

the time when volcanoes have been carefully studied, and the love of the marvellous has been less apparent in works on geology, well founded doubts have been raised respecting these direct and constant communications between the waters of the sea and the focus of the volcanic fire.* We may find a very simple explanation of a phenomenon, that has in it nothing very surprising. The peak is covered with snow during part of the year; we ourselves found it still so in the plain of Rambleta. Messrs. O'Donnel and Armstrong discovered in 1806 a very abundant spring in the Malpays, a hundred toises above the cavern of ice, which is perhaps fed partly by this snow. Everything consequently leads us to presume that the peak of Teneriffe, like the volcanoes of the Andes, and those of the island of Manilla, contains within itself great cavities, which are filled with atmospheric water, owing merely to filtration. The aqueous vapours exhaled by the *Narices* and crevices of the crater, are only those same waters heated by the interior surfaces down which they flow.

We had yet to scale the steepest part of the mountain, the Piton, which forms the summit. The slope of this small cone, covered with volcanic ashes, and fragments of pumicestone, is so steep, that it would have been almost impossible to reach the top, had we not ascended by an old current of lava, the débris of which have resisted the ravages of time. These débris form a wall of scorious rock, which stretches into the midst of the loose ashes. We ascended the Piton by grasping these half-decomposed scoriæ, which often broke in our hands. We employed nearly half an hour to scale a hill, the perpendicular height of which is scarcely ninety toises. Vesuvius, three times lower than the peak of Teneriffe, is terminated by a cone of ashes almost three times higher, but with a more accessible and easy slope. Of all

* This question has been examined with much sagacity by M. Brieslak, in his "Introduzione alla Geologia," t. ii., p. 302, 323, 347. Cotopaxi and Popocatepetl, which I saw ejecting smoke and ashes, in 1804, are farther from both the Pacific and the Gulf of the Antilles, than Grenoble is from the Mediterranean, and Orleans from the Atlantic. We must not consider the fact as merely accidental, that we have not yet discovered an active volcano more than 40 leagues distant from the ocean; but I consider the hypothesis, that the waters of the sea are absorbed, distilled, and decomposed by volcanoes, as very doubtful.