

from the fissures of the earth not only occur in the districts of still burning or long-extinguished volcanoes, but they may likewise be observed occasionally in districts where neither trachyte nor any other volcanic rocks are exposed on the earth's surface. In the chain of Quindiu I have seen sulphur deposited in mica slate from warm sulphurous vapor at an elevation of 6832 feet* above the level of the sea, while the same species of rock, which was formerly regarded as primitive, contains, in the Cerro Cuello, near Tiscan, south of Quito, an immense deposit of sulphur imbedded in pure quartz.

Exhalations of carbonic acid (*mofettes*) are even in our days to be considered as the most important of all gaseous emanations, with respect to their number and the amount of their effusion. We see in Germany, in the deep valleys of the Eifel, in the neighborhood of the Lake of Laach,† in the crater-like valley of the Wehr and in Western Bohemia, exhalations of carbonic acid gas manifest themselves as the last efforts of volcanic activity in or near the foci of an earlier world. In those earlier periods, when a higher terrestrial temperature existed, and when a great number of fissures still remained unfilled, the processes we have described acted more powerfully, and carbonic acid and hot steam were mixed in larger quantities in the atmosphere, from whence it follows, as Adolph Brongniart has ingeniously shown,‡ that the primitive vegetable world must have exhibited almost every where, and independently of geographical position, the most luxurious abundance and the fullest development of organism. In these constantly warm and damp atmospheric strata, saturated with

* Humboldt, *Recueil d'Observ. Astronomiques*, t. i., p. 311 (*Nivellement Barométrique de la Cordillère des Andes*, No. 206).

† [The Lake of Laach, in the district of the Eifel, is an expanse of water two miles in circumference. The thickness of the vegetation on the sides of its crater-like basin renders it difficult to discover the nature of the subjacent rock, but it is probably composed of black cellular augitic lava. The sides of the crater present numerous loose masses, which appear to have been ejected, and consist of glassy feldspar, ice-spar, sodalite, hauyne, spinellane, and leucite. The resemblance between these products and the masses formerly ejected from Vesuvius is most remarkable. (Daubeney *On Volcanoes*, p. 81.) Dr. Hibbert regards the Lake of Laach as formed in the first instance by a crack caused by the cooling of the crust of the earth, which was widened afterward into a circular cavity by the expansive force of elastic vapors. See *History of the Extinct Volcanoes of the Basin of Neuwied*, 1832.]
—Tr.

‡ Adolph Brongniart, in the *Annales des Sciences Naturelles*, t. xv., p. 225.