

by the vast pit-crater, Kilauea, about two miles long, and nearly a mile broad. So low are the surrounding slopes that these vast craters have been compared to open quarries on a hill or moor. The bottom of Kilauea is a lava-plain, dotted with lakes of extremely fluid lava in constant ebullition. The level of the lava has varied, for the walls surrounding the fiery flood consist of beds of similar lava, and are marked by ledges or platforms (Fig. 59) indicative of former successive heights of lava, as lake terraces show former levels of water. In the accompanying section (Fig. 60) the walls rising above the lower pit ($p p'$) were found to be 342 feet high, those bounding the higher terrace ($o n n' o'$) were 650 feet high, all being composed of innumerable beds of lava, as in cliffs of stratified rocks. Much of the bottom of the lower lava-plain has been crusted over by the solidification of the molten rock. But large areas, which shift



Fig. 60.—Section of Lava-terraces in Kilauea (Dana).

their position from time to time, remain in perpetual rapid ebullition. The glowing flood, as it boils up with a fluidity more like that of water than what is commonly shown by molten rock, surges against the surrounding terrace walls. Large segments of the cliffs, undermined by the fusion of their base, fall at intervals into the fiery waves and are soon melted. Recent observations by Captain Dutton point to a diminution of the activity of this lava-crater. In Iceland, and in the Western Territories of North America, low domes of lava appear to mark the vents from which extensive basalt floods have issued.

Where the lava assumes a more viscid character, as in trachyte and liparite, dome-shaped eminences may be protruded. As the mass increases in size by the advent of fresh material injected from below, the outer layer will be pushed outward, and successive shells will in like manner be enlarged as the eruption advances. On the cessation of discharges, we may conceive that a volcanic hill formed in this way will present an onion-like arrangement of its component sheets of rock. More or less perfect examples of this structure have been observed in Bohemia, Auvergne, and