

This analogy has even been regarded as an identity of structure, and the idea has found supporters that the schistose rocks have been in a condition similar to or identical with that of many volcanic masses, and have acquired their peculiar fissility by differential movements within the viscous or pasty magma, the solidified minerals being drawn out into layers in the direction of shearing. Daubrée, availing himself of the researches of Tresca on the flow of solids (p. 537), has endeavored to imitate artificially some of the phenomena of foliation by exposing clay and other substances to great but unequal pressure.⁶⁹ That some of the lenticular wavy laminæ of different minerals in gneiss and other foliated rocks may be due to original segregation or flow in still unconsolidated igneous rock seems to be rendered highly probable by the curious analogies to this structure to be observed in the deeper parts of large intrusive bosses of rock, such as granite, diabase, and gabbro. These layers may thus be the remains of the oldest structure now retained by the gneiss. But subsequent pressure and deformation have frequently produced a foliation cutting obliquely across this original lamination and even entirely effacing it.

That the schistose structure has been largely induced by mechanical movements cannot be doubted. The evidence in the field and under the microscope has now rendered it certain that many rocks have been subjected to enormous mechanical stresses within the earth's crust; that they have yielded to the pressure both by disruption and by molecular shearing, that in some cases they have been crushed into minute fragments or dust, and have then been made to flow and to simulate the flow-structure of lava, while, in other

⁶⁹ "Geologie Experimentale," p. 410.