

to lose its distinctive character. During the northeast monsoon a cold surface current is running to the southward from the Japan and Yellow Seas. It appears therefore highly probable that the Equatorial Current, instead of losing itself as is supposed, when it meets with the cold water from the Japan and Yellow Seas, is diverted to the eastward along with a cold northerly current, the two running together side by side without intermingling their waters. When the northeast monsoon ceases the current from the Japan and Yellow Seas also ceases, which causes the slackness of the Kuro Siwo, south of Nipon Island, in June, as it is then only due to the Equatorial Current. Later on, in July and August, when it is augmented further by the surface drift from the China Sea in the southwest monsoon, it runs again with great rapidity, and is wholly a warm current. These peculiar effects are probably not experienced to the eastward of the meridian of 140° E.; there apparently the stream is always a warm one.

While passing through the Japan Stream the tow-net observations also indicated water from two different sources. When in the colder streams there were very many more small Diatoms, *Notiluca*, and Hydromedusæ than in the warmer streams, where the same pelagic animals that were obtained all the way from the Admiralty Islands prevailed. Many similar instances occurred during the cruise, where the approach to land or the presence of shore water was indicated by the contents of the tow-nets.

JAPAN TO THE SANDWICH ISLANDS.

On the 16th June the Expedition left Yokohama for the Sandwich Islands, with the intention of running a section across the Pacific on the 35th parallel of north latitude as far east as the meridian of Hawaii, and then proceeding southwards. At 10 P.M. Susaki bearing N. $\frac{1}{2}$ E. and No Sima light E.N.E., a course was shaped to the south-eastward for a good position in which to sound (see Sheet 36).

On the 17th, at 4 A.M., a sounding, trawling, and temperatures were taken in 1875 fathoms in lat. $34^{\circ} 37'$ N., long. $140^{\circ} 32'$ E. Whilst the vessel was trawling the Japan Stream was setting to the eastward at the rate of $1\frac{1}{2}$ miles per hour, the temperature of the surface water being 73° .

The deposit at this Station was a blue mud with a thin reddish surface layer, and contained 5 per cent. of carbonate of lime, which consisted chiefly of a few pelagic and other Foraminifera and Coccoliths.

The trawling was a very successful one, for the net contained a large quantity of mud, several large pieces of pumice, a hardened block of the bottom deposit over a foot in diameter, some fragments of plants, and a large number of deep-sea animals. In the washings of a very large quantity of mud one *Ianthina* shell, three or four Pteropod shells, the vertebra of a fish, and the beak of a large Cephalopod were found. The hardened fragment of the deposit contained the same mineral particles and organisms as the soft mud