Tristan d'Acunha to the equator, the isothermobaths between 5° and 20° C. altered very slightly in position: the surface-layers, of course, became steadily and rapidly warmer.

Bearing in mind that at a certain depth below the surface, varying only slightly in different regions, there is a thick belt of water at a pretty nearly uniform temperature from 4° to 5° C., it is evident that the much higher temperature of the surface-layers must be due, for each position, directly or indirectly, to the heat of the sun. Normally the surface-temperature would attain its maximum near the equator, and would decrease uniformly toward the poles; and the very abnormal distribution of temperature which actually exists must depend upon some disturbing cause or causes. That several such causes come into play, and many complicated combinations of these causes, there appears to be little doubt; but one disturbing cause seems to be so paramount, so sufficient in itself to account for the observed phenomena, that I do not think it necessary in this preliminary sketch to pursue the inquiry beyond it.

The permanent winds, blowing eternally in one direction where the water is hottest, send the heated surface-water in a constant stream to the westward. This "equatorial current," impinging upon the coast of South America about Cape St. Bogue, splits in two. A considerable portion of the northern branch coursing round the Gulf of Mexico, and becoming contracted and condensed by the Strait of Florida, makes itself manifest as the celebrated Gulf-stream; while the remainder, moving outside the islands in a gentler and less obvious current, spreads over the great bight between North and South America, and gives an indication of its presence in the high thermometer-readings round Bermudas, and westward to the Açores. The cause of the second and deeper hump on the temperature-curves (vol. i., Fig. 100), in a section between Bermudas and the coast of Europe, is perhaps not so evident. The explanation which I have suggested elsewhere is that the warm