

CHAPTER III.

HISTORY OF THE PROGRESS OF GEOLOGY — *continued.*

Arabian writers of the tenth century — Avicenna — Omar — Cosmogony of the Koran — Kazwini — Early Italian writers — Leonardo da Vinci — Fracastoro — Controversy as to the real nature of fossils — Attributed to the Mosaic deluge — Palissy — Steno — Scilla — Quirini — Boyle — Lister — Leibnitz — Hooke's Theory of Elevation by Earthquakes — Of lost species of animals — Ray — Physico-theological writers — Woodward's Diluvial Theory — Burnet — Whiston — Vallisneri — Lazzaro Moro — Generelli — Buffon — His theory condemned by the Sorbonne as unorthodox — His declaration — Targioni — Arduino — Michell — Catcott — Raspe — Fuchsel — Fortis — Testa — Whitehurst — Pallas — Saussure.

Arabian writers.—AFTER the decline of the Roman empire, the cultivation of physical science was first revived with some success by the Saracens, about the middle of the eighth century of our era. The works of the most eminent classic writers were purchased at great expense from the Christians, and translated into Arabic; and Al Mamûn, son of the famous Harûn-al-Rashid, the contemporary of Charlemagne, received with marks of distinction, at his court at Bagdad, astronomers and men of learning from different countries. This caliph, and some of his successors, encountered much opposition and jealousy from the doctors of the Mahometan law, who wished the Moslems to confine their studies to the Koran, dreading the effects of the diffusion of a taste for the physical sciences.*

Avicenna.—Almost all the works of the early Arabian writers are lost. Amongst those of the tenth century, of which fragments are now extant, is a short treatise, "On the Formation and Classification of Minerals," by Avicenna, a physician, in whose arrangement there is considerable merit. The second chapter, "On the Cause of Mountains," is remarkable; for mountains, he says, are formed, some by essential, others by accidental causes. In illustration of the essential, he instances "a violent earthquake, by which land is elevated, and becomes a mountain;" of the accidental, the principal, he says, is excavation by water, whereby cavities are produced, and adjoining lands made to stand out and form eminences.†

Omar — Cosmogony of the Koran.—In the same century also, Omar, surnamed "El Aalem," or "The Learned," wrote a work on "The Retreat of the Sea." It appears that on comparing the charts

* Mod. Univ. Hist. vol. ii. chap. iv. section iii.

† Montes quandôque fiunt ex causa essentiali, quandôque ex causa acciden-

tali. Ex essentiali causa, ut ex vehementi motu terræ elevatur terra, et fit mons. Accidentalibus, &c. — De Congelatione Lapidum, ed. Gedani, 1682.