The section (fig. 646) is at right angles to the preceding, and cuts through the cone in the direction of the great Barranco, or from northeast to southwest.

The lowest of the two slanting lines, *m*, *i*, descending from the Caldera to the sea along the bottom of the Barranco, represents the present bed of the torrent; the upper line, *k*, *l*, the height at which beds of gravel, elevated high above the present river-channel, are visible in detached patches, shown by dotted spaces at *k*, and to the southwest of it, on the same slope. These, and the continuous stratified gravel and conglomerate lower down at *l* and *i*, are newer than all the volcanic rocks seen in this section.

The upper volcanic formation, to be described in the sequel, is traversed by numerous dikes, which could not be expressed on this small scale. The vertical lines in the lower formation represent a few of the perpendicular dikes which abound there. Countless others, inclined and tortuous, are found penetrating the same rocks. The five outliers of somewhat pyramidal shape, at the bottom of the Caldera (on each side of *m*), agree in structure and composition with the upper formation, and may have subsided into their present position, if the Caldera was caused by engulfment, or may have slid down in the form of land-slips, if the cavity be attributed chiefly to aqueous erosion.

In the description above given of the section (fig. 646), the cliffs which wall in the Caldera are spoken of as consisting of two formations. Of these the uppermost alone gives rise to vertical precipices, from the base of which the lower descends in steep slopes, which, although they have the external aspect of taluses, are not in fact made up of broken materials, or of ruins detached from the higher rocks, but consist of rocks in place. Both formations are of volcanic origin, but they differ in composition and structure. In the upper, the beds consist of agglomerate, scoriæ, lapilli, and lava, chiefly basaltic, the whole dipping outwards, as if from the axis of the original cone, at right angles varying from 10 to 28 degrees. The solid lavas do not constitute more than a fourth of the entire mass, and are divided into beds of very variable thickness, some scoriaceous and vesicular, others more compact, and even in some cases rudely columnar. All these more stony masses are seen to thin out and come to an end wherever they can be traced horizontally for a distance of half or a quarter of a mile, and usually sooner. Coarse breccias or agglomerates predominate in the lower part, as if the commencement of the second series of rocks marked an era of violent gaseous explosions. Single beds of this aggregate of angular stones and scoriæ attain a thickness of from 200 to 300 feet. They are united together by a paste of volcanic dust or spongiform scoriæ.

At one point on the right side of the great Barranco, near its exit from the Caldera, we observed in the boundary precipice a lofty column of amorphous and scoriaceous rock in which the red or rust-colored scoriæ are as twisted and ropy as any to be seen on the slopes of Vesuvius; seeming to imply that there was here an ancient vent or