

ancient strata and that of some modern volcanic tracts. To what extent the admission of this analogy bears on the origin of particular groups of mountains remains to be seen, but it seems probable that most of the volcanic mountains are, like Vesuvius, Etna, and Stromboli, *craters of eruption*, while a few may be better explained by a general or partial elevation, at the origin or during the continuance of their action.

It must not be thought that the discussion regarding the first opening of volcanos is unimportant: the history of ancient elevations of the strata is closely connected with that of modern earthquakes; and the occurrence of volcanic fires along mountain lines is a circumstance very intelligible, upon the supposition that they were caused by the opening of the ground along a great fissure, and perhaps hardly to be explained otherwise. If volcanic regions, arranged in line, owe their origin to the rupture of the ground along that line, its length, and the degree of displacement of the rocks on its sides, are measures of the repressed force which at length found vent. "Volcanos in line," as Von Buch calls them, are thus connected with the traces of the grandest movements which the crust of the earth has experienced; and those who contend against the origin, by elevation, of single volcanic hills, oppose the doctrine of mountain elevation by one or a few violent struggles of nature, anterior to volcanic eruptions along them, and attribute the elevation of ranges like the Andes to many successive efforts of the volcanic action seated below them. The further discussion of this subject is part of a general inquiry, comprehending alike the modern and ancient movements of the land, which will be found in the next chapter.

Volcanos in Action.

Earthquakes, and the other premonitory symptoms of a volcanic crisis, are succeeded by eruptions from conical