Stratigraphical Structure.—In the foregoing pages, I think I have shown that there is a strongly marked lithological difference between the almost horizontal and unaltered Animikie and the folded crystalline Huronian schists of Lake Superior. Now I will endeavor to prove by stratigraphical evidence that the difference is conclusive.

Prof. Irving shows that the Animikie beds on the north shore of Lake Superior and the Penokee-Gogebic beds of the south shore, in Wisconsin and Michigan, belong to the same horizon and that wherever they are exposed, with the exception perhaps of the Knife Lake area, as on the south shore, along their strike for some sixty miles, and on the north shore in the same way, from Thunder Bay, to Mississippi River, a stretch of over two hundred miles, they present a simple flat bedding with a moderate dip, always towards the great basin of Lake Superior; and that their position, as far as known, is always next underneath the Keweenian group, which agrees precisely with the conditions of the latter or overlying group in relation to the Lake Superior synclinal. He shows also that the folded schists of the north shore and those of the Marquette and Menominee districts are the same formation and that they are characterised by irregular, steep, complex cleavage or bedding, conspicuously different from the simple flat bedding of the Animikie rocks, all of which, I think, no one can doubt; at least it agrees completely with my knowledge of the two formations. But when he claims in his hypothesis, that this broad simple trend of the Animikie under the Lake Superior basin remained undisturbed at the time of the steep folding of the Huronian, I cannot agree with him. It seems clear, and I think Prof. Irving's own showing confirms it, that the Animikie and Keweenian strata must have been comparatively level during the building up of the latter formation, which is now seen on both sides of the lake dipping towards each other underneath the Lake Superior basin. Therefore, the sinking of the strata in the middle of the lake must have taken place after the building up of the Keweenian group, and before the deposition of the now flat-lying Sault Ste. Marie sandstones. The once molten matter, which constitutes the bulk of the Keweenian strata, must have presented a tolerably level surface over this vast area, at the time of the solidification. It seems plain that the broad geological downward bend or synclinal that forms the geological basin of Lake Superior, could not have resulted concomitantly with the close folding of the Huronian strata, as inferred by Prof. Irving in his hypothesis. No one, I think, will claim that the folding of the Archæan strata occurred after the building up of the Keweenian group.

I have traversed, in considerable detail, almost all the Huronian folded schist areas lying between Michipicoten and Lake of the Woods. I have seen the Marquette schist-formation and spent a good deal of time in examining the folded schist-belt on the South Range, south of the Keweenian or Native Copper Range lying to the south of Ontonogon, Michigan. I have found the majority of the strata of each of these areas to present strongly the Huronian greenish chloritic aspect previously mentioned. I have also found these strata almost invariably highly inclined or nearly vertical, and associated with gneiss, syenite and granite; often interstratified with and intersected by the latter two, in which relation the Animikie strata are never found.

This belt of chloritic and greenstone schists occupies the greater part, if not the whole of the south half of Town 46 N. in Range 39 and 40 W. These schists stand on edge or are highly inclined, striking eastward across the middle branch of Otonagon River towards