

partially cellular rock (var. 3), were seen scattered over the soil. The layers below were concealed by the soil. The layers of the same basaltic rock crop out two miles distant, and were found in scattered fragments on different parts of the ridge. The light scoria so abundant at Tafua does not occur here. All the appearances of the place are quite different from those of Tafua: the cone low and flat; the ascent very gradual; the edges of the crater broader; and the cavity not one-sixth as deep. Unlike Tafua, the mountain nearly, or quite to its summit, consists of solid lava. Cinders and scoria were therefore but sparingly ejected at the last eruption of the crater.

These accounts of the craters of the western district are necessarily imperfect, both on account of the small amount of time allotted for their examination, and because of the soil and vegetation that envelope the whole surface, scarcely leaving a single point exposed. We might have much to say of the stratification, the alternation with tufa, displacement of dikes, &c., &c., but these facts are all concealed from view. The general dip of the successive currents may be inferred from the slope of the mountain: this shows that the inclination is from three to six degrees. Even the gorges, with nearly vertical sides, that cut deep into the sides of the mountain, are equally enveloped with soil, and clothed in the same luxuriant vegetation. But along the shores the rocks are often visible, and present some facts worthy of remark.

Many of the currents have the recent aspect of the most modern volcanic products. Twisted scoria in scattered fragments mark their path over the face of the country, and the surface of the stream is drawn out in long ropy lines. This is so finely developed that even small hand specimens exhibit it perfectly; occasionally we may break off irregular cylindrical masses, not two inches in diameter, which appear as if drawn out and twisted by art. These evidences of subaerial volcanic action may be seen at Sangana, where the surface is in some parts thickly strewed with fragments of scoriaceous lava. At Apia, near the waterfall, in the stream, similar though less striking facts may be seen. Just above the fall, the stream is crossed obliquely by raised lines of rock, a foot high, running nearly parallel with the edge of the fall. They appear like the successive ridges that are common on the surface of recent lava streams, produced by the interrupted progress of the slow-moving lava. The rock is a black ferruginous basaltic lava, and has a very rugged exterior. It is like the recent lavas of Oahu and Kauai.