

range in a linear direction from Auvergne to the Vivarais, and they were faithfully described so early as the year 1802, by M. de Montlosier. They have given rise chiefly to currents of basaltic lava. Those of Auvergne called the *Monts Dome*, placed on a granitic platform, form an irregular ridge (see fig. 621, p. 462), about 18 miles in length, and 2 in breadth. They are usually truncated at the summit, where the crater is often preserved entire, the lava having issued from the base of the hill. But frequently the crater is broken down on one side, where the lava has flowed out. The hills are composed of loose scorïæ, blocks of lava, lapilli, and pozzuolana, with fragments of trachyte and granite.

Puy de Côme.—The Puy de Côme and its lava-current, near Clermont, may be mentioned as one of these minor volcanos. This conical hill rises from the granitic platform, at an angle of between 30° and 40° , to the height of more than 900 feet. Its summit presents two distinct craters, one of them with a vertical depth of 250 feet. A stream of lava takes its rise at the western base of the hill, instead of issuing from either crater, and descends the granitic slope towards the present site of the town of Pont Gibaud. Thence it pours in a broad sheet down a steep declivity into the valley of the Sioule, filling the ancient river-channel for the distance of more than a mile. The Sioule, thus dispossessed of its bed, has worked out a fresh one between the lava and the granite of its western bank; and the excavation has disclosed, in one spot, a wall of columnar basalt about 50 feet high.*

The excavation of the ravine is still in progress, every winter some columns of basalt being undermined and carried down the channel of the river, and in the course of a few miles rolled to sand and pebbles. Meanwhile the cone of Côme remains unimpaired, its loose materials being protected by a dense vegetation, and the hill standing on a ridge not commanded by any higher ground, so that no floods of rain-water can descend upon it. There is no end to the waste which the hard basalt may undergo in future, if the physical geography of the country continue unchanged, no limit to the number of years during which the heap of incoherent and transportable materials called the Puy de Côme may remain in a stationary condition. In this place, therefore, we behold in the results of aqueous and atmospheric agency in past times, a counterpart of what we must expect to recur in future ages.

Lava of Chaluzet.—At another point, farther down the course of the Sioule, we find a second illustration of the same phenomenon in the Puy Rouge, a conical hill to the north of the village of Pranal. The cone is composed entirely of red and black scorïæ, tuff, and volcanic bombs. On its western side, towards the village of Chaluzet, there is a worn-down crater, whence a powerful stream of lava has issued, and flowed into the valley of the Sioule. The river has since excavated a ravine through the lava and subjacent gneiss; to the depth in some places of 400 feet.

On the upper part of the precipice forming the left side of this ravine,

* Scrope's Central France, p. 60, and plate.