

precision, as the thermometers when brought to the surface showed, with one exception, the same temperature on the maximum side as on immersion, and on the minimum side the same as at 80 fathoms. The bottom thermometer gave a result of 32° , which is probably the bottom temperature, being slightly colder than the results above that depth. Whether this be so or not, it is at any rate certain that the bottom temperature was not below 32° . At 4 P.M., after heaving in the trawl, sail was made. The day was fine, but cloudy, the wind gradually falling until at 6 P.M. it was quite calm, the barometer steady at 30.045 inches, the mean temperature of air $36^{\circ}9$, of sea surface $37^{\circ}5$, the sea smooth; the position of the ship at noon, lat. $53^{\circ} 55' S.$, long. $108^{\circ} 35' E.$ No ice of any description was seen during the day. At 11.45 P.M. a brilliant aurora was observed stretching in four concentric arcs from E.S.E. to W.S.W. between the zenith and an altitude of 30° .

On the 4th a southeasterly breeze sprang up, and shifted gradually to the northeast and north, freshening towards midnight. The weather was fine in the morning and forenoon, but cloudy in the afternoon, and misty and foggy in the evening. The barometer steady at 30.053 inches, but inclined to fall; mean temperature of the air $38^{\circ}6$, and of the surface water $38^{\circ}9$. At noon an iceberg was seen to the northward, and it was passed at 6 P.M. This proved to be the last berg seen on the voyage, and it was evidently fast breaking up, being a round-backed piece of ice, in shape somewhat like a capsized vessel, and not much larger.

On the 5th and 6th March a steady northerly breeze was experienced, mean force 5, with a smooth sea, and a southwesterly swell, the barometer fairly steady, the temperature both of air and sea increasing.

On the 7th a sounding, trawling, and temperatures were again obtained, the depth being 1800 fathoms, Station 158 (see Sheet 24). It was found that the nature of the bottom had changed from Diatom ooze to Globigerina ooze. The serial temperature sounding showed that, at this position, lat. $50^{\circ} 1' S.$, long. $123^{\circ} 4' E.$, the temperature of the sea decreased gradually from the surface to the bottom, or from 45° to $33^{\circ}5$, as is generally the case (see Diagram 10). The ship had therefore now got to the northward of the peculiar condition as regards temperature of the sea in the Antarctic basin. The weather during the day was fine, but cloudy, and occasionally misty. The wind still steady in direction (N. true), but increasing in force towards midnight; the barometer falling somewhat, the mean temperature of the air $47^{\circ}4$, of the sea surface $45^{\circ}3$.

On the 8th the northerly wind still continued, force 6, with fine weather and smooth water, barometer fairly steady at 29.831 inches. Mean temperature of the air $50^{\circ}2$, of sea surface $48^{\circ}8$. The velocity of the wind by the anemometer was 23 miles per hour. At midnight the patent log when hauled in was found entangled in a large piece of kelp covered with barnacles. As the vessel was then in the parallel of Kerguelen, and there is no kelp at Heard Island, it is probable that this weed may have drifted from