

their primitive form, were much worn, and showed many more signs of decay. Near the extreme point of the barrier visited, in longitude 97° E., latitude $62^{\circ} 30'$ S., and where it begins to trend to the westward, vast collections of these islands were encountered. From this point they must pass to the northward during the next season, partly influenced by the current, and partly scattered by the prevailing winds, until they reach the sixtieth degree of latitude, when they encounter the easterly and north-easterly streams that are known to prevail, which carry them rapidly to the north.

Our data for their actual drift, though not altogether positive, are probably the best that can be had, and will go far towards ascertaining the velocity of their progress to lower latitudes; our observations also furnish some estimate of the time in which they are formed. On our way south, we did not fall in with ice-islands until we reached latitude 61° S. The Peacock was the first to return, and nearly upon the track by which we had gone south; the last seen by her was in 55° S. The Vincennes, on her return fifty days later, saw them in 51° S. The Porpoise, about the same time, in 53° S. The observation in the Vincennes gives a distance of ten degrees of latitude, or six hundred miles to be passed over in fifty days, which would give about half a mile an hour; or, taking the Peacock's observations, a more rapid rate would be given, nearly three-fourths of a mile. Many icebergs were met in the latitude of 42° S., by outward-bound ships to Sydney, in the month of November; these, I learned, were much worn, and showed lofty pinnacles, exhibiting no appearance of having ever been of a tabular form. These no doubt are such as were detached during a former season, and being disengaged from the barrier, would be naturally, early the next season, drifted by the easterly current as well as the westerly wind, and would pursue the direction they give them. They would therefore be driven to the northeast as far as the southwest winds prevail, and when these veer to the westward would receive an easterly direction. It is where these winds prevail that they are most frequently found by the outward-bound vessels,—between the latitudes of 40° and 50° S.

Respecting the period of time required for the formation of these ice-islands, much light cannot be expected to be thrown on the subject; but the few facts derived from observations lead to some conclusions. Many of them were measured, and their altitude found to be from fifty to two hundred and fifty feet; eighty distinct stratifications were counted in some of the highest, and in the smallest thirty, which appeared to average a little more than two feet in thickness.

Supposing the average fall of snow in these high latitudes to be an inch a day, or thirty feet a year, the largest icebergs would take more than thirty years to form. They were seen by us in all the stages of their growth, and all bore unequivocal marks of the same origin. The distance from the land at which they were forming, fully satisfied me that their fresh water could only be derived from the snows, &c.

The movement of the ice along the coast is entirely to the westward, and all the large ranges of ice-islands and bergs were found in that direction, while the eastern portion was comparatively free from it. A difference was found in the position of the floe-ice by the different vessels, caused rather by the wind than by the tide. When the Vincennes and Porpoise passed the opening by which the Peacock entered, it was found closed, although only twenty-four hours had elapsed. It has been seen that the ice had much movement during the time the Peacock was beset by it, and the bay was all but closed when she effected her escape. Another instance occurred, where the Porpoise, in about the longitude of 130° E., found the impracticable barrier a few miles further south than the Vincennes did six or seven days after; but this fact is not to be received as warranting any general conclusion, on account of the occurrence of southeast gales during the intermediate time. The trials for currents have, for the most part, shown none to exist. The Porpoise, it is true, experienced some, but these were generally after a gale. If currents do exist, their tendency is westward, which I think the drift of the ice would clearly prove. The difference between the astronomic positions and those given by dead-reckoning, was of no avail here as a test,* for the courses of the vessels among the ice were so tortuous, that the latter could not be depended upon.

The winds which prevail from the southwest to the southeast occasionally bring clear weather, interrupted by flurries of snow; the north wind is light, and brings thick fogs, attended by a rise of temperature. Extremes of weather are experienced in rapid succession, and it is truly a fickle climate.

The evidence that an extensive continent lies within the icy barrier, must have appeared in the account of my proceedings, but will be, I think, more forcibly exhibited by a comparison with the aspect of other lands in the same southern parallel. Palmer's Land, for instance, which is in like manner invested with ice, is so at certain seasons of

* The fact of there being no northerly current along this extended line of coast, is a strong proof in my mind of its being a continent, instead of a range of islands.

the year only, while at others it is quite clear, because strong currents prevail there, which sweep the ice off to the northeast. Along the Antarctic Continent for the whole distance explored, which is upwards of fifteen hundred miles, no open strait is found. The coast, where the ice permitted approach, was found enveloped with a perpendicular barrier, in some cases unbroken for fifty miles. If there was only a chain of islands, the outline of the ice would undoubtedly be of another form; and it is scarcely to be conceived that so long a chain could extend so nearly in the same parallel of latitude. The land has none of the abruptness of termination that the islands of high southern latitudes exhibit; and I am satisfied that it exists in one uninterrupted line of coast, from Ringgold's Knoll, in the east, to Enderby's Land, in the west; that the coast (at longitude 95° E.) trends to the north, and this will account for the icy barrier existing, with little alteration, where it was seen by Cook in 1773. The vast number of ice-islands conclusively points out that there is some extensive nucleus which retains them in their position; for I can see no reason why the ice should not be disengaged from islands, if they were such, as happens in all other cases in like latitudes. The formation of the coast is different from what would probably be found near islands, soundings being obtained in comparatively shoal water; and the colour of the water also indicates that it is not like other southern lands, abrupt and precipitous. This cause is sufficient to retain the huge masses of ice, by their being attached by their lower surfaces instead of their sides only.

Much inquiry and a strong desire has been evinced by geologists, to ascertain the extent to which these ice-islands travel, the boulders and masses of earth they transport, and the direction they take.

From my own observations, and the information I have collected, there appears a great difference in the movements of these vast masses; in some years, great numbers of them have floated north from the Antarctic Circle, and even at times obstructed the navigation about the capes. The year 1832 was remarkable in this respect; many vessels bound round Cape Horn from the Pacific, were obliged to put back to Chili, in consequence of the dangers arising from ice; while, during the preceding and following years, little or none was seen: this would lead to the belief, that great changes must take place in the higher latitudes, or the prevalence of some cause to detach the ice-islands from the barrier in such great quantities as to cover almost the entire section of the ocean, south of the latitude 50° S. Taking the early part of the (southern) spring, as the time of separation, we are enabled to make some estimate of the velocity with which they move:

many masters of vessels have met them, some six or seven hundred miles from the barrier, from sixty to eighty days after this period, which will give a near approximation to our results heretofore stated.

The season of 1839 and '40 was considered as an open one, from the large masses of ice that were met with in a low latitude, by vessels that arrived from Europe at Sydney: many of them were seen as far north as latitude 42° S.

The causes that prevail to detach and carry them north, are difficult to assign. I have referred to the most probable ones that would detach them from the parent mass in their formation. Our frequent trials of currents, as has been stated, did not give us the assurance that any existed; but there is little doubt in my mind that they do prevail. I should not, however, look to a surface current as being the motive power that carries these immense masses at the rate they move; comparatively speaking, their great bulk is below the influence of any surface current, and the rapid drift of these masses by winds is still more improbable; therefore I conceive we must look to an under current as their great propeller. In one trial of the deep-sea thermometer, we found the temperature beneath, four degrees warmer than the surface. Off Cape Horn, the under temperature was found as cold as among the ice itself; repeated experiments have shown the same to occur in the Arctic regions. From this I would draw the conclusion that changes are going on, and it appears to me to be very reasonable to suppose, that at periods, currents to and from the poles should at times exist; it is true, we most generally find the latter to prevail, as far as our knowledge of facts extends, but we have not sufficient information yet to decide that there is not a reflow towards the pole; the very circumstance of the current setting from the higher latitudes, would seem a good argument that there must be some counter-current to maintain the level of the waters. These masses, then, are most probably carried away in the seasons when the polar streams are the strongest, and are borne along by them at the velocity with which they move: that these do not occur annually may be inferred from the absence of ice-islands in the lower latitudes; and that it is not from the scarcity of them, those who shared the dangers of the Antarctic cruise, will, I have little doubt, be ready to testify; for, although great numbers of them studded the ocean that year, yet the narrative shows that vast numbers of them were left.

The specific gravity of the ice varies very much, as might naturally be expected; for while some of it is porous and of a snowy texture,

other islands are in great part composed of a compact blue flinty ice. This difference is occasioned by the latter becoming saturated with water, which afterwards freezes.

On the ice there was usually a covering of about two feet of snow, which in places had upon it a crust of ice not strong enough to bear the weight of a man. Those ice-islands, which after having been once seen were again passed through immediately after a gale, were observed to be changed in appearance; but though for forty-eight hours a severe storm had been experienced, they had not undergone so great a transformation as not to be recognised. They also appeared to have shifted their position with regard to one another, their former bias and trendings being broken up.

During our stay on the icy coast, I saw nothing of what is termed pack-ice,—that is, pieces forced one upon the other by the action of the sea or currents.

On the 21st, the weather became unsettled, with light westerly winds, and we made but little progress to the westward. The barrier, at 6 P. M., was seen trending to the westward. In consequence of indications that threatened bad weather, I deemed it useless risk to remain in the proximity of so many ice-islands; and a strong breeze, with squally weather, having already set in, I took advantage of it, feeling satisfied that our farther continuance in this icy region would not only be attended with peril to the ship, but would cause a waste of the time which was demanded by my other duties; and having nearly three thousand miles to sail to our next port (Bay of Islands), I made up my mind to turn the head of the vessel northward.

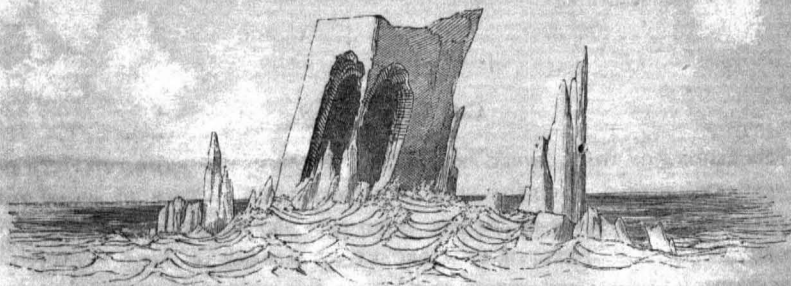
I therefore had the officers and crew called aft, thanked them all for their exertions and good conduct during the trying scenes they had gone through, congratulated them on the success that had attended us, and informed them that I had determined to bear up and return north.

Having only twenty-five days' full allowance of water, I ordered its issue to be reduced to half allowance.

I have seldom seen so many happy faces, or such rejoicings, as the announcement of my intention to return produced. But although the crew were delighted at the termination of this dangerous cruise, not a word of impatience or discontent had been heard during its continuance. Neither had there been occasion for punishment; and I could not but be thankful to have been enabled to conduct the ship through so difficult, and dangerous a navigation without a single accident, with a crew in as good, if not in a better condition than when we first

reached the icy barrier. For myself, I indeed felt worse for the fatigues and anxieties I had undergone ; but I was able to attend to all my duties, and considered myself amply repaid for my impaired health by the important discoveries we had made, and the success that had attended our exertions.

