

To the north the explorations of McOuatt and Low have established the existence of another large and important outlier of undisturbed Paleozoic rocks over 100 miles in extent, about 150 miles beyond Lake St. John, at Lake Mistassini. These rocks are chiefly limestone in which as yet no fossils have been found, and which are referred provisionally to the Cambrian from certain resemblances to the flat strata of the east coast of Hudson's bay which are supposed to be of that age. These latter rocks occur along the East-main coast, resting in undisturbed attitudes upon the Archean. Inland from this coast, also, Mr. Low found in the drift which comes from the east, or the interior of Labrador, a limestone boulder containing Silurian fossils, which indicates the presence of an outlying area of such rocks in that region.*

On the upper Ottawa, in the vicinity of Pembroke, we find extensive Cambro-Silurian outliers as much as 50 miles from the edge of the present main Paleozoic basin. Other outliers are also found on the islands of Lake Nipissing, and on Lake Temiscaming nearly 100 miles north of Lake Nipissing. There is thus good reason for supposing that the Paleozoic seas extended far over the whole of the upper Ottawa country.

The great Siluro-Devonian basin of the west side of James's bay extends southward to within 100 miles of the north shore of Lake Superior, and farther west the rocks of the Nipigon basin extend northward for 100 miles. The former extends south and the latter north of the 50th parallel of latitude, and the east and west distance between the two basins along the parallel is only about 100 miles. It is entirely probable that both of these basins only represent what is left by erosion of a much more extensive distribution of the respective formations constituting them; and that they do not in reality correspond in area to the original basins of deposition, but are rather basins of shelter from erosion, such as all the Paleozoic outliers appear to be.

On the southwest side of Hudson's bay there is another extensive area of Silurian rocks, traversed by the lower stretches of the Churchill, the Nelson, the Hayes, and the Severn rivers. These rocks resemble those of the same age in the basin of the Red river and Lake Winnipeg, both as regards their fossil remains and their lithological characters. The Hudson's bay area of these rocks is separated from that on Lake Winnipeg by about 200 miles of Archean country, with no prominent elevations between, and it is therefore quite probable that they were once connected, and that the formations of which they are constituted extended continuously across this northwestern arm of the V-shaped Archean "nucleus." An outlying area of sandstones of unknown age also rests upon the Archean at the east end of Athabasca lake.

Thus, considering the very limited extent to which this Archean "nucleus"

* Geol. Survey of Canada, Annual Report, Vol. III, 1887, Part J, p. 59.