

BOOK XVIII.

GEOLOGY.

WITH regard to Geology, as a Palæontological Science, I do not know that any new light of an important kind has been thrown upon the general doctrines of the science. Surveys and examinations of special phenomena and special districts have been carried on with activity and intelligence; and the animals of which the remains people the strata, have been reconstructed by the skill and knowledge of zoologists:—of such reconstructions we have, for instance, a fine assemblage in the publications of the Palæontological Society. But the great questions of the manner of the creation and succession of animal and vegetable species upon the earth remain, I think, at the point at which they were when I published the last edition of the History.

I may notice the views propounded by some chemists of certain bearings of Mineralogy upon Geology. As we have, in mineral masses, organic remains of former organized beings, so have we crystalline remains of former crystals; namely, what are commonly called *pseudomorphoses*—the shape of one crystal in the substance of another. M. G. Bischoff¹ considers the study of pseudomorphs as important in geology, and as frequently the only means of tracing processes which have taken place and are still going on in the mineral kingdom.

I may notice also Professor Breithaupt's researches on the order of succession of different minerals, by observing the mode in which they occur and the order in which different crystals have been deposited, promise to be of great use in following out the geological changes which the crust of the globe has undergone. (*Die Paragenesis der Mineralien*. Freiberg. 1849.)

In conjunction with these may be taken M. de Senarmont's experiments on the formation of minerals in veins; and besides Bischoff's

¹ *Chemical and Physical Geology.*