I shall now leave the Vincennes to pursue her route northward, and return to the Porpoise, the result of whose proceedings will be detailed in the following chapter.



ICE-ISLAND.

CHAPTER XI.

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CHAPTER XI

ANTARCTIC CRUISE—CONTINUED.

1840.

ON the 22d January, the Porpoise lost sight of the Peacock, and continued beating to the southwest. The weather was extremely cold; sea-water froze on being a few minutes in the bucket on deck. Some shrimps were caught. The water at 3 P. M. was much discoloured; got a cast of the lead with two hundred fathoms: no bottom; found the current south-by-east three-fourths of a mile per hour. At 4^h 30^m, passed large icebergs, one of which had several dark horizontal veins, apparently of earth, through it; large quantities of floe and drift-ice to the southward; the sea very smooth. A report of high land was made this morning; indeed every thing indicated the proximity of land. The number of seals, whales, penguins, shrimps, &c., had very much increased. The pure white pigeons were also seen in numbers.

23d. Countless icebergs in sight; the sea quite smooth; not the slightest motion perceptible. At meridian, they were in latitude 66° 44' S., longitude 151° 24' E., and close to the barrier, which appeared quite impenetrable, as far as the eye could reach from aloft, to the north-northwest and north-northeast, with numberless immense ice-islands entangled and enclosed in it in all directions. The position they occupied seemed an inlet of elliptical shape, with an opening to the north. It was needless to count the many scattering islands of ice distinct from the vast chain; intermingled with field-ice, they studded the gulf like so many islands, of various shapes and dimensions. At 2^h 25^m, a sail was discovered on the lee bow; kept off to communicate, supposing it to be the Vincennes or Peacock. At 2^h 30^m, the

Peacock was made out on the southern board, showing no disposition to communicate; showed our colours, and hauled to the westward.

24th. The day was remarkably fine, such as is seldom experienced in this region. The water appeared much discoloured and of a dirty olive-green colour. At meridian, they again made the field-ice, and tacked to the northward, passing through large quantities of ice-islands; weather looking bad, with occasional light snow-storms.

25th. Part of this day was clear and pleasant, though snow fell at intervals; the field-ice was in sight several times, and many ice-islands of great size and beauty. Penguins were swimming round, and also several shoals of black-fish; a black albatross was shot; towards night the weather became very thick; they were in longitude 150° E., latitude $65^{\circ} 56'$ S.

26th. Fresh winds blowing from the eastward; during the first few hours, a thick snow-storm; at 4 A. M. it cleared; at six o'clock made a sail; the strange sail fired a gun and made signal, when we bore down and spoke her; she proved to be the Vincennes; compared chronometers, and received rate; bore off to the westward under all sail; found the drift and floe-ice very thick, and were with great difficulty enabled to navigate through it; wind fresh, with a long swell from the southwest; at 5^h 30^m, the ice increasing in quantity, found it was necessary to haul off. Lost sight of the Vincennes; weather very threatening. The course during the day proved a very tortuous one; many penguins resting on the ice; their gait is an awkward kind of strut.

Received orders to-day by signal to meet the Vincennes along the icy barrier between the 20th and 28th of next month.

27th. This day proved clear and cold; wind from the southwest; ice forming rapidly on the vessel; at meridian, lost sight of the Vincennes; very many ice-islands in sight; latitude $65^{\circ} 41'$ S., longitude $142^{\circ} 31'$ E. On this day, Lieutenant-Commandant Ringgold determined with the fair wind to pass to the extreme limit of his orders, longitude 105° E.; being of opinion he would thereby save time, and be enabled more effectually to examine the barrier with what he thought would be found the prevailing wind, viz: that from the westward; in this, however, he was mistaken.

The 28th set in with a light breeze from east-northeast; made all sail; at 5 A. M., wind increasing rapidly, snow falling fast, and weather becoming thick; at six o'clock, made the floe and drift-ice; shortened sail, and hauled off to the northwest, it becoming so thick as to render any advance unsafe; until meridian, very strong winds from the east-

ward, the brig under close-reefed topsails; at 2 p. m. found it difficult and hazardous to proceed, passing within a short distance of ice-islands, and just seeing them dimly through the obscurity; at three, the brig was hove-to, and Lieutenant-Commandant Ringgold says, in reference to their situation—

“I felt great anxiety to proceed, but the course was so perilous, the extent and trend of the barrier so uncertain, I could not reconcile it with prudence to advance. The frequent falling in with fields of drift-ice, the numerous and often closely-grouped chains of icebergs, were sufficient to point out discretion. The long-extended barrier was encountered in latitude $65^{\circ} 08' S.$; at twelve to-day our position was $65^{\circ} 16' S.$; it is easy to perceive the possibility of a trend northerly again, which would have placed us in a large and dangerous gulf, with a heavy gale blowing directly on, without a hope of escape.

“At 8 p. m., blowing very heavy; the snow falling rendered vision beyond a few yards impossible; I have seldom experienced a heavier blow, and towards the conclusion the squalls were severe and frequent.”

The barometer at 3 a. m., stood at 28.200 in., the lowest point it reached during the gale. The temperature of the air was 26° .

The severe gale continued during the 29th, with a heavy sea, and snow falling thickly; at 8 a. m. the gale abated, and the clouds broke away; through the day the sun occasionally out; the weather appeared unsettled; the sun set red and fiery; the latitude was observed $64^{\circ} 46' S.$, longitude $137^{\circ} 16' E.$

On the 30th they stood again to the southwest; at 2 a. m. they made the barrier of field-ice, extending from southeast to west, when it became necessary to haul more to the northwest; the weather becoming thick with a heavy fall of snow, at four o'clock, the wind increasing, compelled them to shorten sail; at 7^h 30^m the ice in fields was discovered close aboard, heading west; at this time hauled immediately on a wind to the northeast, and soon passed out of sight of the ice and out of danger; during the day blowing a gale of wind, and very heavy sea running, passing occasional ice-islands; at meridian, being clear of the barrier, the brig was hove-to under storm-sails, to await the clearing of the weather. In the afternoon the weather showed signs of clearing; the sun coming out, again made sail to approach the barrier; no ice in sight; great numbers of black petrels about.

At 4 p. m. discovered a ship ahead, and shortly after another was made, both standing to the northward; the brig hauled up to the northwest, intending to cut them off and speak them, supposing them to be the Vincennes and the Peacock; shortly afterwards they were seen to

be strangers, being smaller ships than our own; at 4^h 30^m the Porpoise hoisted her colours. Knowing that an English squadron under Captain Ross was expected in these seas, Lieutenant-Commandant Ringgold took them for his ships, and was, as he says, "preparing to cheer the discoverer of the North Magnetic Pole."

"At 4^h 50^m, being within a mile and a half, the strangers showed French colours: the leeward and sternmost displayed a broad pennant; concluded now that they must be the French discovery ships under Captain D'Urville, on a similar service with ourselves: desirous of speaking and exchanging the usual and customary compliments incidental to naval life, I closed with the strangers, desiring to pass within hail under the flag ship's stern. While gaining fast, and being within musket-shot, my intentions too evident to excite a doubt, so far from any reciprocity being evinced, I saw with surprise sail making by boarding the main tack on board the flag-ship. Without a moment's delay, I hauled down my colours and bore up on my course before the wind."

It is with regret that I mention the above transaction, and it cannot but excite the surprise of all that such a cold repulse should have come from a French commander, when the officers of that nation are usually so distinguished for their politeness and attention. It was with no small excitement I heard the report of it,—that the vessels of two friendly powers, alike engaged upon an arduous and hazardous service, in so remote a region, surrounded with every danger navigators could be liable to, should meet and pass without even the exchange of common civilities, and exhibit none of the kind feelings that the situation would naturally awaken:—how could the French commander know that the brig was not in distress or in want of assistance? By refusing to allow any communication with him, he not only committed a wanton violation of all proper feeling, but a breach of the courtesy due from one nation to another. It is difficult to imagine what could have prompted him to such a course.

At 6 P. M. the weather again was thick, with the wind southeasterly; field-ice again in sight; it commenced snowing and the French ships were lost sight of. At 8 P. M., they passed in sight of large fields of ice and ice-islands; at 10^h 30^m, the snow falling so dense and the weather so thick, that it was impossible to see the brig's length in any direction; she was hove-to, to await a change of weather.

The beginning of the 31st the gale continued; at 7 A. M. moderating, they again made sail to the westward; in half an hour discovered a high barrier of ice to the northward, with ice-islands to the southward; at 10 A. M., they found themselves in a great inlet formed by

vast fields of ice, which they had entered twelve hours previously; the only opening appearing to the eastward, they were compelled to retrace their steps, which they effected at 8 p. m., passing some ice-islands which they recognised as having been seen the evening before. They now found themselves out of this dangerous position, and, passing the point, kept away to the westward. Lieutenant-Commandant Ringgold judged it prudent to heave-to during the night, on account of the darkness.

February 1st. The immense perpendicular barrier encountered yesterday was now in sight, trending as far as the eye could reach to the westward; it was of tabular form, from one hundred and fifty to one hundred and eighty feet in height, of solid compact ice, resembling a long line of coast; wind moderate from the southeast,—a brilliant blink extending along and elevated above the barrier. At 4 p. m., they arrived at the end of this barrier, and found it trending off to the southward, seeming as if numbers of icebergs had been broken from the barrier by some mighty force, exceeding in numbers any thing that had yet been seen, and extending as far south as could be distinguished, interspersed with much drift and floe-ice. On the southern horizon sixty-four ice-islands were counted, exclusive of many near them, and those that were not distinguishable from the barrier.

The current was tried here, and found setting southeast nearly a mile an hour. Pigeons around in numbers, also whales and large flocks of penguins.

The flights now evidently lengthened, thus adding to the cares and anxieties attendant on this navigation. It was fortunate that the prevailing winds were from the southeast and southwest, or coming off the ice. If they had blown from the northward, they would have been attended with danger, and might have proved fatal to the vessel.

2d. At meridian, in longitude $130^{\circ} 36'$ E., and latitude $65^{\circ} 24'$ S. They were prevented from proceeding farther to the southward by the impenetrable icy barrier. At this time they had one hundred large ice-islands in sight, without counting any of the smaller bergs, which were innumerable; saw great numbers of penguins and some seals (*Phoca proboscidea*). The current was tried here, and found setting as yesterday, and at the same rate.

At 8 p. m., were obliged to retrace their steps to the northward, the weather becoming thick, with light snow. At eleven, constant and thick snow-storm, and unable to see any distance; the gale continuing, lay-to under a close-reefed main-topsail. The vignette, from a sketch by Mr. Totten will give some idea of her situation.



