

is deflected from the Banks of Newfoundland toward the east, it sends off branches to the south near the Azores.\* This is the situation of the Sargasso Sea, or that great bank of weeds which so vividly occupied the imagination of Christopher Columbus, and which Oviedo calls the sea-weed meadows (*Praederias de yerva*). A host of small marine animals inhabits these gently-moved and evergreen masses of *Fucus natans*, one of the most generally distributed of the social plants of the sea.

The counterpart of this current (which in the Atlantic Ocean, between Africa, America, and Europe, belongs almost exclusively to the northern hemisphere) is to be found in the South Pacific, where a current prevails, the effect of whose low temperature on the climate of the adjacent shores I had an opportunity of observing in the autumn of 1802. It brings the cold waters of the high southern latitudes to the coast of Chili, follows the shores of this continent and of Peru, first from south to north, and is then deflected from the Bay of Arica onward from south-southeast to north-northwest. At certain seasons of the year the temperature of this cold oceanic current is, in the tropics, only  $60^{\circ}$ , while the undisturbed adjacent water exhibits a temperature of  $81^{\circ}\cdot5$  and  $83^{\circ}\cdot7$ . On that part of the shore of South America south of Payta, which inclines furthest westward, the current is suddenly deflected in the same direction from the shore, turning so sharply to the west that a ship sailing northward passes suddenly from cold into warm water.

It is not known to what depth cold and warm oceanic currents propagate their motion; but the deflection experienced by the South African current, from the Lagullas Bank, which is fully from 70 to 80 fathoms deep, would seem to imply the existence of a far-extending propagation. Sand banks and shoals lying beyond the line of these currents may, as was first discovered by the admirable Benjamin Franklin, be recognized by the coldness of the water over them. This depression of the temperature appears to me to depend upon the fact that, by the propagation of the motion of the sea, deep waters rise to the margin of the banks and mix with the upper strata. My lamented friend, Sir Humphrey Davy, ascribed this phenomenon (the knowledge of which is often of great practical utility in securing the safety of the navigator) to the descent of the particles of water that had been cooled by nocturnal ra-

\* Humboldt, *Examen Crit.*, t. iii., p. 64-109.