

stream, flowing directly on the shoal coast of Brazil, and raising the level of the ocean on those banks which it endeavours constantly to restore by flowing off rapidly in the opposite direction?

Before proceeding into the Southern Atlantic, I will recapitulate our results in the Northern.

Beginning at the equator, we find a great surface stream setting to the westward across the ocean, which, passing along the coast of Brazil, enters through the Windward Island passages the Caribbean Sea, and thence into the Gulf of Mexico, whence the water flows in the Gulf Stream, which although at first narrow, soon spreads itself, crosses the Atlantic, and expends its force in mid-ocean, or at times upon the British Islands. This great stream, of moderate temperature on the open ocean under the equator, becomes more heated on the coast of Brazil, and opposite the coast of the United States retains, both in summer and winter, a temperature approaching to or often exceeding  $80^{\circ}$ . In the mean time, another great stream sets southward, along the coasts of Labrador and Newfoundland; and dividing at the Banks, a branch of this follows the line of soundings off Nova Scotia and the United States, while another flows beneath the waters of the Gulf Stream, passes southwards, and mingles with the waters of the ocean, and affects the surface temperature where it comes in contact with islands and banks. The uninterrupted flow of this vast polar stream is along the coast of Portugal and Spain, and a small part of it flows into the Bay of Biscay, caused by its striking upon Cape Finisterre, and forms eventually the Rennell Current; another part flows into the Mediterranean, in consequence of the higher level of the stream, when compared with the waters of that sea. The main branch now pursues its course on the surface, until Madeira and the Canaries are reached in its course, beyond which it is no longer apparent. But below the surface, as shown by the low temperature of the deep-sea soundings, a submarine stream pursues its way to the equator, where the waters again commence the same round as before.

In the southern portion of the space included within the above limits, is an expanse of water which presents remarkable phenomena. This is called by the name of the Sargasso Sea, and is noted for the quantity of the aquatic plant, known as the gulf-weed (*Fucus natans*), that is found in it. The general impression seems to be, that this space is occupied by a sort of eddy, in which is deposited all the matter borne by the different currents of the ocean, and that to this cause is due the accumulation of the gulf-weed. It would, however, appear, that this idea cannot be correct; for, in the first place, the weed appears fresher there than when drifting in the Gulf Stream and other currents, and is