

for the sake of breaking it. Witness never heard that the strait was frozen across in winter. There is ice there, but always more or less open water with it, at all times. Witness had heard of Eskimos crossing the strait on ice floes, but he had no evidence that they had actually done so. Their home is on the ice—they live there—build snow houses, kill seals, and keep iglos warm with lamps fed with blubber. If any Eskimos ever crossed the strait on the ice they did so by watching their chances and passing from one field of ice to another. If they did not succeed in crossing, they would not mind it; they would go back.

#### CURRENTS AND TIDES.

A current runs both in and out of Hudson bay. It runs in with the tide for a time, and then runs out again. There is also a constant set westward on the north side of the strait and a set eastward on the south side. If you observed an individual mass of ice, you would see it pass both ways twice every day until it gradually worked its way inward, if it was on the north, and outward if on the south side of the strait.

Dr. Bell said he thought there was not more ice at the entrance of the strait from the ocean than found further west in the strait. On the average, he had seen more ice towards Fox bay. A good deal of the ice in Hudson bay comes from that direction.

The rise and fall of the tide at Big island is thirty-one feet, and in Ungava bay it rises some 50 feet. It is the second highest tide in the world. Fox bay is a basin which is not on the route of ocean navigation. The reason why there is such a high tide in Ungava bay is probably that the tidal wave from the Atlantic is met by the curving east Labrador coast and the land to the north, heaping the water at the entrance of Hudson strait. At all events, the whole appearance in Ungava bay is altered between high and low tide. Dr. Bell said he had heard of a ship anchoring in deep enough water, and in the morning the captain found his ship resting on a rock so that he could look down hill all around him, and he was afraid the ship might roll off.

The depth of water in the strait is from 300 to 340 fathoms near the entrance from the Atlantic ocean, west of Cape Chudley. The depth depends on where you happen to take soundings. During the voyage the witness made on the *Ocean Nymph*, they spent half a day taking soundings, but the water was so deep that it took all hands a long time to haul up the lead by a hemp rope.

Roughly speaking, Hudson strait is 500 statute miles in length and averages 100 miles in width. If Ungava bay be called part of the strait, it would be 250 miles wide there.

The depth of the channel between Nottingham island and Cape Wolstenholme is probably 30 or 40 miles across. The hills are very high—2,000 feet to 3,000 further inland, and the water is very deep in that channel. The deep channel runs up the middle of the strait and passes out of the western end between Nottingham island and Digges islands, off Cape Wolstenholme. These are not very large islands. They discovered a harbour on the southwest side of the western islands. The water continues deep between Mansfield island and Coates island, which is a very wide channel. These islands are of limestone rocks and are not so high and rugged as the mainland. Witness did not remember seeing any ice after getting clear of King's cape. He had no trouble from the ice west of Fox bay. He had passed between Cape Wolstenholme and Mansfield island once in the *Neptune* going south, and had to stem a very strong tide. It was all the ship could do to hold her own. The captain did not anticipate any trouble, but had great difficulty in stemming the tide. That is not the channel that would be used going to Fort Churchill; the current seems to set north close to the east main coast. You would not get the same current in the other channel; it seemed to hug the main shore. The expedition had a station on Nottingham island, and when they left the island they did not find any difficulty between Mansfield and Coates islands. The strong current mentioned might have been an exceptional case during six or eight hours