

Kerguelen's Land should be ascertained with the greatest possible accuracy, and although your interval from the Cape will be large for chronometrical measurement, yet you should bring the whole force of your chronometers to bear on the question of connecting the station with the Cape observatory, and also with the observatory at Melbourne.

Much importance is attached to the examination of the region in the neighbourhood of the great Ice-barrier, and after leaving Kerguelen's Land and looking at Heard's or M'Donald's Island, where, I have been informed by Captain M'Donald, who discovered it, that he observed the appearance of a probable harbour, you will strike southerly in the neighbourhood of  $90^{\circ}$  of east longitude and approach the edge of the ice as near as may be with safety. Captain Moore reached to the parallel of  $65^{\circ}$  in this meridian in 1845, and observed the appearance of land to the westward. It is not desirable, however, that you should pursue any extended hydrographical explorations in this region with a single unfortified ship, but after having made the necessary investigations of the depths, temperature, and fauna of the ocean, you will again turn north for Melbourne in Australia, where I calculate you may arrive in March 1874. While navigating in these southern latitudes, I strongly commend to your study and that of your officers the Ice Chart of the Antarctic Regions published by the Admiralty.

Having remained a short time at Melbourne, you will proceed to Sydney, which will be the second stage for a complete refit and a rest from your labours, and from Australia a report of your proceedings will be looked for in England with great interest.

It is probable you will leave Sydney about the middle of May 1874, and carrying a line of deep-sea soundings direct to the north cape of New Zealand, proceed on to Auckland. Some importance is attached to the examination of the region of those small islands which lie to the southward and westward of New Zealand, viz., the Auckland, Macquarie, and Campbell Islands, but the adoption or rejection of this portion of the programme must be left to your own judgment when this stage of the voyage shall have been reached; the time at your disposal, and the health and condition of your crew, must necessarily be the principal elements of consideration in coming to a decision. Under any circumstances it is desirable that you should finally quit New Zealand not later than the first week in August of 1874.

From New Zealand your course will be through the Coral Sea towards Torres Straits. At the French settlement at Noumea Bay, on the south-west side of New Caledonia, you will be able to replenish your fuel; passing thence to the northward, you would carry out your investigations along the Lousiade Archipelago and southern shores of New Guinea, and enter Torres Strait by the Bligh Passage and the great north-eastern channel, passing out by Prince of Wales or one of the neighbouring channels, thence through the Arafura Sea to Koepang in the island of Timor, where you will be able to obtain refreshments and probably fuel.

Koepang is a very well determined station for longitude by measurements between the observatories of both Sydney and Batavia.

From Timor you would proceed either north or south of Sumba as convenient, and enter the Java Sea by the Strait of Allas or Lombok, taking care to secure your westing before the westerly monsoon has set in. You will then have before you the investigation of a most interesting and little known region. At Macassar you will procure all that you may need in regard to supplies of fresh provisions and fuel, and passing between Celebes and Borneo, you will enter the Celebes and Sulu Seas, and as it is not desirable you should reach Manila until the close of the hurricane season in November, you will probably find leisure to prosecute hydrographical in addition to other researches by determining accurately the positions of any prominent points or islands which may be in your route or in any other direction which circumstances may permit. Commander Chimmo in the "Nassau" has lately added something to our knowledge of this region, and the results when received here shall be duly communicated for your information.

As you will have been able thoroughly to refit the ship and machinery at Sydney, and if necessary to dock her, it is not contemplated there will be any necessity to visit Hong-Kong, but you will have to consider in good time whether it may be necessary to apply to the senior officer there to forward stores or provisions to you at Manila, which latter will be a good port for refit and refreshment before proceeding into the Pacific.

You would leave Manila about December 1874, and as there will be no subsequent opportunity of visiting the western or Polynesian region of the Pacific, it will be necessary to make a stretch as far eastward and southward as the seasons and other circumstances will admit before proceeding to Japan. It will be most