paratively thin crust, surmounting a molten interior whence volcanic energy might be derived (*ante*, p. 100), geologists have found themselves involved in great perplexity to explain volcanic phenomena, for the production of which a source of no great depth would seem to be necessary. Some have supposed the existence of pools or lakes of liquid lava lying beneath the crust, and at an inconsiderable depth from the surface. Others have appealed to the influence of the contraction of the earth's mass, assuming the contraction to be now greater in the outer than in the inner portions, and that the effect of this external contraction must be to squeeze out some of the internal molten matter through weak parts of the crust.[160]

That volcanic action is one of the results of terrestrial contraction can hardly be doubted, though we are still without satisfactory data as to the connection between the cause and the effect. It will be observed that volcanoes occur chiefly in lines along the crests of terrestrial ridges. There is probably, therefore, a connection between the elevation of these ridges and the extravasation of molten rock at the surface. The formation of continents and mountain-chains has already been referred to as probably consequent on the subsidence and readjustment of the cool outer shell of the planet upon the hotter and more rapidly contracting nucleus. Every such movement, by relieving pressure on regions below the axis of elevation, will tend to bring up molten rock nearer the surface, and thus to promote the formation and continued activity of volcanoes.

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[160] Cordier, for example, calculated that a contraction of only a single millimetre (about 1-25th of an inch) would suffice to force out to the surface lava enough for 500 eruptions, allowing 1 cubic kilometre (about 1300 million cubic yards) for each eruption. Prof. Prestwich invokes a slight contraction of the crust as the initial cause of volcanic action. Brit. Assoc. 1881, Sects. p. 610.