

With the passage of the rock into anorthosite gabbro, recrystallization always comes much more largely into play, because of the more varied mineral composition, facilitating corrosion and causing more or less foliation. It is thought that there is here a reasonable and likely the true explanation of the *apparent* less metamorphosed condition of the anorthosite.

The Grenville and Saranac rocks are apparently more thoroughly metamorphosed than the later intrusions. They are more uniformly granular, better foliated, much more completely recrystallized and with a usual utter lack of all traces of original textures. These same characters are also found in the inclusions of these rocks which occur in the intrusives and seem to the writer to indicate that they were somewhat metamorphosed, at least, before the time of the intrusions. While no doubt the heat and pressure incident on their intrusion must have exerted considerable effect on the older rocks, the evidence does not point to this as of prime importance in their metamorphism.

But the distinction between the two sets of rocks is in many ways not a sharp one and is difficult to apply. The more thorough foliation and complete recrystallization of the Grenville rocks may be accounted for by the fact that they were originally fine grained sedimentary rocks, and that their metamorphism is not necessarily more extreme than that of the intrusives. But the more metamorphosed character of the igneous Saranac rocks can not thus be accounted for. The whole problem of their age and relationships is one of such uncertainty however that it is somewhat unsafe to emphasize comparisons between them and the intrusives. They are cut in places by small masses of the intrusives and they must occur as inclusions in them. The difficulty of the whole matter arises from the fact that the Saranac rocks are so similar to the more gneissoid phases of the granite, syenite and gabbro masses that it is frequently impossible to tell with which rock one is dealing. Small, later intrusive masses in the Dannemora rocks may be so thoroughly gneissoid as to appear like an integral part of the group. Specially among the granitic Saranac gneisses traces of cataclastic structure are often found, and of igneous textures; yet