They had been carried 1080 nautical miles in 246 days, that is, 4.4 miles per day on an average.

Information about the currents is also obtained from objects found drifting along with them. At Lofoten golf-balls have been found which must have come across from Scotland. In the Norwegian Sea drift-wood from Siberia is occasionally met with; once we came across the trunk of a Siberian tree thickly covered with littoral diatoms, which had thus travelled right through the polar sea, so that the log had come from the northern coast of Asia with the same current that carried the "Fram" through the northern waters.

Drift-bottles.

In order to study the currents, drift-bottles have often been employed, in which are enclosed slips of paper with directions to the finder to send the note to the address given, with information about when and where it was found. Fig. 176 shows the results of some of the bottle-experiments made in the North Sea by Fulton, who has in this way been able to give a more complete account of the currents of the North Sea than was previously possible. In this case the method gave quite trustworthy results, because there were shores all round where it was comparatively easy to recover the bottles within a short time. As regards the great oceans, the method often gives rather doubtful results. In the first place, one cannot know the route followed by the bottle from the time it was thrown overboard till the time it was found, and then it may lie for years on the shore before it is found, so that no one can tell how long it has been on its journey.

Fulton's experiments.

These methods give a certain amount of information about the motion of the superficial layers, but none about the deeper currents. We can also study the set of the water-masses by means of their physical or chemical qualities, especially temperature and salinity and gaseous contents. It is, for instance, known that the Gulf Stream carries much salt water (with a salinity above 35 per thousand) from the Atlantic into the Norwegian Sea, and the course of this salt water can be traced farther north; it forms a band along the coast of Norway, and branches off in several places. The position of this salt water indicates the course of the current itself, not at the surface only, but also in the deeper layers.

From a study of the distribution of salinity and temperature the average direction of the drift of the water-masses may be deduced, and an idea of the velocity obtained by calculation. Mohn, and more recently especially Bjerknes, have greatly

Mohn. Bjerknes.