

The surface temperature remained nearly uniform at 78°.

The bottom temperatures varied with the depth, the coldest water being found at the deepest sounding, a result quite different from that hitherto obtained in the North Atlantic, where the temperature remained the same, or nearly the same, below 1800 fathoms no matter what the depth was. The lowest temperature registered in the section was 33°·7, the depth being 2475 fathoms.

The serial temperature soundings showed that the isotherms maintained a position as nearly as possible parallel with the surface, the isotherm of 40° being at a depth of 400 fathoms, that of 50° at a depth of 150 fathoms, and that of 60° at a depth of 70 fathoms.

On the 30th August, at Station 110, the velocity of the wind was 15 miles per hour by the anemometer, the force registered being 2. On the 31st, at Station 111, the velocity was 11 miles per hour, the force registered being 2 to 3. During the night of the 1st September, whilst at anchor at Fernando Noronha, the velocity was 9 miles per hour, and during the day on the 2nd, 15 miles per hour.

Between St. Paul's Rocks and Fernando Noronha there is a deep depression, the greatest depth recorded being 2475 fathoms. At this depth there was 36 per cent. of carbonate of lime in the deposit, while at the depths of 2275 and 2200 fathoms there were respectively 72 and 81 per cent. This is a good instance illustrating the diminution of carbonate of lime in the deposit with increasing depth, as here the surface conditions were the same, and the character and size of the mineral particles alike in all the soundings. The mineral particles did not exceed 0·05 mm. in diameter, and consisted of felspars, hornblende, augite, magnetite, and vitreous particles. Radiolarians, Diatoms, and fragments of other siliceous organisms made up from 2 to 4 per cent. of the deposits.

On the 1st September, at 6 A.M., the island of Fernando Noronha was sighted, and the day was devoted to obtaining a series of soundings to the shore (see Sheet 14). The ship anchored in San Antonio Bay at 3 P.M.

FERNANDO NORONHA.

The intention was to have remained at this island for a week or ten days, to survey and explore it thoroughly, but, no previous notice having been given to the Brazilian Government, the Commandant would on no account take on himself the responsibility of permitting collections to be made on shore or soundings to be taken adjacent to the coast, although at first he appeared willing to allow this. Under the circumstances it therefore became useless to remain in the neighbourhood, and the ship left on the 3rd September for Bahia.

On the 1st and 2nd a landing was effected on the main island, as well as on the