EVIDENCE OF DONALDSON BOGART DOWLING, B.Ap.Sc., OF THE GEOLOGICAL SURVEY.

Mr. Dowling explained that his experience of the country under investigation dated from a trip by Lake Athabaska through Reindeer lake and back to the Churchill, and then through to Prince Albert, in 1892. Then in 1899 a trip through from Fort à la Corne down the Saskatchewan through to the Burntwood river, touching the Churchill again below where he was before. Then he made a trip down to James bay and through the country on the western corner of the bay.

For a great part of this country around Hudson bay and James bay, in Keewatin, from the eastern end of Lake Athabaska eastward to Hudson bay, and southward around the southern part of the bay, there is a sloping basin, which slopes towards the central part of the continent, but it is not a heavy slope. It is a very gentle, undulating plain, not broken into rough hills, but mammalated, gentle rolling in every direction. The lowest point in this would probably be in the centre of the district outlined, the Nelson river. That river does not flow in a valley. It simply occupies the lower portion of a depression. There is an easy depression up and down again on both sides. The river itself does not keep a channel, but flows from one basin to another, spilling from one lake into another until it gets down near the bay, and then it cuts some crevices in the limestone, which is lying just on top of the rocky country witness had mentioned.

GEOLOGICAL HISTORY.

As to the soil, a great deal of this country has been swept clear of the old rotten rock which makes up our soil. This stuff has been carried away to the southern part, and behind has been left a lot of the coarser material which goes to make up soil even yet, but after the glacier had swept over the country it did some good by acting as a dam, and holding back some of the water which resulted from its melting, forming lakes in its front, and in these lakes was carried back some of the finer material which helps to make up the soil. Thus in Manitoba we have the bed of the old Lake Agassiz, but around James bay and Hudson bay we can assume first of all that the glacier which swept Keewatin, and came from the northeast, swept the southern part of Hudson bay and part of Keewatin, and stopped in the vicinity of Nelson river and Lake Winnipeg and so on to the south. Then before it started to retreat, another glacier from northern Keewatin at its centre, near Cherterfield Inlet, sent ice south along the face of its first glacier, and as it was melted back again it left a body of water in front of both glaciers. Then we have a triangle outlined by the Nelson river on the east, the Burntwood river and Burntwood lake on the west, a narrow triangular strip in the Nelson river valley, between the Nelson river and the Churchill, which is covered to a depth of 100 feet, by a deposit of clay, fine clay and silt, with, on its western side, some sand occasionally interbedded and sometimes with deep soil along the western margin, and along the eastern more bouldery. You would imagine those boulders had dropped over the edge of the ice into the lake and were left there. East of the Nelson river the deposit of clay and boulders is very inconsiderable. There is hardly any. Just what is left now is what was in the ice when it stopped—it melted away and left the boulders and some clay there.

West of this clay plateau, over the country towards Ranger lake, there is a similar condition prevailing. The country has been swept bare, and in the depressions you will find clay deposits with boulders. The hill tops will resemble our Laurentian hills to the north, reddish granite with a few trees, and you see the colour of the rocks on