

## BOOK III

## DYNAMICAL GEOLOGY

**D**YNAMICAL GEOLOGY investigates the processes of change at present in progress upon the earth, whereby modifications are made on the structure and composition of the crust, on the relations between the interior and the surface, as shown by volcanoes, earthquakes, and other terrestrial disturbances, on the distribution of land and sea, on the outlines of the land, on the form and depth of the sea-bottom, on marine currents, and on climate. Bringing before us, in short, the whole range of geological activities, it leads us to precise notions regarding their relations to each other, and the results which they achieve. A knowledge of this branch of the subject is thus the essential groundwork of a true and fruitful acquaintance with the principles of geology. The study of the present order of nature provides a key for the interpretation of the past.

The operations considered by Dynamical Geology may be regarded as a vast cycle of change, into the investigation of which the student may break at any point, and round which he may travel, only to find himself brought back to his starting-point. It is a matter of comparatively small moment at what part of the cycle the inquiry is begun. The changes seen in action will always be found to have resulted from some that preceded, and to give place to others that follow them.