

existing volcanic vent, as to render it probable that the latter also have been poured forth from the interior of the earth. We further find the rocks adjacent to volcanic craters, intersected by rents and fissures, which have been filled with injections of more recent lava, forming transverse walls or dykes. Similar dykes occur not only in districts occupied by basalt and trap rocks, at a distance from the site of any modern volcanic activity; but also in strata of every formation, from the most ancient primary, to the most recent tertiary (see Plate 1. section f 1—f 8. h 1—h 2. i 1—i 5): and as the mineral characters of these dykes present insensible gradations, from a state of compact lava, through infinite varieties of greenstone, serpentine, and porphyry to granite, we refer them all to a common igneous origin.

The sources from which the matter of these ejected rocks ascends are deeply seated beneath the granite; but it is not yet decided whether the immediate cause of an eruption be the access of water to local accumulations of the metalloïd bases of the earths and alkalies; or whether lava be derived directly from that general mass of incandescent elements, which may probably exist at a depth of about one hundred miles beneath the surface of our planet.\*

\* See Arago, Cordier and Fourier on the internal temperature of the earth.