BRIG COVERED IN A GALE.

3d. A gale from southeast, heavy sea rising; occasionally passing ice-islands and field-ice. The gale continued throughout the day, but moderated towards midnight; the sea was heavy, the weather thick, and the brig completely covered with ice and snow. The barometer fell to 28.040 in. Temperature of the air 32° .

4th. Although the wind was moderate, yet it was so thick and foggy as to preclude bearing up. Towards meridian it cleared sufficiently for them to bear up and continue their examinations. To day the current was found west-northwest, three quarters of a mile per hour.

On the 5th they had a beautiful day,—no climate or region, Lieutenant-Commandant Ringgold remarks, could have produced a finer: this gave them an opportunity of thoroughly drying every thing and ventilating the vessel, which was much required; standing to the northward, in order to make a long board to the westward; the longitude $127^{\circ} 08' E.$, latitude $63^{\circ} 22' S.$; few ice-islands in sight, and those appeared much worn, showing marks of rapid decay, with isolated pieces,—some standing erect, while others were inclined, resembling fragments of columns and broken arches. This night there was a brilliant display of the aurora australis: at eleven o'clock there was perceived in the northern horizon a luminous arched cloud,

at 15° of altitude, extending from northwest to northeast; the stars were partially obscured in the direction of the clouds; the pale flashes or coruscations vanishing very suddenly, were succeeded by spiral columns or streamers, converging with great velocity towards the zenith; brilliant flashes would again issue forth from the remote parts of the cloud, succeeded in quick succession by perpendicular rays emanating from the cloud, having the shape of a rounded column or basaltic-shaped cylinder, which in contrast with the dark cloud showed in broad relief. As the cloud seemed to rise, the scene became a most interesting one, from the varied and oft-changing coruscations: finally the arc assumed a contracted and elliptical form, vivid streamers bursting forth as if from a corona, converging all towards the zenith, until they were lost in the coming day. The magnetic needle did not show any disturbance. The barometer stood stationary during its continuance. The sympiesometer indicated a slight fall. At the time there was no wind; the stars were brilliant, and all visible.

6th. During this day they had light winds; pursued their course to the westward; wind from the southward. In the afternoon they had light flurries of snow, and at times hail; the sea perfectly smooth, and few icebergs in sight. Longitude $125^{\circ} 32'$ E., latitude $63^{\circ} 34'$ S.

During the 7th, the winds variable; at eight tacked to the southward, in order to close in with the barrier; the wind again hauling, tacked; the number of icebergs increasing; all those seen for the few days past have appeared variously shaped, much worn and fractured, some evidently overturned, and immense arches or caves washed in them; they were totally distinct from those seen to-day.

8th. A brisk breeze from the southward, which carried them on rapidly to the westward. At meridian, discovered compact fields of ice, with many stupendous ice-islands enclosed within it; the ice appeared more broken than any hitherto seen, with many fragments of icebergs resembling spires and broken columns. Altered their course to clear the barrier, and by two o'clock they had extricated themselves. Penguins, whales, brown pigeons, and the black albatross, were seen, near the barrier. In the afternoon the snow fell in beautiful shining spiculæ, resembling stars, usually of six, but sometimes of twelve points: they varied from one-eighth to one-sixteenth of an inch in diameter.

The barrier was occasionally seen, and the ice-islands began again to assume a tabular form; towards the close of the day, very many whales, penguins, &c., seen. Longitude 116° E., latitude $64^{\circ} 01'$ S.

On the 9th, fresh breezes from the southeast; at 10 A. M. made the barrier again, the weather being favourable; at 4 P. M. standing along

the barrier, through drift-ice, with countless icebergs in sight; good observations were obtained, placing them in longitude $112^{\circ} 41'$ E., and latitude $64^{\circ} 55'$ S. At 10 p. m., some few appearances of the aurora australis in the northern sky, light coruscations streaming upwards, but quite faint, and only for a very short period; many stars and several constellations were traced without difficulty. The sea was smooth; lowered a boat to try the current, but found none. The dip was $83^{\circ} 30'$.

On the morning of the 10th the weather cleared off, and gave them an opportunity of ventilating the vessel; closed in with the field-ice for the purpose of obtaining a supply of water, and the boats were despatched to take in ice; the longitude was found to be $110^{\circ} 34'$ E., latitude $65^{\circ} 12'$ S.; the field-ice here was found to be interspersed with many large ice-islands and bergs. At five o'clock the boats returned with ice. The current was found to be setting north-northeast, five fathoms an hour; the weather continued clear and healthful; made the field-ice ahead and on the lee bow; shortly after, cleared it. The twilight in the southern horizon presented a beautiful appearance, a bright salmon colour radiating from the sun, throwing its tints over the whole sky, tinging the few cirro-stratus clouds that were in the northern quarter, and giving a soft colour to the immense ice-islands that were slumbering along the barrier, and aiding to lend to the scene its peculiar character of silence, solitude, and desolation.

The weather was clear and pleasant on the 11th, with a light wind from the southeast; many penguins and whales were seen. The icebergs were numerous, and some of great beauty, with almost regularly turned arches, and of the most beautiful aqua-marine tints. Longitude was $106^{\circ} 10'$ E., latitude $65^{\circ} 28'$ S.

During the morning of the 12th, running along high broken fields of ice, with a light breeze from the southward; weather overcast; discovered a large piece of ice of a dark brown colour floating by, resembling a piece of dead coral; lay-to, and sent a boat to bring it alongside; obtained from it several pieces of granite and red clay, which were frozen in; the ice was extremely hard and compact, composed of alternate layers of ice and snow; the strata of snow was filled with sand. The icebergs near at the time presented signs of having been detached from land, being discoloured by sand and mud. A number of white procellaria were obtained. The ice-islands again appeared in great numbers. At 3 p. m. hauled up, steering westerly into a very deep inlet or gulf, formed by extensive fields of ice. Believing from the indications of the morning that land could not be far off, in approaching the head of this inlet, several icebergs had the appearance of being in

contact with the land, having assumed a dark colour from the clay and sand blown upon them; the whole group around seemed as if in the vicinage of land; sounded with two hundred fathoms: no bottom; also tried the current, but found none. Towards night, it becoming thick with snow, they continued under snug sail, intending to examine more closely the barrier and inlets in the morning.

13th. At 3 A. M. they again made sail to the westward, with wind from the east; at six o'clock they had snow-squalls, rendering it unsafe to proceed, and impossible to make any discovery. A few hours afterwards the weather cleared a little; made sail again to the northwest. At meridian overcast, with a stiff southeast breeze; at 1^h 30^m, approached to within pistol-shot of the barrier, observing much of the dark dirty ice interspersed with the field-ice; kept along it very closely, tracing the barrier northerly; observed a large black object on the ice; shortened sail, and despatched a boat: it proved to be a large mass of black, red, and mixed-coloured earth, resting upon a base of snow and ice, situated some fifty yards back from the margin of the field-ice, and was found to be red earth, mixed with granite and sandstone. Penguins were also procured alive. At 3 P. M. they again followed the trend of the ice in a northwesterly direction; a vast field, of uninterrupted extent, seemed moving along to the westward, the large icebergs containing dark and discoloured masses, with frequent strata of the same description. They were still at a loss to account for these frequent signs of land; discoloured pieces of ice seemed mingled with the general mass; they were often seen along its margin, and appeared as though the icebergs had been turned over, presenting collections as if from the bottom. Great numbers of sperm whales were seen this day. At 8 P. M. they passed out northwardly with a light breeze and smooth sea, through an extensive chain of icebergs, which seemed grouped off the western point of the barrier: upwards of one hundred of them were counted, several of which were very much discoloured. The sunset was brilliant, bright crimson tints illuminating the icebergs, and producing a beautiful effect.

On the 14th, Lieutenant-Commandant Ringgold, having passed a few degrees beyond his instructions, that is, having reached longitude 100° E., and latitude 64° 15' S., now commenced his return, in order to examine those places in the barrier which he had been prevented from doing on his way west.

15th. Continued their course to the eastward. Lieutenant-Commandant Ringgold frequently refers to the happy and cheerful condition of his crew, and their freedom from all disease.

On the 16th and 17th, they were employed in getting to the east-

ward, passing many worn and shattered bergs. On the evening of the latter day, they had another exhibition of the aurora australis, extending from north-northwest to east; it was of a light straw-colour, but very indistinct; the luminous bank was at an elevation of 30° . The light in the northwest was most distinct, radiating from a nucleus above the horizon towards the zenith, where it formed a beautiful halo. It was not of long duration. Many ice-islands and bergs in sight: upwards of two hundred; nearly all of a tabular form,—the sides of many of them beautifully excavated by the waves, presenting innumerable Gothic arches, extending often to a considerable distance into the body of the ice.

Their position on the 18th was in longitude $114^{\circ} 17' E.$, latitude $62^{\circ} 37' S.$ Flocks of black-birds were very numerous, but not near enough to be taken.

On the 19th and 20th, proceeding to the eastward. On the 20th, they had but few ice-islands in sight, although they were seventy miles further south than on the 18th, when the largest number ever seen by them at one time was visible; having reached the longitude of $120^{\circ} E.$, they again steered south, to make the barrier. The current was tried, but none found.

The 21st proved stormy, with strong breezes from the southeast, and much snow and rain, which covered the brig with ice. Field-ice was seen ahead, when they again stood to the eastward, longitude being $121^{\circ} 30' E.$, latitude $65^{\circ} 15' S.$ On this night they experienced a heavy gale, during which the barometer fell to 27.50 in., where it remained during part of the 22d. The squalls were very severe, accompanied with snow, sleet, hail, and heavy seas; they had now reached longitude $122^{\circ} E.$, and latitude $64^{\circ} 09' S.$

February 22d, being Washington's birthday, the colours were hoisted, and the crew received an extra allowance. Lieutenant-Commandant Ringgold took this occasion to express to them his satisfaction for the manner in which they had performed their duties during the present cruise, and that their conduct would be duly represented to the Commander of the Expedition, and the government.

On the 23d the weather was again thick, with snow and mist.

On the 24th they had reached longitude $126^{\circ} E.$, and latitude $64^{\circ} 29' S.$ On this day they again sighted the barrier; when, having completed what he deemed a full execution of his instructions, Lieutenant-Commandant Ringgold determined to put the brig's head north,—which was accordingly done.

Strong winds and gales continued for the next three days. On the 27th they again found themselves in east variation, in longitude 138°

E., latitude $60^{\circ} 08' S.$ The white albatross had now again become common.

