

which approach more nearly to that of Vesuvius. Among all the volcanoes that I have seen in the two hemispheres, the conical form of Cotopaxi is the most beautifully regular. A sudden fusion of the snow at its cone of cinders announces the proximity of the eruption. Before the smoke is visible in the rarefied strata of air surrounding the summit and the opening of the crater, the walls of the cone of cinders are sometimes in a state of glowing heat, when the whole mountain presents an appearance of the most fearful and portentous blackness. The crater, which, with very few exceptions, occupies the summit of the volcano, forms a deep, caldron-like valley, which is often accessible, and whose bottom is subject to constant alterations. The great or lesser depth of the crater is in many volcanoes likewise a sign of the near or distant occurrence of an eruption. Long, narrow fissures, from which vapors issue forth, or small rounding hollows filled with molten masses, alternately open and close in the caldron-like valley; the bottom rises and sinks, eminences of scorix and cones of eruption are formed, rising sometimes far over the walls of the crater, and continuing for years together to impart to the volcano a peculiar character, and then suddenly fall together and disappear during a new eruption. The openings of these cones of eruption, which rise from the bottom of the crater, must not, as is too often done, be confounded with the crater which incloses them. If this be inaccessible from extreme depth and from the perpendicular descent, as in the case of the volcano of Rucu Pichincha, which is 15,920 feet in height, the traveler may look from the edge on the summit of the mountains which rise in the sulphurous atmosphere of the valley at his feet; and I have never beheld a grander or more remarkable picture than that presented by this volcano. In the interval between two eruptions, a crater may either present no luminous appearance, showing merely open fissures and ascending vapors, or the scarcely heated soil may be covered by eminences of scorix, that admit of being approached without danger, and thus present to the geologist the spectacle of the eruption of burning and fused masses, which fall back on the ledge of the cone of scorix, and whose appearance is regularly announced by small wholly local earthquakes. Lava sometimes streams forth from the open fissures and small hollows, without breaking through or escaping beyond the sides of the crater. If, however, it does break through, the newly-opened terrestrial stream generally flows in such a quiet and well-defined course, that the deep valley, which we term the crater, remains acces-