

ferous iron constitute a large proportion of a rock, it is termed *basalt*; when the structure is slaty, it forms *clinkstone*. The same substance forms augite when it cools rapidly, and hornblende when the refrigeration takes place slowly. The lavas ejected from Vesuvius present considerable variety of appearance and composition: they occur in the state of pumice stone; vesicular scoriæ, that is, cinders full of hollow cells; compact heavy masses of various shades of red, yellow, brown, and grey; which are sometimes spotted internally with red, yellow, and grey. Mica occurs plentifully in some recent trachytes, but crystallized quartz and hornblende, so abundant in granite, are extremely rare. Pumice is supposed to have been produced by a considerable disengagement of vapour having taken place while the lava was in a plastic, but not entirely in a fluid state; the escape of the gaseous matter giving rise to the porous structure of this substance. Dolomieu observes, that some kind of pumice seems to be derived from the fusion of granite, since it contains fragments of quartz, mica, and felspar, and when such fragments were exposed to heat they were converted into a substance resembling the surrounding pumice. But I will not embarrass you by naming and describing minerals, the nature of which cannot be thoroughly understood without the patient examination of specimens. The number of simple minerals found in the rocks of Vesuvius

\* Scrope on Volcanoes, p. 85.