. During the mediæval Scholasticism no progress was made in the study of fossils. Avicenna (980-1037), the Arabian translator and commentator of Aristotle, became imbued with Aristotle's theory of the self-generation of living organisms, and tried to extend it to the case of fossils. Avicenna suggested that fossils had been brought forth in the bowels of the earth by virtue of that creative force (*vis plastica*) of nature which had continually striven to produce the organic out of the inorganic, and that fossils were unsuccessful attempts of nature, the form having been produced but no animal life bestowed.

The famous Albertus Magnus<sup>1</sup> takes the same standpoint more than two hundred years later. He assumes a *virtus formativa* in the earth as the origin of fossils, although he allows that the remains of plants and animals may be turned to stone in places where agencies of petrefaction are at work.

With the dawn of the fifteenth century began that long series of disputes about fossils which lasted more than three centuries. The questions under discussion were, whether fossil organisms had taken origin from a *vis plastica*, or from living seeds carried in vapours from the sea, or from any living force in the earth itself; whether they might be regarded merely as illusory sports

<sup>1</sup> Albert von Bollstædt, called Albertus Magnus, was born at Laningen in Swabia in 1193; studied at Padua and Bologna, took Dominican orders in 1222, lectured for several years in the cloister schools of Cologne, Hildesheim, Freiburg, and Regensburg, and taught in Paris between the years 1245-48. He returned then to preside over the High School at Cologne, and was made Bishop of Regensburg in 1260. This post he resigned after two years, and devoted himself, at Cologne, to his works on philosophical and theological themes until his death in 1280.