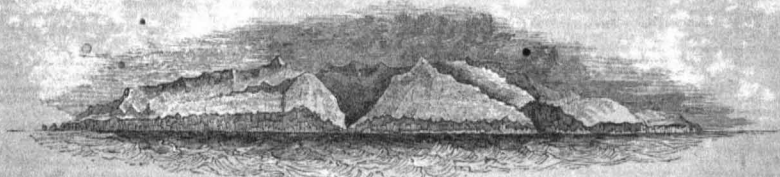
On the 29th, they had a beautiful display of the aurora australis; the whole southern hemisphere was covered with arches of a beautiful straw-colour, from which streamers radiated, both upwards and downwards, of almost a lustrous white; numbers of concentric arches would occasionally show themselves, of a width of a few feet, uniting to form a complete canopy for a moment, and then vanish. The arches extended from east-southeast to west-northwest; the display continued for over two hours; the stars were seen above them. Previous to, and during its continuance, the thermometer indicated a change of four degrees, and the wind shifted to the southward.

On the 1st of March, in latitude $55^{\circ} S.$, and longitude $140^{\circ} E.$, they passed the last ice-island.

On the 2d, great numbers of pyrosoma of large size were passed.

On the 4th, some faint appearances of the aurora australis were seen.

On the 5th, the Lord Auckland Isles were descried. Mr. Totten, who was officer of the deck, was accidentally knocked overboard by the trysail-boom, but was fortunately rescued without injury. Immense numbers of albatrosses were about. The aurora was again seen in the southern hemisphere.



AUCKLAND ISLES.

On the 7th they anchored in the harbour of Sarah's Bosom, in twelve fathoms water. During their brief stay here, all were actively employed wooding and watering, for which this harbour affords a fine opportunity. Assistant-Surgeon Holmes made several excursions on the largest island, of which he gives the following account:

"I found it very thickly covered with trees, in its less elevated parts; as few of them were of any size, I found no small difficulty in penetrating and making my way through them; in many places it was absolutely impossible. It was only after a long and fatiguing walk, that I succeeded in reaching the summit of that part of the island, near which the brig was anchored, where I found the trees less numerous

A thick growth of underwood and dwarf bushes, intermixed with ferns concealed the surface, rendering it difficult to walk. Even on the places apparently most level, the ground was very unequal, and a single step would sometimes send me nearly up to the neck into a hollow filled with large fern fronds. On the highest parts, the small level spots were covered only with moss, and a description of tall grass, and in places also a kind of grain grew abundantly. The ground was dry every where, all the water being found in the streams, which were numerous and pure. Near the summit, the ground was perforated in all directions, probably by birds, who rear their young in these holes. Many of the birds, principally procellaria, were sitting on the ground: they made no effort to escape, but suffered themselves to be taken without any attempt at resistance.

"The forest was full of small birds, of three or four different species, which were perfectly fearless; one little fellow alighted on my cap as I was sitting under a tree, and sang long and melodiously; another and still smaller species, of a black colour spotted with yellow, was numerous, and sang very sweetly; its notes were varied, but approximated more nearly to the song of our blackbird; occasionally a note or two resembled the larks. Hawks too were numerous, and might be seen on almost all the dead trees, in pairs. Along the sea-coast were to be seen the marks of their ravages upon the smaller birds. The sea-birds were very numerous on the opposite side of the island, sitting upon the cliffs or hovering over the islet."

On the western side of the Auckland Island, the under-brush and young trees are exceedingly thick. Dr. Holmes remarks, that it was impossible to penetrate; that he was occupied fully an hour in making his way for a hundred yards, where to all appearance a human step had never before trodden. There was not a vestige of a track; old trees were strewn about irregularly, sometimes kept erect by the pressure on all sides. Some trees were seen upwards of seventy feet in height, although the generality were only from fifteen to twenty; every part of the island was densely covered with vegetation; the soil, from the decomposition of vegetable matter, had acquired considerable richness; specimens of all the plants were collected. The botany of these islands is nearly allied to that of New Zealand, and will be found treated of in the Botanical Report, to which I would refer. Some species resembling the tropical plants were found here, viz., the coffeaceous plants.

These islands have in many places the appearance of having been raised directly from the sea; the cliffs consisted of basalt, and were generally from fifty to ninety feet perpendicular.

The Auckland Islands are the resort of whalers for the purpose of refitting and awaiting the whaling season, which occurs here in the months of April and May. Near the watering place a commodious hut has been erected by a French whaler. Near by was another in ruins, and close to it the grave of a French sailor, whose name was inscribed on a wooden cross erected over it. Some attempts at forming a garden were observed at one of the points of Sarah's Bosom, and turnips, cabbage, and potatoes, were growing finely, which, if left undisturbed, will soon cover this portion of the island; to these a few onions were added. Besides the birds, the only living creature was a small mouse, one of which Dr. Holmes caught: it made no attempt to get out of his way, and seemed to have no fear when taken; being consigned to a pocket, he soon contrived to escape. Many of the smaller islands of this group were visited; they closely resemble the larger one. Penguins were numerous and of a variety of colours.

These isles have a picturesque, wild, steep, and basaltic appearance: the highest peak was estimated to be eight hundred feet; the smaller has a less elevation: the general aspect of the land resembles the region around Cape Horn. The Harbour of Sarah's Bosom is not the most secure; that of Lawrie's is protected from all winds, and has a large and fine streamlet of water at its head. The rocks are covered with limpets, and small fish of many varieties are caught in quantities among the kelp. The crew enjoyed themselves on chowders and fries. No geese were seen, and the only game observed were a few gray ducks, snipes, cormorants, and the common shag. The land birds are excellent eating, especially the hawks; and on the whole, it is a very desirable place at which to refit.

On the 9th of March they had finished, and were prepared for sea, but the weather was threatening and caused them to delay. The magnetic dip was found to be $73^{\circ} 47' 30''$ S.

A whaler, under Portuguese colours, but commanded by an Englishman, arrived, and anchored in Lawrie's Cove, to await the coming of the whales! The night proved stormy; the wind at $10^h 30^m$ from the northeast, blowing very heavy in puffs. Towards noon it moderated, and at 2 P. M. they got under way, with a light breeze from the northwest, and stood to sea.

The latitude of Sarah's Bosom is $50^{\circ} 38'$ S.; the longitude $165^{\circ} 28'$ E.

On the 12th no current was found; latitude $49^{\circ} 27'$ S., longitude $168^{\circ} 13'$ E. The weather experienced from this port to New Zealand was very similar to that in passing from Cape Horn to Valparaiso: northerly winds with mist and fog prevailing, with a heavy sea. On

the 17th they fell in with the whale-ship *Mary and Martha*, of Plymouth, Coffin, master, who informed them that there were at least one hundred whale-ships cruising in the neighbouring seas; of these, several were seen. This will give some idea of the number of vessels employed, and how great a capital is engaged in this business.

On the 18th they had a gale from north-northwest, which lasted through the day, moderating at sunset. They were in latitude $43^{\circ} 02'$ S., longitude by chronometer, $175^{\circ} 24'$ E. The barometer sank to 29.30 in. A current was experienced setting northwest, in the direction of Cook's Straits.

On the 20th, in latitude $41^{\circ} 00'$ S., longitude 177° E., the current was found setting northeast-by-north, half a mile per hour. On the 22d and 23d they experienced a heavy gale from the southeast, when they were in longitude $179^{\circ} 35'$ E., and latitude $37^{\circ} 52'$ S.; during the morning of the latter day the wind hauled to the south-southwest; the barometer, at 3 A. M., stood at 29.10 in.; the weather cleared, with the wind at southwest.

On the 26th, they reached and anchored in the river Kawa-Kawa, in the Bay of Islands, off the American consul's, about three miles above its mouth. Many vessels were passed lying at anchor off the town of Kororarika. Here they found the tender *Flying-Fish*; all well.

The cruise of the latter will now be taken up from the 1st of January, on which day she parted company with the *Vincennes*, in consequence of having carried away a gaff, and being obliged to shorten sail, in doing which their jib-stay got adrift, and carried away the squaresail-yard before it could be secured. The vessel was in the mean time exposed to a heavy sea beating over her, and at midnight they were compelled to heave-to. They then steered for the first rendezvous, Macquarie Island, where they arrived on the 10th, in the afternoon, and saw the Peacock, but it becoming thick, they were not seen by that ship.

On the 11th, Acting-Master Sinclair landed for the purpose of placing a signal on the island, agreeably to instructions. The landing was found difficult and dangerous, and their description of the island agrees with that heretofore given of it from the notes of Mr. Eld, as being dreary and inhospitable. Large numbers of penguins, and small green and yellow paroquets were seen. Near where they landed, they saw about twenty huge sea-elephants basking on the rocks, which did not seem to heed them; when disturbed, they would only throw their carcasses over, open their mouths, utter a loud growl, and go to sleep again; no measurement was taken of them, and one which was killed

could not be taken in the boat. The soil was soft and spongy, yielding to the pressure of the feet. The staff and signal being planted, they returned on board, and now passed the surf without difficulty.

On the 12th, they put away for the next rendezvous, Emerald Isle. They reached its position on the 14th, but nothing was seen of it; the weather was thick.

On the 16th, they kept off to the southward, with the wind from the southwest, accompanied with sleet and snow. In latitude 61° S., longitude 164° E., they saw the first ice. The next day, the 19th of January, the water was very much discoloured; got a cast of the lead in ninety fathoms: no bottom; passed a number of icebergs that were all flat on the top, with perpendicular sides.

On the 21st they made the icy barrier, in longitude $159^{\circ} 36'$ E., and latitude $65^{\circ} 20'$ S. From the number of icebergs and the frequency of snow-squalls, they found great danger in running through them, although the water was quite smooth.

On the 22d the weather proved pleasant, and they followed the trend of the ice. The ice-islands still showed flat tops and perpendicular sides, and there were a number of birds, seals, and whales around them; they were at noon in longitude $158^{\circ} 27'$ E. On this day they were close by an iceberg, from the main body of which a large mass fell with a noise like thunder; the snow flying into the air resembled smoke, and the swell produced by the immersion of the fragment caused the schooner to roll water in on her deck. A number of large penguins were in sight, differing from any they had heretofore seen.

On the 23d the weather was pleasant, and they had light winds from the southward and westward. Longitude $157^{\circ} 49'$ E., latitude $65^{\circ} 58'$ S. They continued coasting along the ice in search of an opening. At 8 P. M. they discovered several dark spots, which had the appearance of rocks, and on approaching the margin of the ice, they could make them out to be such with their glasses, but they were situated too far within the field-ice for a boat to get near them. This day being fine, an opportunity was afforded of drying the deck and clothes, and searing the seams with a hot iron. The vessel had been very wet, and her decks leaked badly, notwithstanding the thorough calking and repairs she had received at Sydney: the crew were almost constantly wet, below as well as above deck.

On the 24th they were obliged to steer again to the northward, in consequence of making the barrier ahead. Sea-lions were seen on the ice. They continued to follow the barrier, which trended north-north-east; the compasses were very sluggish. On the 26th and 27th the

weather became bad, with the wind to the northward and westward, accompanied by a heavy fall of snow: in the evening of the latter day, the wind hauled to the southward and westward, and brought clear weather. The 28th passed with clear weather, and several seals were about them.

