

Aristotle in his wide survey of the organic and inorganic kingdoms did not omit to consider the nature of stones, metals and minerals, and to offer his suggestions as to their possible origin. He supposed the existence of two exhalations which play a notable part in nature both inside and outside the earth. One of these, the smoky or dry exhalation by burning substances, gives rise to minerals and other kinds of stone which are insoluble in water. The other or vaporous exhalation produces the metals which are fusible or ductile. Aristotle's favourite pupil, Theophrastus (B.C. 374-287) took up this subject in a much more practical way in his tract on *Stones*, which describes the external characters, sources and uses of the more familiar rocks and minerals. Interesting as a narrative of what was known and thought in his day in regard to the mineral kingdom, it may be claimed as the earliest essay in Petrography. His treatise "On Fishes" contains a reference to remains of fishes found in the rocks of Pontus and Paphlagonia. The philosopher thought that these fossils were developed from fish-spawn left in the earth, or that fishes had wandered from neighbouring waters and had finally been turned into stone. He also expressed the idea that a plastic force is inherent in the earth whereby bones and other organic bodies are imitated.

Lucretius, whose great poem, *De Rerum Natura*, appeared about half a century before the beginning of our era, states with his characteristic force the explanations then in vogue to account for the phenomena of earthquakes. The interior of the earth,