siderable quantities, 1 litre of water at a temperature of 10° C. and with a salinity of 35 per thousand, for instance, containing when saturated 12 c.c. of nitrogen. It is possible that marine bacteria partly dissociate nitric compounds so as to liberate nitrogen, and partly bind free nitrogen in various salts. These variations are always small, and not easily demonstrable. As a rule, though not without exception, the surface-water is saturated with nitrogen from the air, and when the water leaves the surface it carries down with it practically the same amount of nitrogen.

Currents in the sea.

A vessel running a certain course at a speed measured by the log often proves to have arrived at another point than that which would be expected from the reckonings. This will be the case when there is a strong wind, but even in a calm a displacement is frequently experienced, which is then caused by a current, and when the calculated position is compared with that actually arrived at, the difference will indicate the effect of the current on the ship. In sailing across the Gulf Stream off the east coast of North America, for instance, the ship is carried north or north-east of its latitude according to the compass and the log. The deviation is then an expression of the direction and velocity of the current, and much information with regard to the set of the currents has been obtained in this way. But the method is not trustworthy when there is a wind acting on the ship.

Drift of wreckage.

The drift of various objects floating on the sea, wreckage for example, has also been studied. When wreckage belonging to the "Jeanette," which foundered in the Arctic Sea, was found in the North Atlantic, Nansen concluded that a current must run from the polar basin between Greenland and Spitzbergen into the Atlantic Ocean, and on this supposition he planned the "Fram" Expedition. In the Atlantic Ocean wrecks are often encountered drifting about with wind and current. These are reported, and from such reports one can follow the movements of wrecks for a long time. Fig. 175 shows some such wreck-courses; many of the wrecks have drifted from North America towards Europe, thus showing the effect of the Gulf Stream; others have been carried eastward in the direction of the Azores, then south, and finally west back towards America again. But in these cases the wind always plays an important part, so that it is difficult to form a correct idea of the movements of the water.

Floating icebergs.

In the far north and far south we can follow the drift of the icebergs; one, for instance, breaking