The 29th was thick and snowy, with a northeast wind; passed through quantities of drift-ice, and by 2^h 30^m, it had become so thick as to render a continuance of their course perilous; at 7 P. M. they again made the solid barrier, when it was blowing a stiff gale; at 9^h 30^m discovered the ice ahead, and on both beams; wore round to the northward and eastward, to retrace their steps; it was not long before they discovered a chain of ice-islands ahead, apparently connected by solid ice; about midnight a passage was discovered between two icebergs, through which they passed. It was now blowing a heavy gale, and having gained the open sea, they attempted to reef the foresail, but were unequal to the task (four of the men being on the sick-list), and were compelled to lay-to under the whole sail, which caused the vessel to labour very much, as well as to leak a great deal, and endangered her safety by making her fly into the wind, and get a sternboard in a high sea.

On the 30th, in the morning, the gale abated, and the weather became more pleasant than they had experienced for a number of days. They had reached the longitude of 150° 16' E., latitude 65° 15' S. On this day they again passed into blue water.

31st January was thick with snow; a north wind and heavy sea.

1st of February, they were running among ice, until they sighted the barrier, when they again hauled to the northward; a moderate gale blowing, with thick weather and a heavy sea, they were obliged to heave-to.

On the 2d and 3d, they were coasting the ice. In the afternoon of the 3d they again had bad weather, which made it necessary to bring to; surrounded by bergs and drift-ice; the latter, in case of striking, would have seriously injured the tender. The icebergs seen on these days, had the appearance of recent formation; the tops flat, the sides perpendicular, and not worn by the action of the sea.

On the 4th, the gale continued, and the sea had risen to an extraordinary height; the weather was so thick that an iceberg could not be seen further than twice the length of the vessel. The tender was under too much sail, which caused her to labour dreadfully, in consequence of which she leaked in such a manner as to make it necessary to keep the pumps going almost continually. When they were stopped for a short time to rest the men, the water increased so as to reach the

cabin-floor: the water came through the seams forward in such quantities as to wet every bed and article of clothing on the berth-deck. This was a great addition to the labour and discomfort of the crew, now reduced by sickness to four men, and the strength of these much impaired by previous sickness, excessive labour, and almost constant exposure. To relieve their situation as much as possible, Lieutenant Pinkney ordered them to make use of the cabin in common with the officers. To ease the pitching of the vessel, a quantity of coal was shifted aft; but although this was a partial relief, yet as she had too much sail on her, which they had been unable to reduce at the commencement of the gale, it was not sufficient to make her easy.

On the 5th, the gale began to abate, when the crew, through one of their number, presented a communication to Lieutenant Pinkney, of which the following is a copy.

(COPY.)

We, the undersigned, the crew of the Schooner Flying-Fish, wish to let you know that we are in a most deplorable condition: the bed-clothes are all wet; we have no place to lie down in; we have not had a dry stitch of clothes for seven days; four of our number are very sick; and we, the few remaining number, can hold out no longer; we hope you will take it into consideration, and relieve us from what must terminate in our death.

(Signed)	A. MURRAY.	THOMAS DARLING.
	JOHN ANDERSON.	JAMES DANIELS.
	F. BEALE.	JOSEPH.
	JAMES DARLING.	JOHN H. WEAVER.

To LIEUTENANT PINKNEY,
U. S. Schooner Flying-Fish.

On the receipt of this appeal, Lieutenant Pinkney addressed an order to the officers, a copy of which follows.

U. S. Schooner Flying-Fish,
Lat. 66° S., long. 143° E., Feb. 5th, 1840.

GENTLEMEN,—

You will furnish me with your opinion, and the reasons which induced that opinion, of the propriety of any longer endeavouring to accomplish that part of the accompanying order, which refers to penetrating to the south.

I am, respectfully, &c.,

R. F. PINKNEY,
Lieutenant-Commandant.

To ACTING MASTER GEORGE T. SINCLAIR.
PASSED MIDSHIPMAN WILLIAM MAY.
PASSED MIDSHIPMAN GEORGE W. HARRISON.

COPY OF REPLY.

U. S. Schooner Flying-Fish,
Lat. 66° S., long. 143° E., Feb. 5th, 1840.

SIR,—

Agreeably to your order of this date, we, the undersigned officers, have to express our most thorough conviction, that the condition of this vessel's crew, and the vessel, loudly demand an immediate return to milder latitudes.

The causes of this opinion are these: that the crew of this vessel, consisting of fifteen persons (four officers and eleven men), even if well, are entirely inadequate to her safe management; but five are now confined to sick beds (one a servant), one of them is in a very critical state of health, and three others dragging out upon duty, complaining, and under medical treatment. Out of four, nominally performing duty, one of them, the cook, is totally unfit to a turn at the helm, and another cannot be trusted without the closest watching; indeed, so deficient in force are we, that in the gale of yesterday and the day before, and on a previous occasion, when it became extremely necessary to reef the foresail, the men were so deficient in physical strength as to make it impossible to accomplish it.

The crew's apartment is in the most deplorable state, leaking like a sieve, all their beds being wet, their clothes on them being so, even to their under flannels, for *one week*, and without a dry change on hand, and no prospect of having one; so miserable is their situation, that at length you have been compelled to allot them the cabin, in common with us, for the purpose of cooking, eating, and sleeping.

Furthermore, sir, in the gale now abating we find that nearly constant application to the pump is barely sufficient to keep the water from flooding the cabin-floor, evidently having started a leak; notwithstanding this, the condition of the crew is more imperative, much more so in this, our recommendation, for a return to the northward; in fact, we would cheerfully continue to the southward, if we had a proper crew.

Lastly, understanding that the crew, through one of their body, have waited upon you, and, by written application, also stated their inability to live through these hardships much longer, and begging your return.

We are respectfully, your obedient servants,

(Signed)

GEORGE T. SINCLAIR,

Acting Master.

WILLIAM MAY,

GEORGE W. HARRISON,

Passed Midshipmen.

LIEUT. COM. R. F. PINKNEY,

Commanding U. S. Schooner Flying-Fish.

Lieutenant Pinkney, in accordance with this opinion, and his own conviction of the necessity of an immediate return to milder latitudes, as the only means of restoring the sick, and preserving those on duty, who were then incapable of managing the vessel without the assistance of the officers, deemed it his duty to steer for the north, which he accordingly did.

The 6th and 7th continued thick, with occasional squalls. On the 8th, the weather again broke up, when they had several hours of sunshine, which proved of great benefit to the sick. Lieutenant Pinkney was enabled to come again on deck, who had scarcely been able to quit his berth since leaving Macquarie Island, from sickness. They had reached the longitude of $139^{\circ} 45'$ E., latitude 61° S. At 11 P. M. the aurora was seen; it was first visible in the southeast quarter, in spots resembling pale moonlight, extending to the zenith, from whence it diverged in rays, some of which reached the horizon, but the greatest number terminated at an altitude of twenty-five or thirty degrees. On the 9th, the aurora was also seen in the west, in vertical rays of pale yellow light, commencing about five degrees above the horizon, and extending to an altitude of thirty degrees. After a short time it disappeared, and was again seen in the zenith, radiating in lines to the northeast and west, reaching to within ten degrees of the horizon. The wind was from the southward. Temperature 34° . The following five days they had thick weather, and nothing occurred until the evening of the 14th, when they again had a display of the aurora; the coruscations were frequent and brilliant, but did not exhibit any different form; until after midnight, when it appeared in arches, reaching nearly to the horizon, at from 45° to 73° of altitude, and composed of short perpendicular lines, blending at one moment into a sheet of misty light, and then breaking out into brighter lines, some of which were broad. It then again shifted to the zenith, with radiations extending in every direction, in straight and wavy lines. The changes were incessant, but not shooting.

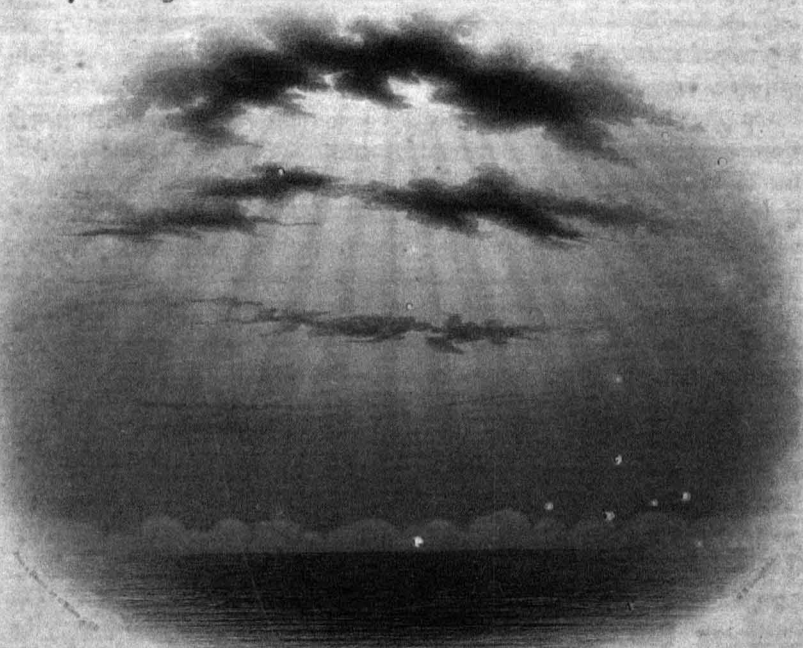
On the morning of the 15th, they again had a display of the aurora. It first appeared in the southern heavens, at an altitude of 45° , flashing to the zenith, where it disappeared. After midnight it was again visible in the southern quarter, at about 30° of altitude. It finally centered in a bright spot, which changed into a crescent, with the rounded side to the northward. From this, feathery-edged rays of pale orange-colour branched off in every direction, over which the prismatic colours seemed to flit in rapid succession. The rays would sometimes fold into one another like a fan, and reach the horizon in one direction, while in another they were drawn up to the zenith, again

to burst forth in repetitions, until lost in daylight. On the 19th, the aurora again appeared in an arch of 15° altitude.

They passed the last icebergs in latitude $55^{\circ} 30' S.$, longitude $145^{\circ} 30' E.$

On the 22d they spoke a French whaler from Hobart Town, who expressed much surprise at finding so small a vessel in such high latitudes. The captain sent a boat on board, and invited them to "soup" with him.

