

offered to the Logan Club for the consideration and discussion of its members.

As stated by Dr. Adams and the writer in a previous paper, read before the Geological Society of America at the winter meeting of 1896, the rocks exposed within the area under examination belong to several sub-divisions of the Archæan.

1. Laurentian ; 2nd, Grenville Series ; 3rd Hastings Series.

The Laurentian covers by far the greater part of the area in question. Briefly stated it is now believed to consist of an extremely complicated series of intrusions, very approximately synchronous, representing plutonics of relatively greater or less basicity. These gave rise to a complex of irruptive rocks, which differ in no essential respect save that of a somewhat persistent foliation from the normal or massive types of the granite, diorite and gabbro families. The Grenville Series, on the other hand, comprises a great development of crystalline limestones, associated with certain fine-grained gneissic rocks whose general appearance and microscopic structure mark them as highly altered sedimentaries. In regions further to the east, where precisely similar rocks have been examined in detail by Dr. Adams, it has been shown that they likewise possess a chemical composition closely analogous to that of clay-slate.

The relations of these two members of the Archæan in Central Ontario, suggests in the strongest manner that in the Grenville Series we have a truly clastic group of strata which has slowly sunk down into and been invaded by much greater volumes of the granites and gneisses of the Laurentian when these latter were in a plastic condition. The limestones are very highly metamorphosed, having in most cases become thoroughly recrystallized, and now present the characters of coarse, although often more or less impure marbles. The contact between the gneisses and granites of the Laurentian on the one hand and the limestones and associated rocks of the Grenville Series on the other, is, wherever examined, one of intrusion.

Towards the south and south-east, the region is underlain by rocks of the so-called Hastings Series, consisting principally