

the sedimentary rocks beside a rupture are tilted by upheaval, then, according to Reyer, the rock-strata glide downward and as they do so fall into complicated folds.

An Alpine geologist of wide experience, Professor Rothpletz in Munich, holds the Contraction Theory to be inadequate as an explanation of volcanoes and of the unlike distribution of gravity in the earth's crust. He believes that a better explanation is afforded on the basis of crust-expansion in certain regions.

Rothpletz recognises three distinct spherical zones of rock-material in the earth, according to their physical condition. Below the rigid crust is the viscous or molten nucleus, and between both a zone of cooling and consolidation. Professor Rothpletz assumes that the masses in the intermediate zone do not contract as they would on cooling under normal pressure of superincumbent rock, but expand as they cool, in analogy with bismuth and other substances. From this zone, therefore, vertical and tangential pressures are exerted upon the solid crust. At localities of weak resistance the crust is torn, the expansion of the intermediate zone pushes the crust upward and produces continents or table-lands at the surface, and the seams are invaded by the uprush of molten magma from the nucleus. At the same time the tangential tension in the emerged continents tries to relieve itself locally by the formation of folds. Hence mountains are upheaved and volcanic invasions occur on the continents at the places of least resistance.