. 10° E. (mag). In the course of the day which we spent at Marble Island, I rowed ound its western end and thence eastward along its northern shore for some miles. also explored the interior and took some photographs between this side of the island nd the harbour. The whole of the western part of the island consists of white and ight coloured quartzite, bearing a strong resemblance to white and veined marble, rom which circumstance it has no doubt received its name. Viewed from sea, the hores have a very white appearance, the rocks being free from lichens, &c., and the ills in the interior, which are rounded, are also pure white, and contrast strongly vith the dark brown of the peaty flats and hollows. Even the boulders and coarse hingle forming the raised beaches remain quite white, and these beaches appear as conspicuous horizontal lines against the dark vegetable matter. The beds of quartzite are usually very massive. Their surfaces are often ripple-marked, the idges and hollows varying much in size, being sometimes as fine and regular as the luting on a washboard, and at others two or three inches apart. On the south side of the island, near the west point, the quartzite is of a beautiful lilac tint, some of he beds being more deeply coloured than others. The strike is here N 80° W. (mag.), the dip being to the northward, at an angle of 89°. The surface of the rock at this place is marked by large green stains of carbonate of copper, some of them being 3 or 4 feet in diameter. They appear to be due to the decomposition of small quan- ities of copper pyrites in the quartzite.

At the north-west point of the island the dip is N. 75° W. (mag.), angle 45° nd the striæ here run S. 20° E. (mag.). This is also the prevailing dip in the nterior of this part of the island. On the north shore of the island, opposite o the harbour on the south side, the dip is N. 60° W. (mag.), angle 40°. Not only loes the strike vary considerably on the large scale, but the lines of stratification were n places observed to undulate a good deal on a small scale, while the general course of the beds was pretty straight, the minor variations appearing as mere corrugations of the darker lines of stratification on smooth sections.

Although quartzite was the only rock found in situ on the main island, so far as I had time to explore it, the *debris* of the glossy mica-schist with cubes of iron pyrites, was so abundant along the north side that I have no doubt it exists "in place" close by. A fragment of the peculiar brown-weathering dolomite with white quartz strings common in the Huronian series, was also found on this part of the island.

We left Marble Island in the evening of the same day that we arrived there (2nd September), and entered the harbour of Churchill on the 6th. The geology of this locality is described in my report for 1879, pages 19 to 21. After leaving Churchill we paid a visit of twenty-four hours to York Factory, from which we sailed for Digges, where we built station No. 5, as already stated, and after visiting all the other stations and building the one at Nachvak, which has been described in a previous part of this report, we continued our homeward voyage to St. John's, Newfoundland, which we reached on the 11th of October, and left the same evening for Halifax, where we arrived on the 14th and at Ottawa on the 16th of the same month.

GENERAL REMARKS ON GLACIATION.

It will be seen by an inspection of the chart, that Fox's Channel, in respect to width, general direction, &c., is a continuation of Hudson's Strait, and that the outlet of Hudson's Bay joins this great channel at right angles. It is much deeper than Hudson's Bay, the comparative shallowness and the uniformity of the bottom of which are remarkable features. If the sea in these latitudes were only about 100 fathoms lower than it is at the present time, James' and Hudson's Bays would become dry land, while the Strait would remain as a long bay, but with a slightly diminished breadth. The bottom of the Bay would have become a plain, more level in proportion to its extent than any other on the continent. The numerous rivers which now flow into it would traverse this plain, converging towards the north-east and falling into the Strait near Cape Wolstenholme, after having, perhaps, formed one immense river, flowing northward down the centre of the Bay, or probably nearer the East-main side.