

between the Sandwich and Society Islands said that he sometimes failed to fetch his port when bound either the one way or the other. Should a doubt of this kind be felt when making the passage, it should be borne in mind that the Counter Equatorial Current affords an opportunity of making easting.

The deposits between Honolulu and Tahiti presented many points of interest. The mineral particles consisted of minute fragments of felspars, augite, hornblende, magnetite, and vitreous particles; magnetic (cosmic) spherules, and crystals of philipsite, together with many pumice stones, palagonite, and manganese nodules. At each Station these minerals varied much as to their relative abundance. Between Hawaii and the 7th parallel of north latitude the depths ranged between 2650 and 3000 fathoms, and the deposits consisted very largely of the remains of Radiolarians and Diatoms, these organisms becoming more numerous as the distance from Hawaii increased. There was hardly a trace of carbonate of lime in these deposits. The next three soundings were between the 6th parallel north and 1st parallel south latitude, the depths being 2550, 2925, and 2425 fathoms, and the deposits contained respectively 21, 71, and 81 per cent. of carbonate of lime, chiefly in the form of the shells of pelagic Foraminifera. The reason why such a relatively high percentage of lime was found in these depths is probably explained by the fact that the pelagic Foraminifera and Molluscs were exceedingly abundant in the Equatorial and Counter Equatorial Currents which occupy the surface at these Stations. In these deposits the Radiolarians and Diatoms were likewise very numerous. The next three soundings, between 3° and 8° S., ranged between 2350 and 2750 fathoms, and were made up largely of Radiolarians and Diatoms, but contained in the surface layers a considerable number of pelagic Foraminifera shells. When the tube penetrated over a foot into the deposit the deeper layers did not show any traces of carbonate of lime. The deposit in lat. 11° 20' S., long. 150° 30' W., 2610 fathoms, was a dark chocolate-coloured clay containing an immense number of crystals of philipsite, and together with these many fragments of palagonite and small nodules of manganese peroxide. The crystals of philipsite made up the principal part of the deposit; these had been present in many of the previous deposits, but never in such abundance as in this instance. There was no carbonate of lime; and Radiolarians, which had been so abundant in previous deposits on this section, were only represented by a few specimens. The same remarks as to the nature of the deposits apply to the next two Stations, where the depths were 2350 and 2325 fathoms respectively, with the exception that there was 22 and 10 per cent. of carbonate of lime, which was due to the presence of calcareous Foraminifera. The deposit in 1525 fathoms was a volcanic mud containing 20 per cent. of carbonate of lime.

In every instance the dredgings and trawlings yielded some manganese nodules and pumice, but on two or three occasions the manganese nodules were in extraordinary