

tances. Whether this denudation extended everywhere deep enough to remove all surface volcanic material, and to leave only deep seated igneous material, is undetermined. At the beginning of the Lower Huronian time, the Basement Complex was, in the Lake Superior region, a universal system.

*The Lower Huronian.*—After the forces of erosion had nearly exhausted themselves, there was the first advance of the sea over the Lake Superior region of which we have any evidence, as a result of which the Lower Huronian was deposited.

The well-known characteristic rocks of the Lower Huronian, are: (1) conglomerates, quartzites, quartz-schists and mica-schists, (2) limestones, (3) various ferruginous schists, (4) basic and acid eruptives, which occur both as deep seated and as effusive rocks. The order given, with the exception of the eruptives, is the order of age from the base upward.

The inferior formation is usually a quartzite or a feldspathic quartzite. Where metamorphism has been severe it passes into a quartz-schist, mica-schist or gneiss. The lowest horizon of the formation is in places a coarse conglomerate, and this when metamorphosed may become a conglomerate-schist. This conglomerate is of two types, depending upon the character of the underlying formation, which is here granitic and there schistic. The limestone formation, when at its maximum, is of very considerable thickness. The limestone is magnesian and so very crystalline as to make the name marble appropriate. It frequently contains a considerable amount of chert. In places it may be divided into two horizons, one of which is nearly pure marble, and the other nearly pure chert. At other times the limestone becomes very siliceous by a mingling of fragmental quartz, while zones of wholly fragmental material may occur. These impure phases are often at the lower part of the limestones, where they may be considered as a transition from the underlying formation. The formation overlying the limestone is usually known as the iron-bearing member, since it contains all the ore bodies of the Lower Huronian. It has varied aspects, but the different varieties grade into one another both vertically and