

NOTES ON THE PLEISTOCENE OF THE NORTH-WEST TERRITORIES  
OF CANADA, NORTH-WEST AND WEST OF HUDSON BAY.<sup>1</sup>

By J. BERR TYRRELL, M.A., B.Sc., F.G.S.

**I**N the extreme northernmost part of Canada, lying between North Latitudes  $56^{\circ}$  and  $68^{\circ}$  and West Longitudes  $88^{\circ}$  and  $112^{\circ}$ , is an area of about 400,000 square miles, which had up to the past two years remained geologically unexplored.

In 1892 the Director of the Geological Survey of Canada sent the writer to explore the country north of Churchill River, and south-west of Lake Athabasca; in 1893 the exploration was continued northward, along the north shore of Athabasca Lake, travelling from the east end of Lake Athabasca across the country in canoes to the west end of Chesterfield Inlet, and thence continuing in canoes along the shores of Hudson Bay almost to Churchill, from which place an overland journey was made to Winnipeg, Manitoba.

The south-western half of the country traversed in these two summers is more or less thickly covered with coniferous forest, while the north-eastern half is devoid of trees, and is generally covered with stunted grasses or lichens.

North of Churchill River the country is underlain by red and grey Laurentian granites and gneisses, with a fairly persistent strike in a south-westerly direction.

South of Lake Athabasca and Black River these Laurentian rocks are overlain by horizontal red sandstones and conglomerates, occasionally cut by trap dykes, which probably represent the Kewenawan sandstones of Lake Superior, and are therefore of Cambrian age, though no fossils were found in them. Athabasca, Black, Wollaston, and Cree Lakes lie along the line of contact of these sandstones and the underlying Archæan rocks.

The north shore of Lake Athabasca is composed of Laurentian gneiss, and Huronian quartzite, conglomerates, and schists, which in one place were found to be associated with a large deposit of hæmatite. The country crossed from Lake Athabasca to Doobau Lake is underlain by Laurentian gneiss, which, however, is often hidden by extensive deposits of Boulder-clay.

In one locality a small outline of unaltered fossiliferous Ordovician limestone was found, very similar in character to the white limestone of the Winnipeg Basin.

On Doobau Lake the Kewenawan sandstones and conglomerates were again discovered, and the country lying between this lake and the head of Chesterfield Inlet was found to be largely underlain by these rocks. The north side of Chesterfield Inlet is generally red and grey Laurentian gneiss, while the greater part of the shore of Hudson Bay for 150 miles south of the Inlet is composed of green Huronian schists cut by many quartz veins, and sprinkled through with particles of copper pyrites.

The whole of this region shows abundant evidence of having been comparatively recently covered with a mantle of ice, and even

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