and more basic than those which flow out from the lip of the crater.[68]

As soon as the molten rock reaches the surface, the superheated water-vapor or gas, dissolved within its mass, escapes copiously, and hangs as a dense white cloud over the moving current. The lava-streams of Vesuvius sometimes appear with as dense a steam-cloud at their lower ends as that which escapes at the same time from the main crater. Even after the molten mass has flowed several miles, steam continues to rise abundantly both from its end and from numerous points along its surface, and continues to do so for many weeks, months, or it may be for several years.

Should the point of escape of a lava-stream lie well down on the cone, far below the summit of the lava-column in the funnel, the molten rock, on its first escape, driven by hydrostatic pressure, will sometimes spout up high into the air—a fountain of molten rock. This was observed in 1794 on Vesuvius, and in 1832 on Etna. In the eruption of 1852 at Mauna Loa, an unbroken fountain of lava, from 200 to 700 feet in height and 1000 feet broad, burst out at the base of the cone. Similar "geysers" of molten rock have subsequently been noticed in the same region. Thus in March and April, 1868, four fiery fountains, throwing lava to heights varying from 500 to 1000 feet, continued to play for several weeks. According to Mr. Coan, such outbursts take place from the bottom of a column of lava 3000 feet high. The volcano of Mauna Loa strikingly illustrates another feature of volcanic dynamics in the position and outflow of lava. It bears upon its flanks at a distance

[68] "Les Volcans," p. 36. For references relating to this island, see p. 415.