

To these may be added the observations of Lieutenant S. P. Lee, of the United States Coast Survey, who, in August 1847, recorded a temperature of  $2^{\circ}7$  C. below the Gulf-stream at a depth of 1,000 fathoms, lat.  $35^{\circ} 26'$  N., long.  $73^{\circ} 12'$  W.; and of Lieutenant Dayman, who found the temperature at 1,000 fathoms in lat.  $51^{\circ}$  N. and long.  $40^{\circ}$  W. to be  $-0^{\circ}4$  C., the surface temperature being  $12^{\circ}5$  C. These results are fully borne out by the recent determinations of Captain Shortland, R.N., who observed a temperature of  $2^{\circ}5$  C. in deep water in the Arabian Sea between Aden and Bombay,<sup>1</sup> by those of Commander Chimmo, R.N., and Lieutenant Johnson, R.N., who found at various points in the Atlantic a temperature of about  $3^{\circ}9$  C. at 1,000 fathoms, and a slow decrease from that point to 2,270 fathoms, where the temperature registered by unprotected thermometers was  $6^{\circ}6$  C., reduced by the necessary correction for pressure to about  $1^{\circ}6$  C.,<sup>2</sup> and finally by the temperature determinations of the 'Porcupine' expeditions, carefully conducted with protected instruments, but not carried nearer the tropics than the latitude of the Strait of Gibraltar; and they appear to go far to establish a nearly uniform temperature for abyssal depths, not far from the freezing-point of fresh water.

As it was evident that the low temperature for deep water in tropical regions could not be acquired

<sup>1</sup> Sounding Voyage of H.M.S. 'Hydra,' Captain P. F. Shortland. London: 1869.

<sup>2</sup> Soundings and Temperatures in the Gulf-stream. By Commander W. Chimmo, R.N. (Proceedings of the Royal Geographical Society, vol. xiii.)