

talline schists. As has already been pointed out (p. 1002), it is now well established that granite, besides breaking through the old rocks and forming huge bosses, as well as abundant veins among them, has sometimes been introduced into their substance in such a way that they seem to be permeated by the granitic material. Minute layers and lenticles of this material, quite uncrushed, may be traced between the foliation planes of granulitic gneisses and different schists. But where subsequent movement has crushed and drawn out these intercalated layers, younger gneiss is produced that simulates with extraordinary closeness some aspects of the most ancient and, so to say, original gneisses.⁶ This transformation appears to take place even among schists that can be shown to have been originally sedimentary rocks. So that by a new pathway of inquiry we are brought once more to the old doctrine of the cycle of change through which the materials of the earth's crust pass. The most ancient gneisses exposed to disintegration on the earth's surface have furnished materials for the formation of sedimentary deposits, which, after being deeply buried within the earth's crust, crushed, plicated, and permeated with granitic material, present once more the aspect of the old gneisses from which they were in the first instance derived.

It is only when the complex tectonic relations of the several masses composing the oldest crystalline rocks are closely studied that we can adequately realize how hopeless would be the attempt to establish anything of the nature of a stratigraphical sequence among them. Where different eruptive materials present proofs of successive intrusion, we

⁶ See observations of J. Horne in "Geological Survey Report," Report of the Science and Art Department for 1892.