

With regard to harbours on James bay, Dr. Bell stated that there are plenty of harbours on the east side from Rupert's bay northward. The water is a good deal lower than it was in Hudson's time. There might have been a harbour at the mouth of the Nottaway river at that date. Henry Hudson came there in a small ship, and the water was deeper then. Geologists speak of the land rising, but in the present case it might be correct to say that the sea is falling. The sea does not usually subside, but the general subsidence of the water in the north polar regions is from a different cause altogether. The ice cap which forms during some small geological period, say two or three hundred thousand years, changes from one pole to the other, owing to the movement of the earth, the procession of the equinoxes, &c. The south polar continent is covered with an ice-cap, probably two miles thick; and this will add a great weight—counterpoise which might change the centre of gravity of the whole earth, say 500 feet. This would lower the sea, say 3,000 feet at the north pole. Witness had no doubt the centre of gravity of the whole earth may have been moved 500 feet to the south, and this would draw the sea in that direction, leaving some of the northern region partly dry. It is like a large portion of the earth rising out of the water, but it may really be the sea that has retired and left the northern regions dry, or the waters shallower. At any rate the water in Hudson bay is receding.

The Hon. Mr. Power remarked that on the Atlantic coast of Nova Scotia and on the coast of New England the sea is gaining on the land comparatively fast, and asked if that was not rather inconsistent with the theory expounded by the witness.

The latter replied, 'Yes, if the general facts are true.' He went on to say he did not know as to that. The two cases in Nova Scotia given by Sir William Dawson had been shown not to be due to the general subsidence of the land, but to a sliding in of the land at these points. The nature of the earth in the background is such that it pushes that which is next to the sea into the water, submerging stumps, and giving the appearance of subsidence.

#### THE SHALLOWS OF JAMES BAY.

Dr. Bell said he did not know of any good harbour at the head of James bay, say 40 miles on either side of the boundary between Ontario and Quebec. There is an archipelago of islands from Sherrick's mount, north of Rupert's House, for a long way up the coast, and behind these islands there seem to be numerous places. He could not say off hand if there is a place for a harbour at the Nottaway river. At Moose Factory you have to go nine or ten miles out to sea to get water deep enough to float a ship. On the other side of James bay it is still worse. In Rupert's bay there are channels like ditches cut through the level mud. The Hudson Bay Company sends cut men to drive stakes for beacons there, and they put brushy tops on them. They can do this work by walking on the mud with long boots. There is a narrow channel containing the river, say 10 feet deep at low tide, passing out. There is such a channel running out from the mouth of the Nottaway river northwestward, and it is joined at right angles by a similar channel from the Rupert river; but the Nottaway is an immense stream, twice as large as the Ottawa. Those channels meet and they pass by Stag Rock out to Stag island before they get deep enough.

James bay has a sufficient depth of water for safe navigation out in the middle; but there is a great breadth of shallow water along the west side. At low tide you could not pass anything there. There is an island on that side called Akimiski, which means 'slippery clay,' and between this island and the shore the bottom is level and covered with boulders, and that condition continues all the way down. He had tried to pass through there in a canoe and had been left dry at low tide. There is mud all around the head of the bay till you get north of Sherrick's mount on the east side. The first time the witness crossed James bay was in 1875. He was sailing across the bay from Moose Factory to Ministickwatin, and was almost out of sight of the low land. He asked the Indians how deep the muddy water was, and one of them said, 'I will soon