

which the common consent of nearly all modern geologists and chemists refers to the action of fire. The agency of central heat, and the admission of water to the metalloïd bases of the earths and alkalies, offer two causes which, taken singly or conjointly, seem to explain the production and state of the mineral ingredients of these rocks; and to account for many of the grand mechanical movements that have affected the crust of the globe.

The gradations are innumerable, which connect the infinite varieties of granite, syenite, porphyry, greenstone, and basalt with the trachytic porphyries and lavas that are at this day ejected by volcanoes. Although there still remain some difficulties to be explained, there is little doubt that the fluid condition in which all unstratified crystalline rocks originally existed, was owing to the solvent power of heat; a power whose effect in melting the most solid materials of the earth we witness in the fusion of the hardest metals, and of the flinty materials of glass.*

* The experiments of Mr. Gregory Watt on bodies cooled slowly after fusion; and of Sir James Hall, on reproducing artificial crystalline rocks, from the pounded ingredients of the same rocks highly heated under strong pressure; and the more recent experiments of Professor Mitscherlich, on the production of artificial crystals, by fusion of definite proportions of their component elements, have removed many of the objections, which were once urged against the igneous origin of crystalline rocks.