

the occasional remarks and observations about volcanoes, earthquakes, fluctuations of level in the land-surfaces, the action of water, and other phenomena of dynamic geology, as well as the scattered notes about the occurrence of fossils. On the other hand, not a single writer of the ancient world showed any interest in the firm earth-crust, not one observer gave a thought to the composition of the rocks. Not the most acute thinker of those cultured peoples had even a shadowy premonition of the value that might appertain to fossils as witnesses of a sequence of events in the history of our earth. None suggested that our planet might have passed through a succession of changes before attaining to its present physical condition and configuration; still less, that particular phases in the history of change might be deciphered from the character and superposition of the rocks. The evolution of the earth and its denizens, which is at the present day the great problem of geological and biological research, played no part in the literature of antiquity; fanciful hypotheses and disconnected observations cannot be acknowledged as scientific beginnings of research.

SECOND PERIOD—THE BEGINNINGS OF PALÆONTOLOGY AND GEOLOGY.

The downfall of the Roman Empire dealt a severe blow to literary progress and healthful interest in natural phenomena. The collapse of imperial power, the revolutionary instincts and unrest, the variable migration of the races, the protracted struggle between decaying heathendom and rising Christianity, the personal wars of jealousy and greed in which Europe was plunged during the greater part of the Middle Ages, all combined to check any spontaneous desire towards scientific investigation.

A barren scholasticism took refuge in the monasteries and cloister schools. The attitude of the Schoolmen, while it made much of logical distinctions and the critical interpretation of old doctrines, was unfavourable to the direct observation of nature. For many centuries (800-1300 A.D.) the Arabs were the only nation in which the true spirit of ancient culture and inquiry was kept alive. At great sacrifice they obtained possession of the classical works of antiquity, translated them