

steadily and perceptibly to the bottom, and that the bottom temperature is more than 2° C. lower than the temperature at similar depths in the eastern or the north-western basin. The conditions which exist at the mouth of the trough extend to the equator.

Figure 54 represents the vertical distribution of temperature at Station CXII., lat. $3^{\circ} 33'$ S., long. $32^{\circ} 16'$ W., twenty-one miles to the north-west of Fernando Noronha. Figure 55 gives the temperature at Station CXXIX., lat. $20^{\circ} 12'$ S., long. $35^{\circ} 19'$ W., nearly midway between Station CXII. and Station CCCXXVII., one of the most characteristic in the section at present under consideration, represented in Figure 56. The depth at Station CCCXXVII. is 2900 fathoms, and the depths at the two other stations 2150 and 2200 respectively; and it will be seen that at the latter stations the bottom temperatures correspond almost precisely with the temperature at Station CCCXXVII. at like depths. The isothermobath of 2° C. is at the same height, 1500 fathoms, at the two southern stations; and at the northern station only, near the equator, it sinks to 1800 fathoms. The isothermobaths of $2^{\circ}5$ and 3° C. correspond within a hundred fathoms or so in level at Stations CXXIX. and CCCXXVII.; at Station CXII. all the isothermobathic lines under that of 4° C. down to the line of 1° C. are much lower than at Stations CXXIX. and CCCXXVII.; that is to say, that at the equator, between 410 fathoms and 2000 fathoms, the water is considerably warmer than it is farther south.

The isothermobathic lines of 4° and 5° C. seem everywhere in the Atlantic to mark broadly the line of demarkation between the upper zone, where the temperatures are obviously affected by the diffusion of water by wind-currents; and the lower zone, where the temperatures are continuous with those of the Southern Sea. In the North Atlantic they are markedly lower than they are to the south of the equator; that is to say,