

lain on the flank of Etna a large sheet of ice, which, originally in the form of a thick mass of snow, was overflowed by lava, and has thereby been protected from the evaporation and thaw which would certainly have dissipated it long ago, had it been exposed to the air. The heat of the lava has not sufficed to melt it. Extensive tracts of snow were likewise overspread by lava from the same mountain in 1879. In other cases, snow and ice have been melted in large quantities by overflowing lava. The great floods of water which rushed down the flank of Etna, after an eruption of the mountain in the spring of 1755, and similar deluges at Coto-paxi, are thus explained.

One further aspect of a lava-stream may be noticed here—the effect of time upon its surface. While all kinds of lava must, in the end, crumble down under the influence of atmospheric waste and, where other conditions permit, become coated with soil, and support some kind of vegetation, yet extraordinary differences may be observed in the facility with which different lava-streams yield to this change, even on the flank of the same mountain. Every one who ascends the slopes of Vesuvius remarks this fact. After a little practice, it is not difficult there to trace the limits of certain lavas even from a distance, in some cases by their verdure, in others by their barrenness. Five hundred years have not sufficed to clothe with green the still naked surface of the Catanian lava of 1381; while some of the lavas of the present century have long given footing to bushes of furze.⁸⁸ Some of the younger lavas of Auvergne, which certainly flowed in times anterior to those of history, are still singularly bare and rugged. Yet, on the whole,

⁸⁸ On the weathering of the Etna lavas, see "Der Aetna," ii. p. 397.