

three sets of sights in the forenoon. The afternoon was cloudy, with little or no wind, and no astronomical observations could be obtained until 9.40 P.M., when, a few stars shining out for a minute or two, and the horizon being lit up by the moon, both the latitude and longitude were obtained, and the ship was found to be in lat.  $33^{\circ} 24' N.$ , long.  $138^{\circ} 44' E.$ , or 24 miles northeast of the position by D.R. A moderate westerly breeze having sprung up, the ship was steered due north, this northeasterly set being expected to continue, but it was found at 8 A.M. on the 11th April that a current of only 11 miles due east had been experienced since the sights at 9.40 P.M. on the 10th, and the ship had consequently barely cleared the Redfield Rocks. The surface temperature on the 10th was about  $68^{\circ}$  from 6 A.M. to 1 P.M.  $63^{\circ}$  from 1 P.M. to 8 P.M.,  $68^{\circ}$  from 8 to 9 P.M., after which it fell gradually.

On the 11th April, at daylight, the islands of Kosu Sima and To Sima were seen, and a course shaped to pass inside Vries Island with a fresh fair wind, the vessel arriving at Yokohama at 5 P.M.

The deposits between the Admiralty Islands and Japan proved very interesting, chiefly from the large number of Radiolarians present in them, and also from the complete absence of carbonate of lime in all the deeper soundings. In depths greater than 2400 fathoms there was either no carbonate of lime in the deposit or only a small percentage, as for instance in 2450 fathoms in lat.  $2^{\circ} N.$ , where there was 6 per cent., due to the presence of a few broken fragments of pelagic Foraminifera shells. On the other hand, there was 78 per cent. of carbonate of lime in the deposit at 1850 fathoms on the Caroline Islands plateau, which was a Globigerina ooze made up principally of the shells of pelagic Foraminifera, Coccoliths, and Rhabdoliths. The absence of the shells of Pteropods, Heteropods, and other pelagic Molluscs from this deposit is worthy of note, as well as the absence of the Foraminifera shells from all the deeper deposits, as these organisms were very numerous at the surface throughout the whole region. As already stated, siliceous shells and skeletons were especially abundant in all the deposits in this section, more numerous than in any deposits previously met with during the cruise. Sometimes these beautiful little organisms made up more than one half of the deposit, which was in consequence called a "Radiolarian ooze." This was the case in the deepest sounding, viz., 4475 fathoms, the greatest depth from which a specimen of the bottom has yet been obtained. On this occasion the sounding tube had sunk about 3 or 4 inches into the bottom and brought up a section to that extent. The layer, which formed the upper surface at the bottom of the sea, was of a reddish or chocolate colour, and contained, besides the Radiolarian and Diatomaceous remains, numerous small round pellets of manganese peroxide, fragments of pumice, and clayey matter. The deeper layers were of a pale straw colour, and resembled both in appearance and touch the Diatom ooze from the Antarctic Ocean. These deeper layers had