Volcanic cones and lavas.—There are about fourteen distinct cones with craters in this part of Spain, besides several points whence lavas may have issued; all of them arranged along a narrow line running north and south, as will be seen in the map. The greatest number of perfect cones are in the immediate neighborhood of Olot, some of which (fig. 667, Nos. 2, 3, and 5) are represented in the above drawing; and the level plain on which that town stands has clearly been produced by the flowing down of many lava-streams from those hills into the bottom of a valley, probably once of considerable depth, like those of the surrounding country.

In the above drawing an attempt is made to represent, by the shading of the landscape, the different geological formations of which the country is composed.* The white line of mountains (No. 1) in the distance is the Pyrenees, which are to the north of the spectator, and consist of hypogene and ancient fossiliferous rocks. In front of these are the fossiliferous formations (No. 4) which are in shade. Still nearer to us, the hills 2, 3, 5 are volcanic cones, and the rest of the ground on which the sunshine falls is strewed over with volcanic ashes and lava.

The Fluvia, which flows near the town of Olot, has cut to the depth of only 40 feet through the lavas of the plain before mentioned. The bed of the river is hard basalt; and at the bridge of Santa Madalena are seen two distinct lava-currents, one above the other, separated by a horizontal bed of scoriæ 8 feet thick.

In one place, to the south of Olot, the even surface of the plain is broken by a mound of lava, called the "Bosque de Tosca," the upper part of which is scoriaceous, and covered with enormous heaps of fragments of basalt, more or less porous. Between the numerous hummocks thus formed are deep cavities, having the appearance of small craters. The whole precisely resembles some of the modern currents of Etna, or that of Côme, near Clermont; the last of which, like the Bosque de Tosca, supports only a scanty vegetation.

Most of the Catalonian volcanoes are as entire as those in the neighborhood of Naples, or on the flanks of Etna. One of these, called Montsacopa (No. 3, fig. 667), is of a very regular form, and has a circular depression or crater at the summit. It is chiefly made up of red scoriæ, undistinguishable from those of minor cones of Etna. The neighboring hills of Olivet (No. 2) and Garrinada (No. 5) are of similar composition and shape. The largest crater of the whole district occurs farther to the east of Olot, and is called Santa Margarita. It is 455 feet deep, and about a mile in circumference. Like Astroni, near Naples, it is richly covered with wood, wherein game of various kinds abounds.

Although the volcanos of Catalonia have broken out through sandstone, shale, and limestone, as have those of the Eifel, in Germany, to be described in the sequel, there is a remarkable difference in the nature

* This view is taken from a sketch which I made on the spot in 1830.