

detailed comparison with the phenomena of crust-fracture in nature. Daubrée also elucidated the influence of such fractures on the subsequent surface conformation of the earth, and especially on valley erosion.

Reyer in his *Theoretische Geologie*, published in 1888, discusses the causes and phenomena of crust-ruptures. He refers fractures to differences of tension arising from various causes, inequality of the superincumbent weight or in the rate of gain and loss by chemical changes, and inequality in the access or abstraction of heat in the rocks of adjacent areas. Dr. Reyer cites numerous examples of step-faults, trough-faults, and fault-nets, in order to show that areas of subsidence bounded by fault-fissures are frequently strengthened by the injection of eruptive masses, and are rendered so much the more resistant in subsequent crust-disturbances.

The first volume of Suess's *Antlitz der Erde* appeared in parts during the years 1883-85; the second volume followed in 1888; and the third and last volume has recently been completed. The author incorporates in this work many ideas which he had enunciated in skeleton in the *Entstehung der Alpen*. But the later work is not limited to the consideration of the origin of mountains and continents, it surveys the whole history of terrestrial change in the course of the geological epochs. In the hands of the most accomplished of foreign geologists, and one of the strictest logicians of any age, crust-tectonics may be almost said to have been elevated into a new inductive philosophy of earth-configuration.

The leading purpose of the work is to explain the present conformation of the earth's surface upon the basis of the previous changes in the oceans and continents of the earth. And first the movements in the solid outer framework of the earth are considered.

Suess begins by discussing the Deluge of the Scriptures, as one of the last grand geological events, which visited Mesopotamia with a devastating inundation, probably the result of an earthquake or a cyclone from the Persian Sea. In addition to the Mosaic account, the Izdubar Epic of the Babylonian Berosus serves as the historical basis of this chapter.

A second chapter treats of Earthquakes, and a third elucidates the various kinds of dislocations associated with the contraction of the earth's nucleus. The movements are