

The serial temperature soundings showed that the isotherm of  $40^{\circ}$  was at a uniform depth of 700 fathoms for 600 miles from Bermuda, when it gradually descended to 900 fathoms at 900 miles from Bermuda, and again rose to 700 fathoms 1200 miles from Bermuda, remaining at or about that depth until within 300 miles of Fayal, after which it again descended to 900 fathoms, thus the mean depth occupied by the isotherm of  $40^{\circ}$  in this section was 750 fathoms, and the range 210 fathoms, viz., from 690 to 900 fathoms from the surface. The isotherm of  $60^{\circ}$  occupied an average depth of 300 fathoms for 1200 miles east of Bermuda, or to within 600 miles of Fayal, ranging 70 fathoms, or from 260 to 330 fathoms; it then rose gradually to a depth of 50 fathoms 300 miles west of Fayal, and continued at or near that depth for the remaining portion of the section. The temperature of the space enclosed between the isotherms of  $40^{\circ}$  and  $60^{\circ}$  calls for no special remark, as the alteration was gradual between those isotherms. The isotherm of  $65^{\circ}$  was at a depth of 100 fathoms at Bermuda where the surface temperature was  $74^{\circ}$ , and gradually rose to 20 fathoms at the Azores where the surface temperature was  $69^{\circ}$ ; its position, therefore, may be assumed to depend immediately on the surface temperature (see Diagram 3).

On the 19th, at Station 63, the surface current was tried by attaching a buoy to the sounding line before heaving in, but no appreciable movement of the water could be detected. On the 26th, at Station 70, a buoy was anchored with a valve lead of 168 lbs., and here again no appreciable movement of the surface water could be detected. Subsequently the current drag was lowered successively to depths of 50, 100, 200, and 300 fathoms; no movement of the water was apparent at any of these depths. On the 27th, at Station 71, a buoy was again anchored by a weight at the bottom, and the surface current was found running to the southwards at a rate of 0.7 mile per hour. The current drag at 50 fathoms indicated a set S.  $59^{\circ}$  E. at the rate of 0.4 mile per hour, and at 100 fathoms N.  $82^{\circ}$  E. at the rate of 0.25 mile per hour. These results were obtained between 9 and 10 A.M. Subsequently, for convenience in obtaining temperatures and other purposes, a boat was anchored by the trawl, and it was noticed that at 6 P.M., when the ship took the trawl rope from the boat, that there was no perceptible surface current. This would seem to indicate that the result obtained between 9 and 10 A.M. was due to tidal movement. On the 28th, at Station 72, the surface current appeared to be going to the southward whilst sounding was in progress, but no direct observations were made.

On the 18th, at Station 62, the anemometer showed the velocity of the wind to be 18 miles per hour between 3 and 6 P.M., the force registered being 4 to 5. On the 22nd, at Station 66, the velocity was 20 miles per hour from 4.30 P.M. to 6.30 P.M., and the force was registered as 6.

With the exception of the deposit from 2700 fathoms on the 23rd, which contained 54 per cent. of carbonate of lime, all the deposits in this section from depths greater