

The igneous group of Cantal may be described as a series of lofty summits, ranged around a large cavity, which was at one period probably a volcanic crater, the circular base of which occupies an area of nearly fifteen leagues in diameter. The strictly trachytic portion of the group rises in the centre, and is composed of high mountains, throwing off spurs, which gradually decrease in height, and terminate in plateaux more or less inclined. These central mountains attain a height varying between 4,500 and 5,500 feet above the level of the sea. A scaly or schistose variety of trachyte, called *phonolite*, or clinkstone (from the ringing metallic sound it emits when struck with the hammer), with an unusual proportion of felspar, or, according to Gmelin, composed of felspar and zeolite, forms the steep trachytic escarpments at the centre, which enclose the principal valleys; their abrupt peaks giving a remarkably picturesque appearance to the landscape. In the engraving on p. 40 (Fig. 4) the slaty, laminated character of the clinkstone is well represented in one of the phonolitic peaks of the Cantal group. The group at Mont Dore consists of seven or eight rocky summits, occupying a circuit of about five leagues in diameter. The massive trachytic rock, of which this mountainous mass is chiefly formed, has an average thickness of 1,200 to 2,600 feet; comprehending over that range prodigious layers of scorix, pumiceous conglomerates, and detritus, interstratified with beds of trachyte and basalt, bearing the signs of an igneous origin, tufa forming the base; and between them occur layers of lignite, or imperfectly mineralised woody fibre, the whole being superimposed on a primitive plateau of about 3,250 feet in height. Scored and furrowed out by deep valleys, the viscous mass was gradually upheaved, until in the needle-like Pic de Sancy (PLATE I.), a pyramidal rock of porphyritic trachyte, which is the loftiest point of Mont Dore, it attains the height of 6,258 feet. The Pic de Sancy, represented on page 40 (Fig. 4), gives an excellent idea of the general appearance of the trachytic mountains of Mont Dore.

Upon the same plateau with Mont Dore, and about seven miles north of its last slopes, the trachytic formation is repeated in four rounded domes—those of Puy-de-Dôme, Sarcouï, Clierzou, and Le Grand Suchet. The Puy-de-Dôme, one of the most remarkable volcanic domes in Auvergne, presents another fine and very striking example of an eruptive trachytic rock. The rock here assumes a peculiar mineral character, which has caused the name of *domite* to be given to it.

The chain of the Velay forms a zone, composed of independent plateaux and peaks, which forms upon the horizon a long and