On the 23d they made the southern island of New Zealand. On the 1st of March they experienced a most violent gale. The wind, about noon on the 29th of February, hauled to the southward and eastward, and by midnight it blew a gale, hauling to the eastward, until about 8 p. m., when its violence moderated. Their latitude was $40^{\circ} S.$, longitude $178^{\circ} 30' E.$ For several days previous to this, a noise was heard about the heel of the main-mast; an examination was had, and the conclusion arrived at that it worked in the step, the wedges in the partners having been driven without obviating it. On the 9th of March they arrived at the Bay of Islands, where they found the gentlemen who had gone there to pursue their researches in natural history waiting our arrival.



AURORA AUSTRALIS

The Vincennes was left on the 21st of February on her way north. On the night of the 22d, we had a beautiful and novel appearance of the aurora australis. The sketch of it which I made will in some measure convey an idea of it.

Black clouds were passing rapidly over the sky; an orange glow of light seemed to cover the heavens, emanating from a point, over which flitted rays of the prismatic colours, directed towards the horizon, lighting up both edges of the clouds, and throwing them into bold relief. The rays seemed to dart simultaneously towards the horizon, on reaching which they would seem to be gathered, as if by magic, towards the centre, and slowly vanish, to reappear again and fold up.

Strong gales from the west-northwest with snow-squalls continued until the 27th, with thick misty weather. Numerous ice-islands were passed during this interval. The last iceberg seen, was in the latitude of 53° S., and longitude $120^{\circ} 25'$ E., the temperature of the water was 46° .

On the 28th, we found our variation 1° easterly, in the longitude of $131^{\circ} 50'$ E., latitude $50^{\circ} 30'$ S.; and in attempting to get a deep-sea sounding of eight hundred and fifty fathoms, we lost our Six's thermometer by the wire parting. The sea was a deep blue; the temperature 45° . We found a current setting west-northwest three-fourths of a knot per hour. The white object was seen at the depth of fifteen fathoms.

On the 1st of March we had reached the latitude of the Royal Company's Isles, and I continued to run in nearly the same parallel for eight degrees of longitude, without seeing any signs of the supposed land. Having sailed far to the eastward of their supposed position, I again hauled to the northward to proceed to Hobart Town, Van Diemen's Land, to fill up our water. We now saw a sail, the first during sixty days, which made us feel as if we were returning to a habitable part of the globe. This night we had a brilliant display of the aurora australis, resembling that seen on the 9th of February, with this difference, that it was seen to the southward, extending from east-southeast to west-southwest.

On the 5th of March the wind headed us off our course to Hobart Town; I then determined to proceed direct to Sydney, and thus be enabled to communicate as speedily as possible with the United States. The consideration of getting intelligence respecting the other vessels, also led to this determination. I felt, in truth, forebodings that all was not well, from not having met any of the vessels at the appointed rendezvous, along the icy barrier; and I was anxious for their safety, after the severe gale of the 28th of January.

Having reached a lower latitude, the weather had now become pleasant, and we could dispense with our winter clothing,—a relief which the whole of the crew seemed to enjoy. It was the reverse with me; I had a feeling of exhaustion and lassitude that I could not account for, and the least exertion caused me much fatigue.

On the 9th, we reached the latitude of Cape Howe, and were seventy miles to the eastward of it. We there experienced a rise in the temperature of the water: six degrees in less than an hour.

On the 10th, when off Cape Jervis, and about forty miles to the eastward of it, we again changed the temperature from 68° to 73° , as we steered in for the land to the northward, but on hauling to the eastward it again fell to 68° . A strong southerly current has been long known to exist along this coast; and I feel well satisfied that the thermometer is a good guide in making the passage from the southward. The coasting vessels, as I was informed at Sydney, had frequently made long passages from Van Diemen's Land, and South Australia, which I have but little doubt is owing to the prevalence of this minor Gulf Stream, the position of which the use of the thermometer will clearly indicate. This current will be noticed particularly in the chapter on currents; its width no doubt varies with the season.

On the 11th of March, at noon, we passed the Heads of Port Jackson, and took a pilot. We were, as a body, in better condition than when we left Sydney three months before.

In an hour afterwards we dropped our anchor in Farm Cove, off Fort Macquarie. Our reception was flattering; scarcely was our anchor well down before many of our friends came on board to bid us welcome; and we felt tenfold that kind hospitality which on our former visit we had first become acquainted with. They appeared to rejoice in our success as if we had been their countrymen.

During our absence from Sydney, many improvements had taken place. The storehouses for the deposit of grain on an island in the harbour were in rapid progress; the new Government-House nearly completed, and the foundation of an Exchange laid; besides this, many improvements in town that were then in progress, had been completed; and the rapidity with which these works had been accomplished, strongly reminded me of similar operations at home.

The country was looking quite green and pretty; indeed, the sail up the noble harbour was truly beautiful; it wore quite a different face from its former parched appearance, the rains having been abundant during our absence.

Observations were obtained for the rates of our chronometers and the magnetic needles again experimented with.

On overhauling my ship, the fore-topmast was found to be slightly sprung.

It was with great pleasure I learned the safety of the Peacock; for that vessel had occupied my thoughts more than the others, on account of the condition in which she left Sydney. All on board of her were well, and the vessel was undergoing repairs in Mossman's Cove, one of the many which this harbour forms. These coves may be termed wet-docks, affording as they do every facility for the repair of vessels of any size. They are more like artificial than natural basins, and are secure against any wind. There is no port in the world that offers so many natural advantages as Port Jackson, for a great naval power. We had many things to relate to each other; among others, the particulars of the accident that befell the Peacock, that has already been noticed. The return of that vessel to this port now claims our attention.

On the 28th of January, their sick-list had increased to thirteen, more in consequence of the fatigue the men had undergone, than from any disease.

On the 29th, they experienced strong gales from the northwest, which continued to increase until midnight, after which the weather moderated. The ship during this gale was in latitude $61^{\circ} 20' S.$, and longitude $154^{\circ} 09' E.$ This gale is remarkable, in consequence of its blowing in a contrary direction to that which the Vincennes experienced on the same day; while the former had it from the northwest, the latter had it from southeast. Their distance apart was four hundred and fifty miles, in a northeast direction.

On the 1st of February the weather was stormy until towards evening, when it moderated and cleared off, with the wind to the northwest, and gave them a view of the aurora australis lighting up the southern portion of the horizon. Rays were thrown out in different directions, some reaching an altitude of 30° , others of 40° , whilst others again almost spanned the heavens.

On the 2d, they had another display of the aurora, but contrary to that of the previous day, it was first seen at an altitude of 70° , diverging towards the horizon, from east-southeast to the southwest-by-west, before it disappeared. The point from which the rays diverged reached the zenith.

On the 4th they made Macquarie Island, and shortly after passing it, experienced another gale from northwest to southwest, which caused them much anxiety for their rudder, which thus far had answered well, although great attention was necessary to prevent strain upon it.

Strong gales yet continued. On the 5th, they had a faint display of the aurora.

On the 7th of February, the weather had become less boisterous, and having reached latitude 49° S., longitude $155^{\circ} 23'$ E., the aurora australis again appeared. It was first seen in the north, and gradually spread its coruscations over the whole heavens; the rays and beams of light radiating from nearly all points of the horizon to the zenith, where their distinctive outlines were lost in a bright glow of light, which was encircled by successive flashes, resembling those of heat lightning on a sultry summer night; these formed a luminous arc in the southern sky, about 20° in altitude, from the upper part of which, rays were continually flashing towards the zenith; light showers of rain finally shut it out from view. On the same night, between one and three, the aurora burst out from the southwestern horizon, streaming up and concentrating in the zenith, and attended with quick flashes of every variety of tint. The wind was moderate from the southwest, and a squall of hail passed at the time. In latitude 47° S. they first encountered phosphorescence in the water. On the 17th they made the land of New South Wales, and continued to experience a variety of weather until the 21st, when they arrived off, and anchored within, the Heads of Port Jackson.

The next day they proceeded up the harbour, and anchored off Sydney Cove. The ship was much shattered, but her officers and crew all in good health. Here they were kindly received, and no time was lost in proceeding to make the necessary repairs. The collector was kind enough to give them permission to land every thing that might be necessary, when and where they pleased. The powder and fire-works were received into the public magazine, and when called for were politely sent in a government boat, free of expense. The railway for merchant-vessels was found too light to trust the Peacock upon it; Mossman's Cove, on the north shore, was then resorted to, not only as a convenient place for making the necessary repairs, but as affording more security for the crew against the crimps and rum-shops.

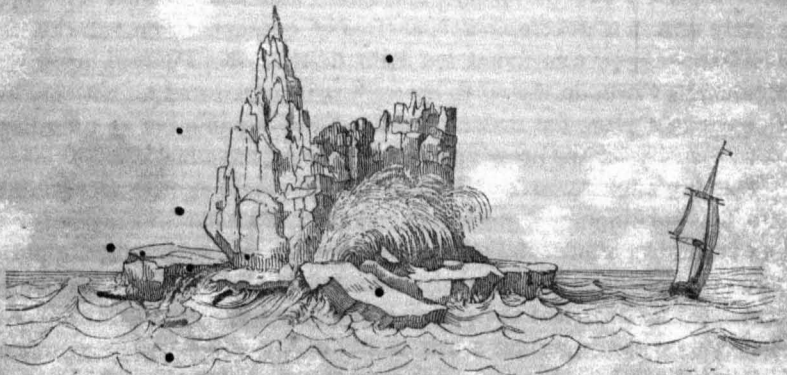
The day after my arrival, I visited the Peacock, in order to examine into her condition, and could not withhold my astonishment that she had been able, after undergoing such damage, to reach a distant port. The visible injuries have already been stated, in speaking of her accident. On their arrival at Sydney, it was found that her stem had been chafed to within one and a half inches of her wood ends, and much strained throughout. After a full examination of the circumstances, I feel it a duty I owe to Captain Hudson, as well as to his officers and

crew, to state that I am well satisfied, that his coolness, decision, and seamanship, with the good conduct of his officers and men in the perilous situation in which they were placed, are worthy of the highest encomiums. The preservation of the ship and crew, and her subsequent navigation to a distant port, reflect the highest credit upon her commander and upon the service to which he belongs.

Sydney was now much crowded with people, and several balls were given, to which we had the honour of an invitation. That of the St. Patrick Society was attended by the chief people in the neighbourhood of Sydney, including the governor and most of the officers of the crown. It was given in the new court-house, and was a handsome and well-conducted entertainment. Two military bands were in attendance; quadrilles and country dances followed each other in rapid succession; rooms were provided for cards, refreshments, teas, lemonade, &c.; and towards the close of the evening, the company was ushered in to an elegant supper, which was partaken of standing.

I was struck with the beauty and general appearance of the ladies, though I was informed that many of the belles were absent. The style of the party was neither English nor American, but something between the two. I scarcely need remark that we were all much gratified and pleased. The hospitality and kindness shown us were of that kind that made us feel truly welcome.

Our last week at Sydney was spent in a round of pleasure, and the attention we met with being entirely unexpected, was doubly gratifying to us.

