

certain that they possessed this banding and were thrown into gentle folds before the intrusion of the later dykes.

On referring to the map showing the surface geology of the Assynt district, it will be seen that the Archæan area is traversed by narrow dykes of igneous material (B<sup>g</sup> on map) trending west-north-west or north-west. In certain belts they occur in great numbers, and their intrusive character is clearly displayed. The dominant types in the Assynt district comprise ultrabasic rocks (peridotite) and basic, including dolerite and epidiorite. These dykes frequently form prominent features in the landscape, sometimes giving rise to ridges and sometimes to clefts or "slacks" in the midst of the surrounding gneiss.

A further important feature in the history of the Archæan gneiss remains to be noticed, for, after the uprise of the great series of intrusive dykes, the whole region was subjected to mechanical stresses that profoundly affected the pyroxenic gneisses and the dykes which traverse them. These lines of movement may be described as lines of shearing or disruption lines, which trend in certain definite directions, and give rise to molecular re-arrangement of the minerals and the development of newer foliation both in the gneiss and in the dykes. The gneisses are thrown into sharp folds, and are traversed by zones or belts of secondary shearing, in which the pyroxenic rocks are converted into biotite and hornblende gneisses. In like manner, the basic and ultrabasic dykes appear frequently as phacoidal masses in the shear zones, and where the latter coincide more or less with the original trend of the dykes, or cross them, then the peridotite and epidiorite intrusions are changed into talcose schist and hornblende schist respectively. A glance at the Geological Survey 1-inch maps of the Assynt district (Sheets 107 and 101) shows the great number of these lines of movement. Further reference will be made to these features in connection with the rock-basins of that district. At present it is important to remember that all these movements took place before the deposition of the Torridon Sandstone.

This undulating plateau of Archæan gneiss was originally covered by a vast pile of sandstones, conglomerates, and shales (Torridonian, *t* on map), which has been largely removed by denudation. The unconformability at the base of the Torridon Sandstone represents a vast interval of time, during which the old land-surface of Archæan gneiss was carved into hill and valley. On the north-west slope of Quinag a remnant of this ancient topography is still to be found, where a hill of crystalline gneiss rises to a height of 800 feet in the overlying sandstone. One of the striking features in the landscape of that region is the great western escarpment of Torridon Sandstone, reaching in places an elevation of 1000 feet above the Archæan plateau. That cliff is not continuous, for the sandstones on Quinag north of Loch Assynt cannot be traced without a break to those of Cul Mor and Cul