

chemical experiment in elucidation of these operations. It considers the nature and operation of the processes that have determined the distribution of sea and land, and have molded the forms of the terrestrial ridges and depressions. It further investigates the geological changes which are in progress over the surface of the land and floor of the sea, whether these are due to subterranean disturbance, or to the effect of operations above ground. Such an inquiry necessitates a careful study of the existing economy of nature, and forms a fitting introduction to the investigation of the geological changes of former periods. This and the previous section, including most of what is embraced under Physical Geography and Petrogeny or Geogeny, will here be discussed more in detail than is usual in geological treatises.

4. *Geotectonic, or Structural Geology—the Architecture of the Earth.*—This section of the investigation, applying the results arrived at in the previous division, discusses the actual arrangement of the various materials composing the crust of the earth. It proves that some have been formed in beds or strata, whether by the deposit of sediment on the floor of the sea, or by the slow aggregation of organic forms, that others have been poured out from subterranean sources in sheets of molten rock, or in showers of loose dust, which have been built up into mountains and plateaus. It further shows that rocks originally laid down in almost horizontal beds have subsequently been crumpled, contorted, dislocated, invaded by igneous masses from below, and rendered sometimes crystalline. It teaches, too, that wherever exposed above sea-level, they have been incessantly worn down, and have often been depressed, so that older lie buried beneath later accumulations.