

According to this theory, the conical shape of a volcanic cone arises mainly from an upheaval or swelling of the ground, round the vent from which the materials are finally expelled. A portion of the earth's crust (represented in Fig. 53 as composed of stratified deposits, *a b g h*) was believed to have been pushed up like a huge blister, by forces acting from below (at *c*) until the summit of the dome gave way and volcanic materials were emitted. At first these might only partially fill the cavity (as at *f*), but subsequent eruptions, if sufficiently copious, would cover over

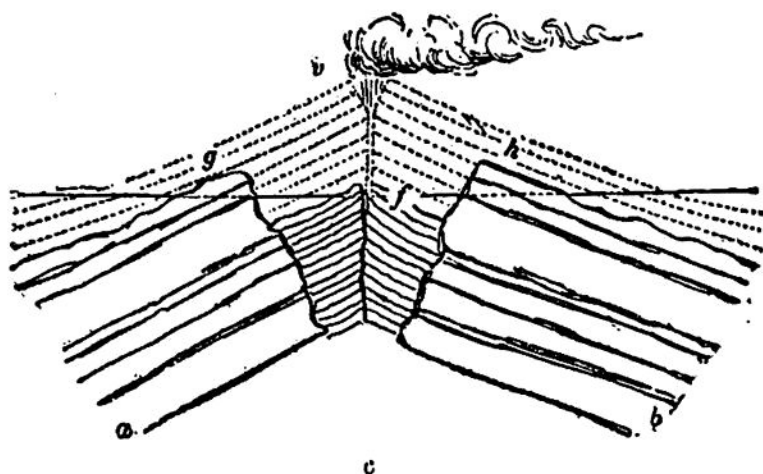


Fig. 53.—Section illustrative of the Elevation-crater Theory.

the truncated edges of the pre-volcanic rocks (as at *g h*), and would be liable to further upheaval by a renewal of the original upward swelling of the site.

It was a matter of prime importance in the interpretation of volcanic action to have this question settled. To Poulett Scrope, Constant Prévost, and Lyell, belong the merit of disproving the Elevation-crater theory. Scrope showed conclusively that the steep slope of the lava-beds of a volcanic cone was original.¹⁰⁶ Constant Prévost pointed out that there was no more reason why lava should not consolidate

¹⁰⁶ "Considerations on Volcanoes," 1825. Quart. Journ. Geol. Soc. xii. p. 326.