

of the upheaved mountain were least able, from their configuration and position, to offer any resistance. Cones of eruption are sometimes uplifted on these fissures; the larger ones, which are erroneously termed *new volcanoes*, are ranged together in a line marking the direction of a fissure, which is soon reclosed, while the smaller ones are grouped together, covering a whole district with their dome-like or hive-shaped forms. To the latter belong the *hornitos de Jorullo*,\* the cone of Vesuvius erupted in October, 1822, that of Awatscha, according to Postels, and those of the lava-field mentioned by Erman, near the Baidar Mountains, in the peninsula of Kamtschatka.

When volcanoes are not isolated in a plain, but surrounded, as in the double chain of the Andes of Quito, by a table-land having an elevation from nine to thirteen thousand feet, this circumstance may probably explain the cause why no lava streams are formed† during the most dreadful eruption of ignited scorix accompanied by detonations heard at a distance of more than a hundred miles. Such are the volcanoes of Popayan, those of the elevated plateau of Los Pastos and of the Andes of Quito, with the exception, perhaps, in the case of the latter, of the volcano of Antisana. The height of the cone of cinders, and the size and form of the crater, are elements of configuration which yield an especial and individual character to volcanoes, although the cone of cinders and the crater are both wholly independent of the dimensions of the mountain. Vesuvius is more than three times lower than the Peak of Teneriffe; its cone of cinders rises to one third of the height of the whole mountain, while the cone of cinders of the Peak is only  $\frac{1}{2}$  of its altitude.‡ In a much higher volcano than that of Teneriffe, the Rucu Pichincha, other relations occur

\* See my drawing of the volcano of Jorullo, of its *hornitos*, and of the uplifted *malpays*, in my *Vues de Cordillères*, pl. xliii., p. 239.

[Burckhardt states that during the twenty-four years that have intervened since Baron Humboldt's visit to Jorullo, the *hornitos* have either wholly disappeared or completely changed their forms. See *Aufenthalt und Reisen in Mexico in 1825 und 1834.*]—*Tr.*

† Humboldt, *Essai sur la Géogr. des Plantes et Tableau Phys. des Régions Equinoxiales*, 1807, p. 130, and *Essai Géogn. sur le Gisement des Roches*, p. 321. Most of the volcanoes in Java demonstrate that the cause of the perfect absence of lava streams in volcanoes of incessant activity is not alone to be sought for in their form, position, and height. Leop. von Buch, *Descr. Phys. des Iles Canaries*, p. 419; Reinwardt and Hoffmann, in Poggend., *Annalen.*, bd. xii., s. 607.

‡ [It may be remarked in general, although the rule is liable to exceptions, that the dimensions of a crater are in an inverse ratio to the elevation of the mountain. Daubney, *op. cit.*, p. 444.]—*Tr.*