

a short passage towards the close of this treatise. Brief although they are, the remarks on the influence of the slow cooling of the earth on surface conformation and the origin of furrows and fissures, are at once recognised by a reader of the present day as the starting-point of our modern views on mountain-structure. Favourable reviews by Brongniart and Arago helped to spread the fame of the young geologist, and to win rapid recognition for his work.

It was not until 1852 that Élie de Beaumont discussed the details in full, and gave expression to his conceptions in his three-volume work *On Mountain-systems*. He points out that in virtue of the continued cooling of our planet the radius is shortened and the crust is affected by a general centripetal movement. Delesse had calculated 1,340 metres as the amount by which the earth's radius had already been shortened; in other words, the earth's crust in the course of the geological epochs had approached the earth's centre by a distance about equal to the height of Chimborazo or the Himalayas above sea-level. As the more rigid crust tried to subside and accommodate itself to the contracting molten mass of the nucleus, inequalities and excrescences formed; or if the tension became too great a sudden rupture of the crust ensued, and the lateral compression gave origin to mountain-folding. The rock-masses in seeking relief from the crust-strains were pressed upward, and might under certain circumstances pierce the surface as a finger might pass through a button-hole. This, in Élie de Beaumont's opinion, was the explanation of the fact that granite masses so often form the summits and ridges of mountain-chains, whose flanks consist of uplifted sedimentary rocks. The latter, he said, were covered towards the base of the mountain for the most part by gently-inclined or horizontal strata, which spread over the neighbouring plains. The inclined strata often strike sharply against the horizontal layers, any marked contrast in the position of the neighbouring series of deposits indicating that *after* the deposition of the uplifted strata, and *before* the deposition of the undisturbed series, a convulsion of the earth's crust had taken place in that region and had culminated in the uplift of the mountain-chain. The exact geological period of the crust-paroxysm could be determined from a comparison of the ages of the inclined strata and the horizontal layers reposing upon them.