

## CHAPTER VI.

Cape Verde Islands to St. Paul's Rocks and Fernando Noronha—Balanoglossus—The Echinoidea—Description of St. Paul's Rocks and Fernando Noronha—Coast of Brazil—Bathypterois—Surface Fauna of Guinea and Equatorial Currents—The Radiolaria—Bahia.

## CAPE VERDE ISLANDS TO ST. PAUL'S ROCKS.

THE Expedition left Porto Praya at 8 P.M. on the 9th August, and a course was shaped for St. Paul's Rocks. Owing to the season of the year in which the passage was made, the course was necessarily somewhat erratic; the ship proceeding to the southeastward along the African coast until the S.E. trade was reached in lat.  $3^{\circ} 8' N.$ , long.  $14^{\circ} 49' W.$ , and then standing over to the westward for St. Paul's Rocks. The soundings and temperatures obtained must, therefore, be divided into two sections,—1st, the southeasterly section towards the equator; and 2nd, the equatorial section.

From Porto Praya to the parallel of  $7^{\circ} N.$  the wind varied from W. by N. to S. by W. with cloudy, squally, rainy weather; from thence to the position where the S.E. trade was met with, viz., in lat.  $3^{\circ} 8' N.$ , long.  $14^{\circ} 49' W.$ , the wind was from S.S.W. to S., with fine weather, and from that position the S.E. trade was retained to St. Paul's Rocks.

On the section to the southeastward from Porto Praya to a position in lat.  $3^{\circ} 8' N.$  long.  $14^{\circ} 49' W.$  six soundings, eight serial temperature soundings, and one dredging and one trawling were obtained (see Sheet 12).

The surface temperature varied from  $77^{\circ} \cdot 7$  to  $79^{\circ} \cdot 5$ .

The bottom temperature when the depth exceeded 1800 fathoms still continued remarkably uniform, the mean being  $36^{\circ} \cdot 5$  and the extremes  $36^{\circ} \cdot 6$  and  $36^{\circ} \cdot 4$ .

Serial temperature soundings showed that the isotherm of  $40^{\circ}$ , which was at a depth of 800 fathoms at St. Iago, rose gradually to the southward to 500 fathoms in the parallel of  $3^{\circ} N.$  The isotherm of  $50^{\circ}$  maintained an average depth of 180 fathoms, varying from 150 to 200 fathoms; but the isotherm of  $55^{\circ}$  approached at Station 96 to within 40 fathoms of the surface, although the surface temperature was  $79^{\circ}$ ; thus showing a decrease of  $24^{\circ}$  in 40 fathoms.

On the 16th, at Station 100, the dingey was anchored by the sounding line, and the surface current was found running N.  $70^{\circ} E.$  half a mile per hour. The current drag at 50 fathoms indicated a set of 0.45 mile per hour, N.  $17^{\circ} E.$ ; at 100 fathoms, N.  $15^{\circ} E.$  0.3 mile per hour; and at 200 fathoms, N.  $17^{\circ} E.$  0.2 mile per hour. On the 19th, at Station 101, the cutter was anchored by the trawl, and the surface current