

CHAPTER XIX.

Tahiti to Juan Fernandez—Manganese Nodules, Sharks' Teeth, Zeolites, and Cosmic Spherules in the Deposits of the Central South Pacific—The Stomatopoda—Historical Account of Juan Fernandez—Physical Features—Botany and Zoology—The Nemertea—Juan Fernandez to Valparaiso—The Foraminifera—Valparaiso—The Copepoda and Ostracoda.

TAHITI TO JUAN FERNANDEZ.

ON the 3rd October the anchor was weighed and the ship steamed out of Papieté Harbour, the band playing the Tahitian National Air, a quick and lively jig which is characteristic of the place, and sets the Tahitians dancing at once; it is popular with the French also, and as the Challenger entered Valparaiso Harbour the band on board a French man-of-war struck up this tune as a greeting to recall the gaiety of the beautiful island left behind.

When outside Papieté Harbour the ship was swung to ascertain the errors of the compass and dipping needle, after which a southerly course was shaped to clear the baffling winds between Tahiti and Eimeo Islands, before sail was made. The ship stood to the southward until the trade wind was lost on the parallel of 22° S., when, picking up a fresh S.W. wind for four days, the vessel was steered to the S.E., and on the 10th October lat. $27^{\circ} 39'$ S., long. $142^{\circ} 47'$ W. was reached. The wind then shifted to the westward and northward, and the S.E. course was continued until the 14th, when the ship was in lat. $32^{\circ} 36'$ S., long. $137^{\circ} 43'$ W., from which position light southerly to easterly winds were experienced until the 40th parallel was crossed on the meridian of 133° W. The wind then varied from S.S.E. to S.W. and W. until the 29th October, and the ship stood to the eastward, keeping on the 39th parallel to the meridian of 113° W., when the wind shifted to W. and N.W. and then N.N.E. on the meridian of 100° W. Light easterly winds were then experienced for four days, after which northerly and north-easterly breezes prevailed until the ship arrived at Valparaiso (see Sheet 38). These northerly winds off the coast of South America were quite unexpected and were very unusual, the prevailing wind in the month of November being southerly.

The sounding and temperature observations were uniformly successful. The section has been divided into two parts:—1st, from Tahiti to the parallel of 40° S., and 2nd, from a position in lat. $40^{\circ} 3'$ S., long. $132^{\circ} 58'$ W., towards Mocha Island on the coast of Chili (see Diagrams 19 and 20).

The bed of the ocean from Tahiti to the parallel of 40° S. shows a descent to 2450 fathoms at a distance of 375 miles from Tahiti, then a rise to 2000 fathoms, and