

to fall in ; but there is a limit to this resistance. When the superficial accumulations are of vast height and great lateral extent, as in some of the mighty volcanos of America, the internal heat rises upward, in the substance of the mountain, so as to re-absorb the base of the cone, and weaken its strength. From this cause, perhaps, it happens that sometimes volcanic mountains *fall into* the cavity below them, and are swallowed up. Thus the great mountain mass of Papandayang, in Java, fell into the greater cavity out of which it had been raised ; and l'Altar, in Quito, lost its commanding summit.

The subterranean connection of even distant volcanic mountains, and the reciprocity of action between what appear on the surface to be distinct volcanic groups, justify the belief that the sources from whence the eruptions are supplied with mineral matter spread widely around the volcanic vents ; an inference still further strengthened by the extension of earthquakes beyond the regions of burning mountains. It follows that *movements of subsidence*, which are occasionally witnessed in really volcanic districts, may, and indeed must, happen sometimes in other situations, where *lines or surfaces of weakness* exist, in the earth's crust, Such depressions may be either gradual or sudden, according to the circumstances which determine the points and degrees of relative weakness in the earth's crust, and from all the considerations it is easy to perceive that the real change of the earth's diameter, by the explosive action of volcanos, is very small, and much counterbalanced, in all periods, by the contrary effects of subsidence ; and that in the progress of volcanic operations a limit must at last be reached, when the two opposite effects of the same cause must be exactly balanced, though not necessarily in the *same physical regions*. The general result, then, is an augmentation of the heights by volcanic energy, and a deepening of the depths by the consequent subsidence.

Far from the centres of volcanic excitement, the