

blasted rock—red, yellow, and black. Where the material erupted is only loose dust and lapilli, the sides of the crater are slopes, somewhat steeper than those of the outside of the cone.

The crater-bottom of an active volcano of the first class, when quiescent, forms a rough plain dotted over with hillocks or cones, from many of which steam and hot vapors are ever rising. At night, the glowing lava may be seen lying in these vents, or in fissures, at a depth of only a few feet from the surface. Occasional intermittent eruptions take place and miniature cones of slag and scoriæ are thrown up. In some instances, as in the vast crater of Gurung Tengger, in Java, the crater-bottom stretches out into a wide level waste of volcanic sand, driven by the wind into dunes like those of the African deserts.

A volcano commonly possesses one chief crater, often also many minor ones, of varying or of nearly equal size. The volcano of the Isle of Bourbon (or Réunion) has three craters.¹¹² Not infrequently craters appear successively, owing to the blocking up of the pipe below. Thus in the accompanying plan of the volcanic cone of the island of Volcanello (Fig. 55), one of the Lipari group, the volcanic funnel has shifted its position twice, so that three craters have successively appeared upon the cone, and partially overlap each other. It may be from this cause that some

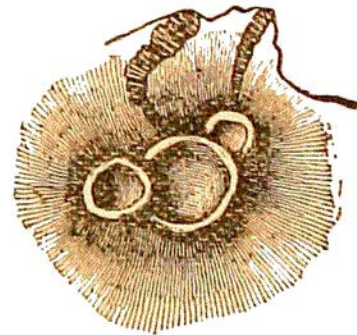


Fig. 55.—Plan of Volcanello, showing three successive craters.

¹¹² For recent information regarding this volcanic island, see R. von Dräsche, in *Verhandl. Geol. Reichsanst.* 1875, p. 266, and in *Tschermak's Min. Mittheil.* 1875 (3), p. 217 (4), p. 39, and his work "*Die Insel Réunion (Bourbon)*," 4to, Vienna, 1878. C. Vélain, "*Description géologique de la Presqu'île d'Aden, de l'île de la Réunion, etc.*," Paris, 4to, 1878; and his work, "*Les Volcans*," 1884.