

flows the Labrador Stream, a current so powerful that we can hardly ascribe its origin to the return of the tropical waters of the Atlantic alone; and this, it is thought, may be a portion of the Equatorial Stream of the Pacific, which, after entering the Icy Sea at Behring's Straits, and forming the current which sets eastward, on the northern shores of America, enters the Atlantic, through the many passages of that labyrinth of islands and icebergs, and finally returns, to be again heated in the tropical climates of the Atlantic.

There is unquestionably a greater body of colder water lying at depths in the equatorial regions of the Atlantic than can be accounted for in any other manner than by submarine streams. Separate observations, made in the Vincennes, Porpoise, and Oregon, at different places during the return voyage, exhibited the same low temperature at a depth of one hundred fathoms, within a zone lying between the parallel of 3° S. and 3° N. The observed temperatures in the several vessels differed only a degree from each other, and they agreed nearly in the breadth of the first zone. I feel satisfied that the one first met with was connected with the cold submarine stream our deep-sea temperatures showed when near the Cape de Verdes, on the outward voyage. As we crossed the South Atlantic without noticing any phenomena of this kind, it may be safely asserted that this body of cold water therefore comes from the north.

But to return to the western branches of the polar streams that set upon the two great promontories of the old and new continents: these are deflected by the land, and in their new direction flow onwards to the equator, and are merged in the western equatorial streams, which, directed upon the eastern coasts of the opposite continents, and warmed by exposure to the sun, become the heated streams with which our recapitulation commenced.

The number of recorded facts is as yet too few to furnish any thing like sufficient satisfactory data inductive to any theory; there can be no doubt, however, that the great and sufficient cause is the unequal distribution of heat over the earth's surface. How the streams, currents, and counter-currents are affected by the continents, is within the reach of legitimate inquiry; but how the character and form of the bed of the ocean may influence them, seems at present beyond investigation.

The best possible information on the currents is of great importance to the navigator; next to the winds they claim his attention; the winds in their turn are very much influenced by the former.

The great and at times perplexing variations of currents have been felt by all navigators: these it will be at once seen may be attributed