crater, after the lava ceases to flow, and sometimes at noon day involve the surrounding country in total darkness. Towards the conclusion, the colour of the volcanic sand changes to white: it consists of pumice in a finely comminuted state. During an eruption of Ætna, a space of one hundred and fifty miles in circuit was covered with a stratum of volcanic sand or ashes twelve feet thick. When the lava flows freely, the earthquakes and explosions become less violent; which proves that they were occasioned by the confinement of the erupted matter, both gaseous and solid. The smoke and vapour of volcanoes are highly electrical.

The quantity of lava thrown out during a single eruption of a volcano, seems almost incredible to those who have not observed volcanic countries. Kircher, in his *Mundus Subterraneus*, lib. vi. cap. 8., published in 1660, says, that the ejections of Mount Ætna would if collected, form a mass twenty times as large as the mountain itself; and a few years afterwards, viz. in 1669, the same mountain covered with a fresh current of lava eighty four square miles; and again in 1775, according to Dolomieu, the same volcano poured out another stream of lava, twelve miles in length, one mile and a half in breadth, and two hundred feet in height. Hence it is evident that the seat of the fire is not in the mountain itself, but deep in the earth: the volcano is not the furnace, but the chimney; and it will be necessary to bear this in mind, if we would form an adequate idea, of the extensive effects of volcanic action. Seneca appears to have formed a distinct notion of the seat of volcanic fire, when he remarks, that the volcano does not supply the fire, it only affords it a passage "*in ipso monte non alimentum habet sed viam.*" The largest known current of modern lava was formed by a volcano in Iceland in 1783; it is sixty miles in length, and twelve broad, equalling in extent any continuous rock formation in England. The most extraordinary volcanic eruption recorded in history for the extent of its effects, took place in Sumbawa, one of the Molucca Islands, in April, 1815. It is described in the history of Java, by Lieutenant Governor Raffles.

"This eruption extended perceptible evidences of its existence over the whole of the Molucca Islands, over Java, a considerable portion of Celebes, Sumatra, and Borneo, to a circumference of a thousand statute miles from its centre, by tremulous motions and the report of explosions; while within the range of its more immediate activity, embracing a space of three hundred miles around, it produced the most astonishing effects, and excited the most alarming apprehensions. In Java, at the distance of three hundred miles, it seemed to be awfully present. The sky was overcast at noon day with clouds of ashes; the sun was enveloped in an atmosphere, whose 'palpable' density he was unable to penetrate; showers of ashes covered the houses, the streets and the fields, to the depth of several inches; and amid this darkness, explosions were heard at intervals, like the report of artillery or the noise of distant thunder.