

and basalt, which descend often in uninterrupted sheets, until they reach and spread themselves round the base of the mountain.* Conglomerates also, composed of angular and rounded fragments of igneous rocks, are observed to alternate with the above; and the various masses are seen to dip off from the central axis, and to lie parallel to the sloping flanks of the mountain.

The summit of Mont Dor terminates in seven or eight rocky peaks, where no regular crater can now be traced, but where we may easily imagine one to have existed, which may have been shattered by earthquakes, and have suffered degradation by aqueous agents. Originally, perhaps, like the highest crater of Etna, it may have formed an insignificant feature in the great pile, and may frequently have been destroyed and renovated.

According to some geologists, this mountain, as well as Vesuvius, Etna, and all large volcanos, has derived its dome-like form not from the preponderance of eruptions from one or more central points, but from the upheaval of horizontal beds of lava and scoriæ. I have explained my reasons for objecting to this view in Chapter XXIX., when speaking of Palma, and in the Principles of Geology.† The average inclination of the dome-shaped mass of Mont Dor is $8^{\circ} 6'$, whereas in Mounts Loa and Kea, before mentioned, in the Sandwich Islands (see fig. 640, p. 490), the flanks of which have been raised by recent lavas, we find from Mr. Dana's description that the one has a slope of $6^{\circ} 30'$, the other of $7^{\circ} 46'$. We may, therefore, reasonably question whether there is any absolute necessity for supposing that the basaltic currents of the ancient French volcano were at first more horizontal than they are now. Nevertheless it is highly probable that during the long series of eruptions required to give rise to so vast a pile of volcanic matter, which is thickest at the summit or centre of the dome, some dislocation and upheaval took place; and during the distension of the mass, beds of lava and scoriæ may, in some places, have acquired a greater, in others a less inclination, than that which at first belonged to them.

Respecting the age of the great mass of Mont Dor, we cannot come at present to any positive decision, because no organic remains have yet been found in the tuffs, except impressions of the leaves of trees of species not yet determined. We may certainly conclude, that the earliest eruptions were posterior in origin to those grits, and conglomerates of the fresh-water formation of the Limagne, which contain no pebbles of volcanic rocks; while, on the other hand, some eruptions took place before the great lakes were drained; and others occurred after the desiccation of those lakes, and when deep valleys had already been excavated through fresh-water strata.

In the annexed section, I have endeavored to explain the geological structure of a portion of Auvergne, which I re-examined in 1843.‡ It

* Scrope's Central France, p. 98.

† See chaps. xxiv. xxv. and xxvi. 7th, 8th, and 9th editions.

‡ See Quarterly Geol. Journ. vol. ii. p. 77.