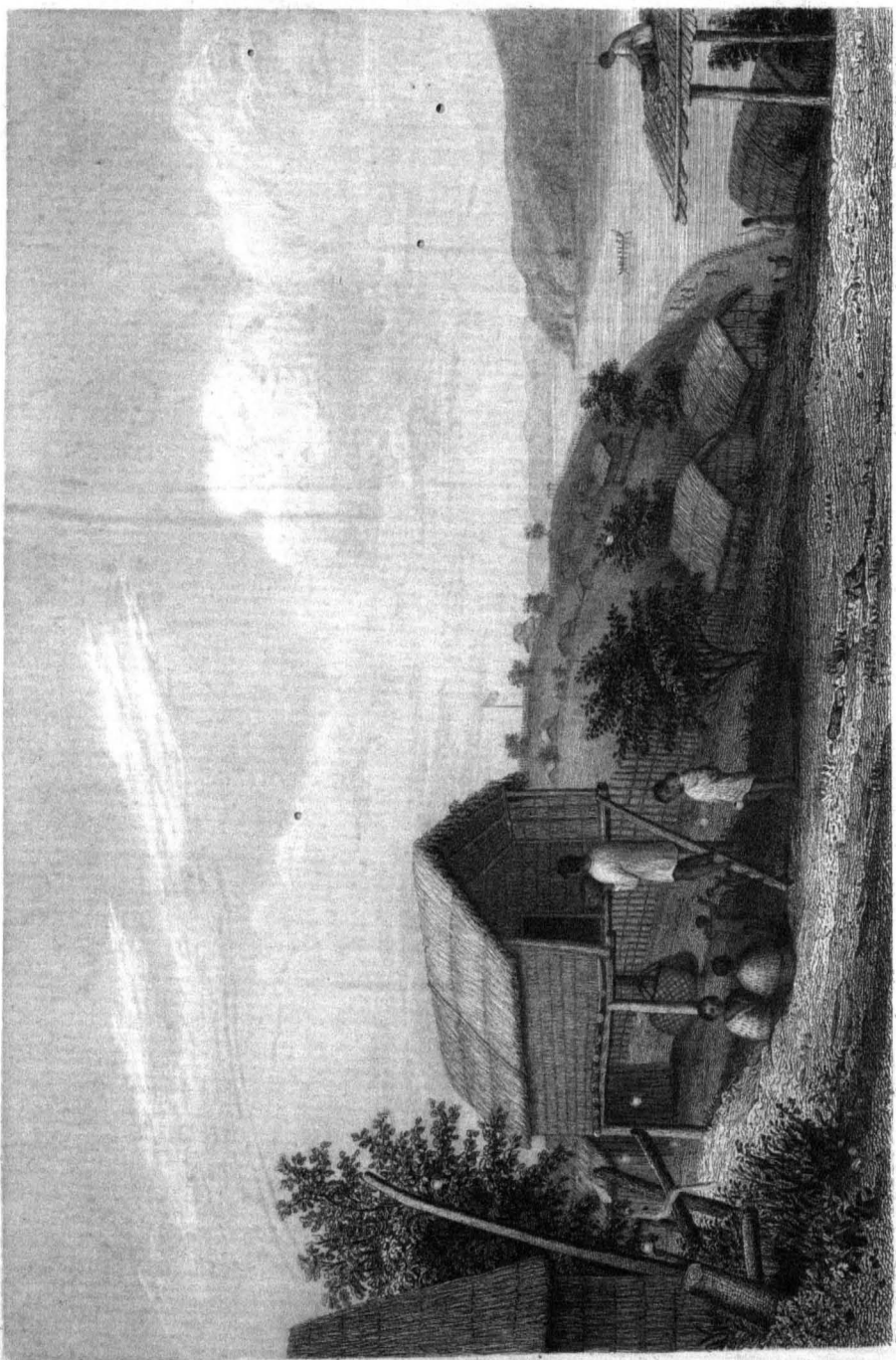


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CHAPTER XII.

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CHAPTER XII.

NEW ZEALAND.

1840.

HAVING replenished our stores of provisions, we took, with much regret, a final leave of our friends at Sydney. The Vincennes weighed anchor, and at 3 P. M. on the 19th March, we discharged our pilot, and bade adieu to these hospitable shores. The Peacock, not having completed her repairs, was left at Sydney for a few days, with orders to follow us to Tongataboo.

On reaching a distance of thirty miles from the coast, we again found a difference of three degrees in the temperature of the water, and experienced the effects of a strong current towards the south. The wind was from the northward and eastward.

On the 23d we spoke the French whale-ship *Ville de Bordeaux*, in want of provisions, which we supplied her. She had been out three years, and had on board four thousand barrels of oil. The crew was reduced to bread and water, and the vessel was apparently in a bad condition in other respects.

On the 25th, in latitude $34^{\circ} 24' S.$, longitude $160^{\circ} 26' E.$, we experienced a current setting to the south at the rate of twenty miles in twenty-four hours.

On the 26th the current set east-southeast at the rate of twelve miles per day.

The wind on the 27th hauled to south-southeast by the east, and became a fine breeze.

On the 29th, we made the North Cape of New Zealand. The current for the two previous days had been setting north-northwest, and the temperature of the air varied during our passage from Sydney from $63^{\circ} 3'$, to $76^{\circ} 4'$; that of the water from 70° to 72° .

At daylight on the 30th, we made Cape Brett, and after groping our way through the dark, into the Bay of Islands, anchored at 10 P. M. in the Kawa-Kawa river, opposite the residence of Mr. Clendon the American consul. Here I had the satisfaction to find the Porpoise and Flying-Fish, and receive the reports of their cruises, which will be found in Appendix XXX.: they were all well on board. The former vessel had arrived a few days, and the latter about three weeks, before us. We were also gratified with the receipt of letters from the United States. Every exertion was made to shorten the duration of our stay in New Zealand, and the necessary instruments were landed without delay.

Here also we met all the scientific gentlemen,—who, as has been stated, had been left at Sydney when the squadron sailed upon the Antarctic cruise,—anxiously awaiting our arrival.

They had been forced to remain inactive at Sydney, in consequence of a change in the destination of the vessel in which they had first taken their passages, and, by this vexatious delay, had not only been prevented from pursuing further researches in New South Wales, but had lost time that might have been advantageously employed in New Zealand. They finally succeeded in finding an opportunity of reaching the Bay of Islands, in the British brig *Victoria*.

After leaving Sydney in this vessel, a sea was shipped, which, besides doing other mischief, entered at the cabin-windows, and filled the chronometer-box with salt water; in consequence of which the master considered it necessary to put back, in order to exchange the injured time-piece for another. She accordingly anchored again in Port Jackson.

On the 7th February, they had a beautiful exhibition of the aurora australis: the coruscations were of a straw-coloured light, reaching nearly to the zenith in the southern sky, and lasting from seven until ten o'clock. A noddy lighted on the brig, and remained on board many days; so tame was it that it even suffered itself to be handled.

On the 16th, when they had performed about half the passage, they had another exhibition of the aurora, much like the former; after which they experienced a gale of wind of five days' duration. On the 21st, they were enabled again to make sail, and, on the 23d, they made the North Cape. A gale then came on from the eastward, and they had a narrow escape from shipwreck while running down the land. On the 24th, they dropped anchor at Kororarika, about three miles above which place they found the United States Consul, Mr. Clendon, at Ornotu Point.

From the splendid panorama of Mr. Burford, I had pictured the Bay

of Islands to myself as a place of surpassing beauty, and I could not but feel gratified at the idea of paying it a visit! it did not, however, realize my expectations. It might, with more propriety, be called the Bay of Inlets. The best idea that can be given of its geographical features is, to liken it to an open hand with the fingers spread apart. The land is much indented with bays, or arms of the sea, running up among hills, which are nearly insulated. The distance between the two capes (Brett and Point Pocock) is ten miles, and there are several secondary bays facing this opening. Four rivers flow into them, the Kawa-Kawa, Kiri-Kiri, Loytangi, and Waicaddie, into which the tide flows a few miles, after which they become small streamlets, varied by some waterfalls. There are many minor indentations, which render it impossible to move any distance without a boat; and it is often necessary to make a turn of five or six miles around an inlet or marsh in going to a place, which might be reached in one-tenth of the distance by water.

The land has the appearance of barren hills without accompanying valleys, and there is so little level ground that terraces are cut in the hills to build the cottages on. The whole view is any thing but picturesque, and there is little to meet the eye except bare hills and extensive sheets of water. Some fine views are, however, to be met with from the elevated ridges, which afford occasional glimpses of the bay, with its islets.

Many of our gentlemen were struck with the resemblance of this land to that of Terra del Fuego. Black islets and rocks, worn into various shapes, are found, as in that country, at all the points in the bay through which a boat can pass. These rocks are of a basaltic character. About the Bay of Islands the rock is compact and argillaceous, showing little or no stratification, and is for the most part covered with a layer of stiff clay, two or three feet thick, the result of its decomposition. The hills about the Bay of Islands are generally from three to five hundred feet high, but some of those at the head of the bay reach one thousand feet. The district about the Bay of Islands, and the northern portion of the island, may be styled volcanic; for, in addition to rocks of undoubted volcanic origin, all the others had in a greater or less degree undergone the action of fire. Our naturalists were informed that the valley of the Thames was of a different character, although many persons represented the whole island as volcanic. The ridges in the northern part of the island were not thought to rise more than two thousand feet. The Rev. Mr. Williams, missionary at Pahia, has crossed the island from Port Nicholson to Taaranga, during which journey he passed a district from

which the snow was absent only four months in the year. This region is in the neighbourhood of the high peak of Mount Egmont, said, in the Sydney Almanac, but upon what authority is not stated, to be fourteen thousand feet high. Mr. Williams described the route as exhibiting volcanic phenomena on a large scale, among which were quantities of pumice, extending entirely across the island, and an extensive plain, which had sunk in one place, and disclosed a bed of that substance, three or four hundred feet in thickness; he likewise spoke of geysers or jets of boiling water.

The only volcano that was known to be in action, was one on a small island in the Bay of Plenty, on the east coast.

The embedded minerals in the rock about the bay are quartz, iron, and iron pyrites.

The hot spring of Taiaimi was visited, but it is described as rather an emission of gas than of water. It is situated in a small basin, and forms a lake of three or four acres in extent; near the edge of this lake, gas is constantly bubbling up, usually through the water, to which it gives the appearance of boiling; and gas also issues from the surrounding land for an extent of several acres. The water was found to be warm, but did not scald. The neighbouring ground was destitute of vegetation, and appeared as if the surface of the earth had been artificially removed. Sulphur was abundant, and there was also a slight incrustation of alum. The water was strongly impregnated with iron, was much discoloured, and in smell and taste not unlike pyroligneous acid. A quantity of gas was brought away, but the bottle met with an accident before it could be analyzed. It is not inflammable, and had it been of a deleterious nature, the fact, (from the quantities emitted,) could not fail to have been perceived. It had no smell, and appeared not to differ from atmospheric air. The natives attribute medical virtues to these waters.

