

disturbances of the rocks were referred to a remote geological era, and supposed to have been nearly simultaneous. We have now ascertained that, on the contrary, they have been produced at a great variety of successive epochs, and that some mountain chains are very modern in the earth's history in comparison with others. Nevertheless, the hypothesis may in a limited sense be quite sound, for we may imagine one part after another of the subjacent nucleus, underlying the thin coating or crust which we explore geologically, to be melted by volcanic heat, and, after expansion, to cool and become again consolidated and collapse. The rocks would undergo some disturbance when they were first uplifted, but when the heat was withdrawn, and contraction took place, there would be a still greater amount of dislocation, crumpling, and folding of the beds. All the elaborate mechanical explanations resorted to in illustration of the doctrine of a general contraction, and a diminution in the size of the entire planet, may be applicable to the phenomena of strata, whether in plains or mountains, which have at successive periods become contorted within limited areas. We have only to substitute the partial liquefaction of the interior of the earth at moderate depths for the primitive fusion of the entire incandescent nucleus, and to suppose that each local development of subterranean heat was followed by refrigeration, and we then discover a cause fully adequate to produce the fracture, plication, and lateral pressure of rocks, at as many successive periods of the past, as the facts now established in geology require.

Nearly all mountain chains can now be shown to