

which about 1000 square miles is anorthosite occurring as a series of great intrusions.

As a result of the various petrographical examinations undertaken, Dr. Adams has divided the rocks occurring there into four classes.

1. Anorthosites and granites of igneous origin.

2. "Augen" gneisses, granulites and foliated anorthosites, genetically connected with the last group and largely if not exclusively of igneous origin also. The structure characteristic of this class is the cataclastic or granulated structure formed by the mechanical breaking down of the web of the rock under movements induced by great pressure, which movement produced in the rock a foliation more or less distinct according to their intensity. By "leaf gneisses" are understood very finely foliated gneisses very rich in orthoclase and containing numerous thin leaves of quartz—they are usually almost free from iron-magnesia constituents.

3. A series of crystalline limestones and quartzites together with certain gneisses usually found associated with them and which are probably wholly or in part of sedimentary origin. In these rocks the granulated structure is very subordinate or entirely absent. They are characterized by a very extensive recrystallization with the development of new minerals, they also differ from the rocks of classes 1 and 2 in chemical composition.

4. Pyroxene gneisses, pyroxene granulites and allied rocks whose origin is as yet doubtful.

In regard to class 2. there can be no doubt as to their origin as all possible gradations may be seen from the massive variety in which the structure is that of an ordinary plutonic rock to those perfectly foliated where the rock is seen to be in an advanced stage of granulation.

The quartzites included under the *third class* referred to as forming part of the Laurentian are entirely crystalline and nothing has been detected which distinctly proves them to be of clastic origin although so eminent an authority as Professor Rosenbusch is quoted as saying that the specimens from one locality present structures which indicate that the rock was originally a sandstone.