west to east; in the north a current flows from east to west, from the Siberian coast to Northeast Greenland and thence along the east coast; another flows from Baffin's Bay along the east coast of North America.

Of all ocean currents, the Gulf Stream, a branch of the northern equatorial current, has been most carefully studied. Its maximum velocity is 220 kilometers per day, greater therefore than that of the Rhine at Coblentz; the mean about 134 kilometers a day. In the Straits of Yucatan the Gulf Stream carries 0.2 cubic kilometer (200,000,000 tons) per second. If all this water were to be cooled to the temperature of the polar ocean this would be equivalent to the transport of about 5,000,000,000,000,000 gram calories per second. The magnitude of this quantity, of course, depends upon the specific heat of water.

In this manner vast quantities of water, carrying enormous stores of heat, are constantly in motion all over the globe. The result is that homogeneity of the ocean which has been discussed above, — constancy of concentration, of composition, of temperature, of alkalinity, and of osmotic pressure.