

enlarges to nearly three hundred, and occupies the whole space between the land on one side, and the Equatorial Current, running in an opposite direction, on the other. The velocity abreast of Cape Palmas and Cape Three Points, and in the vicinity of the land, was, in the month of May, about two miles in the hour; and farther to the eastward, where the Pheasant crossed its breadth, from Cape Formosa to St. Thomas's, and where its velocity had been much diminished by the dissipation of its waters, it was found to preserve a general rate of rather less than a mile an hour, and a direction a few degrees to the southward of east.

“The general temperature of the stream in the mid-channel, in the Gulf of Guinea, in April and May, exceeds  $84^{\circ}$ , diminishing from  $82^{\circ}$  and  $83^{\circ}$  on its southern border, where it is in contact with the colder water of the Equatorial Current; and occasionally to between  $79^{\circ}$  and  $81\frac{1}{2}^{\circ}$  on its northern side, in the proximity of land.

“In the passage between the river Gaboon and Ascension, being a distance of one thousand four hundred miles, the Pheasant was aided by the current above three hundred miles in the direction of her course.

“But the more important distinction, both in amount and in utility in navigation, is between the waters of the Equatorial and Guinea Currents. These exhibit the remarkable phenomenon of parallel streams, in contact with each other, flowing with great velocity in opposite directions, and having a difference of temperature amounting to ten or twelve degrees. Their course continues to run parallel to each other, and to the land, for above one thousand miles; and, according as a vessel, required to proceed along the coast in either direction, is placed in the one or in the other current, will her course be aided from forty to fifty miles a day, or retarded to the same amount.”

This Guinea Current is lost in the Bight of Benin, near Prince's Island; which lies under the equator, in the longitude of  $7^{\circ}$  E., and it is confined and obstructed by a southern polar stream, much in the same manner as the Labrador is affected by the Gulf Stream on the coast of the United States, and which is supposed to be lost near Cape Hatteras.

Beyond the Cape de Verdes, overfalls, rips, and a continual tendency to change in the surface of the ocean, are experienced, as if two great conflicting submarine currents were meeting at some depth beneath the surface.

As we proceeded on our route from Porto Praya to Rio Janeiro, the same appearances continued; but we did not meet the Equatorial