

complex assemblage of rocks constituting the lowest gneiss there are not only differences of composition and structure, but also differences of relative age. Some portions of the series can be distinctly seen to have been intruded into others. True dikes can be traced among them both of acid and basic composition. In the northwest of Scotland, for example, the general body of gneiss is traversed by a multiplicity of dikes, cutting across the oldest foliation of the gneiss in a general northwesterly direction. A detailed study of such an area reveals the fact that the fundamental rocks represent a prolonged series of igneous protrusions. As this complicated mass of eruptive material has subsequently undergone profound alteration by dynamo-metamorphism, the difficulties in unravelling its history need cause no surprise.

Leaving out of account the dikes which undoubtedly mark later injections of igneous material, and confining our attention to the general mass of gneiss in its variations from an amorphous or granitoid condition through the coarse banded varieties to the finer schistose types, we may pursue the history of these puzzling rocks by comparing them with the larger intrusive bosses and sills that have accompanied the volcanic eruptions of all geological periods. In these deep-seated and slowly cooled masses of igneous material, as has already been pointed out (p. 962), we may frequently observe evidence of the segregation of the component minerals in bands or irregular patches. Such a segregation seems to have taken place sometimes after the erupted rock had come to rest, sometimes while it was still in movement. In the latter case the layers of separated materials may sometimes have been dragged forward so as to acquire a somewhat banded or streaky structure. How far