M. Mackenzie and P. Woodworth, who occupied the same series of localities throughout the length of the strait.

The work was strenuous, mostly done in the dark, with lanterns to read the tide scales. With few exceptions, the observations were taken during twelve hours in the twenty-four; sometimes in the day and sometimes in the night hours. They are thus broken and difficult to reduce. When the whole series was plotted out as tide curves, it was found that Ashe inlet at the centre of the strait, was the most complete and satisfactory station; and it is also at the best situation in the strait, for tidal purposes, that could be chosen.

In Hudson strait the range sometimes exceeds 30 feet; but on entering the bay the tide spreads out and the range is much less. Observations have been obtained in recent years at Churchill, Nelson, and Moose Factory in James' bay. They were taken by readings on tide scales in the summer seasons of 1910 to 1913; as there are no wharves yet, except at two points in James' bay, where registering tide gauges have now been used in the summer.

When the whole of this material was looked into, it was found that the earlier observations, though taken with so much pains and expense, had never been adequately worked up. It was evident, that with so much material, good results might be obtained and data for the calculation of tide tables secured, if any other harbors could be found where the tide is similar in type to these. It might thus be possible to calculate tide tables for these new localities by means of a difference in time from such harbors, wherever they might be situated. Before describing the lines on which this research was carried out, we must first explain clearly the meaning of the *type* of the tide, as well as the special characteristics of the tide in these regions. For, in correlating tides, it is not those that happen to have the same range that can best be compared; as the type of the tide counts for much more than this.

REDUCTION OF TIDAL OBSERVATIONS

The modern method of dealing with the tide is known as the