

Fig. 39.



Non-volcanic protuberance and valley of elevation.

incumbent mass dips away on all sides from the axis, but has no tendency to thin out near the base of the dome, or at a, a ; whereas at this point the volcanic mass terminates (see fig. 40.) and allows the fundamental rock c to appear at the surface. In the last diagram the more ordinary case is represented of a great hollow or crater at

Fig. 40.



Volcanic mountain and crater.

the summit of the volcanic cone; but instead of this, we have seen that in the case of Etna there is a deep lateral depression, called the Val del Bove, the upper part of which approaches near to the central axis, and the origin of which we have attributed to subsidence.

Antiquity of the cone of Etna.—It was before remarked that confined notions in regard to the quantity of past time have tended, more than any other prepossessions, to retard the progress of sound theoretical views in geology*; the inadequacy of our conceptions of the earth's antiquity having cramped the freedom of our speculations in this science, very much in the same way as a belief in the existence of a vaulted firmament once retarded the progress of astronomy. It was not until Descartes assumed the indefinite extent of the celestial spaces, and removed the supposed boundaries of the universe, that just opinions began to be entertained of the relative distances of the heavenly bodies; and until we habituate ourselves to contemplate the possibility of an indefinite lapse of ages having been comprised within each of the modern periods of the earth's history, we shall be in danger of forming most erroneous and partial views in geology.

If history had bequeathed to us a faithful record of the eruptions of Etna, and a hundred other of the principal active volcanos of the globe, during the last three thousand years,—if we had an exact account of the volume of lava and matter ejected during that period, and the times of their production,—we might, perhaps, be able to form a correct estimate of the average rate of the growth of a volcanic cone. For we might obtain a mean result from the comparison of the eruptions of so great a number of vents, however irregular might be the development of the igneous action in any one of them, if contemplated singly during a brief period.

It would be necessary to balance protracted periods of inaction

* P. 64.