

the eastern border of the North Atlantic fringing Western Europe. A small but very interesting portion of it forms the channel between the Færoe Islands and the North of Scotland, one of the channels of communication between the North Atlantic and the North Sea; and a few soundings in shallow water to the east of Shetland are in the shallow North Sea basin. It is evident, therefore, that the greater part if not the whole of this belt must participate in the general scheme of distribution of temperature in the North Atlantic, and must owe any peculiarities which its thermal conditions may present to some very general cause.

All our temperature observations, except the few taken in the 'Lightning' in 1868, were made with thermometers protected from pressure on Professor Miller's plan, and the thermometers were individually tested by Captain Davis at pressures rising to about three tons to the square inch before they were furnished to the vessel; they were also more than once reduced to the freezing-point during the voyage to ascertain that the glass had been in no way distorted. The results may therefore be received with absolute reliance within the limits of error of observation, which were reduced to a minimum by the care of Captain Calver.

A large number of scattered observations, most of which have unfortunately been made with instruments which cannot thoroughly be depended upon for accuracy of detail,—the error, however, being probably in the direction of excess of heat,—established the singular fact that although the temperature of the surface of the sea in equatorial regions