Twelve or fifteen miles to the westward of the Bay of Islands, near Taiaimi, there are several small extinct craters, rising about five hundred feet above the surrounding country. One of them is called Poerua, and is remarkable for the regular figure of its cone when seen from the eastward. Its western side is cut through by a deep gorge. The interior is covered with large forest trees, and huge blocks of lava, while the exterior is clad in ferns of low growth. The diameter of the crater is about half a mile. The plain which surrounds the cone is composed of an uncommonly rich soil, strewed with lava, which the natives collect in heaps, in order to obtain space for cultivation. The lava does not extend far from the cone, and even in the interior, rock seldom appeared, but where it was seen it proved to be vesicular

lava. The soil in the neighbourhood of the craters is richer, looser, and more fit for cultivation than in other places.

Dr. Pickering made a visit to Hokianga, on the western side of the island, and found that it had more of the forest character than the eastern. He took the direct road to Waimati, which is fifteen miles from the Bay of Islands. The river Waitanga was very high, and one of the chiefs, a large and muscular man, seemed to take particular interest in getting them across safe and dry; but notwithstanding his stature and all his care, he could not prevent a slight immersion.* The Doctor arrived at Waimati at 4 P. M., and was kindly welcomed by Mr. Davis, the Methodist missionary, to whom he had a letter of introduction. It was not without surprise that he found here a water-mill in operation, which the guides took care to point out with no little exultation. This, together with the fences, and well cultivated fields, were the works of the missionaries. He remained with Mr. Davis for the night, who advised his proceeding direct to Hokianga; but the guides who had hitherto accompanied him were ignorant of the route, and another became necessary.

The next day they passed over the flank of Te-ahooahoo, a volcanic cone, and the most prominent elevation in this region. A little farther on, a fine lake was passed, about three miles in length. At nine miles from Waimati, the wooded region was entered, which extended to Hokianga. Just before crossing the Hokianga river for the first time, the Baron de Thierry was met with, who was exceedingly polite. The road after this became difficult, it being necessary to cross the river repeatedly, and to follow the stream for some distance. The usual manner of crossing here is to be carried. The guides, under various pretexts, prevented them from reaching Hokianga, and they were compelled to stop four miles short of it, at a chief's called Tooron, of rather doubtful character.

Tooron, with his family, had worship both morning and evening, as is customary with converted natives, he himself officiating. The accommodations were none of the best. An open shed, with fire and blanket, were, however, sufficient to insure a good night's rest. Tooron was liberally paid, and so well pleased, that he said he was determined to carry his guests over the river himself. The road was any thing but good, being miry, and filled with roots of trees, so that

* On the banks of the Waitanga, the adult inhabitants, to the number of twenty, were collected in a circle, each armed with a musket, and several had been met on the way, all armed. The cause of this unusual occurrence was not known. They are very fond of fire-arms, and on welcoming any one, particularly a chief, all the people of the village assemble and salute him with a number of rounds, in proportion to his rank.

their attention was wholly engrossed in seeking a good foothold. The river was again repeatedly crossed. On the way they met natives loaded with baskets of peaches, the season for which had arrived. They freely offered their fruit, for which tobacco was returned. Before noon, they arrived at Baron de Thierry's house, where they were hospitably received by his lady. This house is situated at the head of tide-water on the Hokianga river, about thirty miles from its mouth, and boats can ascend as far as this place. There is no village at the mouth of the river, but many whites reside at different points on its banks. There is a bar between the headlands at its mouth, which will admit only of small vessels entering.

Our travellers had intended to return the next day, but one of their guides, by the name of Poee, was missing. He had been allowed to take up his quarters at a short distance, on condition of his being ready for an early start; on inquiry, however, they were informed that Poee had said he did not intend to go back until Monday, which was two or three days off. They departed without him, but before reaching Tooron's, Poee again joined them, having a piece of pork, which one of his friends had furnished for the Doctor's supper.

Mr. Davis's was reached at dark, and the same warm greeting experienced as before. The next day they reached the Bay of Islands, at Pahia.

Pahia is the principal missionary establishment of the Episcopal Church. It is pleasantly situated on the bay, opposite Kororarika, and is the residence of all those attached to the mission, and their printing-presses are there. It is too much exposed to afford a good harbour for shipping, but as it is the most favourable side for communication with the interior, the advantages and disadvantages of its position are nearly balanced.

Kororarika is still the principal settlement, and contains about twenty houses, scarcely deserving the name, and many shanties, besides tents. It is chiefly inhabited by the lowest order of vagabonds, mostly run-away sailors and convicts, and is appropriately named "Blackguard Beach."

The appointment of the police magistrates was one of the first acts under the new order of things. Mr. Robert Shortland, the first police magistrate, after the illness of Governor Hobson, styled himself acting governor, and a more ridiculously pompous functionary could scarcely be imagined. He paid a visit to the vessel in which some of our gentlemen had made the passage from Sydney, and demanded the reason why the mail-bag had not been sent to the new government postmaster. The master of the vessel replied, that he thought it his

duty, not having been informed of any change, to deliver them to the old postmaster, until he should be directed otherwise by Governor Hobson. This pompous functionary, in an improper tone as well as manner, exclaimed, "I wish you to know that I am governor now!" In the words of one of the gentlemen, "had he been the viceroy of the Indies, he could not have made his inquisitions in tones of loftier supremacy."

Some of our gentlemen arrived at the Bay of Islands in time to witness the ceremonies of making the treaty with the New Zealand chiefs. I mentioned, whilst at Sydney, the arrival of H. B. M. frigate the *Druid*, with Captain Hobson on board, as consul to New Zealand. It was well understood that he had the appointment of Lieutenant-Governor in his pocket, in the event of certain arrangements being made. His arrival at the Bay of Islands, in H. B. M. ship *Herald*, seemed to take the inhabitants, foreigners as well as natives, by surprise. A few days afterwards, on the 5th February, a meeting was called at the dwelling of Mr. Busby. The meeting was large and numerous attended by the chiefs. Many arguments and endeavours were used to induce them to sign a treaty with Great Britain, all of which were but little understood, even by those who were present, and had some clue to the object in view. Great excitement prevailed, and after five hours' ineffectual persuasion, the meeting broke up, every chief refusing to sign or favour Captain Hobson's proposition, which was in reality nothing more or less than a cession of their lands, authority, and persons, to Queen Victoria. Among the arguments made use of, he stated that unless they signed the treaty, he could do nothing more than act as consul! Nothing having been effected, the meeting was broken up, and the following Friday appointed for a second. Tobacco and pipes were given them before they departed, which restored their good humour; and they went away shouting.

In the mean time, Mr. J. R. Clendon, an Englishman acting as American consul, the missionaries, and many interested persons residing there, or about becoming settlers, were made to understand that their interest would be much promoted if they should forward the views of the British government. Every exertion was now made by these parties to remove the scruples of the chiefs, and thus to form a party strong enough to overreach the rest of the natives, and overcome their objections. About forty chiefs, principally minor ones,—a very small representation of the proprietors of the soil,—were induced to sign the treaty. The influence of Mr. Clendon, arising from his position as the representative of the United States, was among the most efficient means by which the assent, even of this small party, was

obtained. The natives placed much confidence in him, believing him to be disinterested.* He became a witness to the document, and informed me, when speaking of the transaction, that it was entirely through his influence that the treaty was signed.

The Lieutenant-Governor installed himself, confirmed the appointments of a host of government officers, and the whole machinery, that had been long prepared, was put in motion. Proclamations were issued by him, extending his authority over all the English residents on both islands! and it was considered by the Englishmen as good as law, though far otherwise by the other foreigners. After this, the Lieutenant-Governor proceeded to the district of the Thames River, or Hauaki, in the Herald, for the purpose of procuring a similar cession of the country; but before this could be consummated, he was attacked with paralysis, and the Herald was obliged to depart for Sydney.

So far as the chiefs understand the agreement, they think they have not alienated any of their rights to the soil, but consider it only as a personal grant, not transferable. In the interview I had with Pomare, I was desirous of knowing the impression it had made upon him. I found he was not under the impression that he had given up his authority, or any portion of his land permanently; the latter he said he could not do, as it belonged to all his tribe. Whenever this subject was brought up, after answering questions, he invariably spoke of the figure he would make in the scarlet uniform and epaulettes, that Queen Victoria was to send him, and "then what a handsome man he would be!"

Those who are not directly benefited by the change, cannot but view it as a disastrous circumstance for the natives, which will seal their doom, and make them the prey of the hosts of adventurers who are flocking in from all parts, some to be engaged as public officers, and to fatten on the coming revenues, and others as speculators. During our stay, a cutter arrived from Sydney, with a number of revenue officers, magistrates, and other minor dignitaries.

New Zealand continued under the authority of New South Wales until September, 1840, when it became a separate colony. One of the first acts of the new government has been, by proclamation, to require all those who have acquired lands by purchase from the natives, to exhibit their vouchers, and to show how much land they had purchased, and the price paid. At the same time, a committee was appointed to examine these claims. A few statements made by this committee, will show how the spirit of speculation has been at work in New Zealand. Up to October, 1841, they reported that five hundred and ninety-one

claims had been entered by two hundred and eighty individuals; of these, there are four hundred and thirty-five claims, amounting to thirteen millions nine hundred and twenty thousand four hundred and eighty-two acres. The remaining one hundred and fifty-six claims are not defined by ordinary landmarks, but are limited by degrees of latitude and longitude, and computed in square miles instead of acres. The last description of claims are considered, at a moderate calculation, to be double the amount of the four hundred and thirty-five claims, so that in round numbers, the claims already sent in to the commissioners may be estimated at forty millions of acres. For four hundred claims, affidavits have been made, and the total value of goods and money paid by these claimants is thirty-four thousand and ninety-six pounds.

For one hundred and ninety-five claims, no value is stated; but if paid for in the same ratio, the amount will be nearly forty thousand pounds, or about one penny for three acres. The whole surface of the two islands does not contain more than eighty thousand six hundred square miles, or fifty millions of acres, and the largest part of them has not yet been sold by the natives, viz., the Waikati district, Rotorua and Taupo, in the interior, as well as the whole of the eastern coast of the northern island; so that it will be difficult to find a space wherein to locate these enormous claims.

Laws have likewise been promulgated and imposts levied, harassing to foreigners, (Americans and others,) and most destructive to their commercial pursuits, while they offer the most marked protection to those of British subjects! This would seem not a little unjust to those who have been resident, and extensively engaged in commerce, before England took possession, and whilst New Zealand was acknowledged as an independent state. It has, among other things, been enacted, that all goods imported and remaining on hand on the 1st of January, 1840, the time of British assumption, shall pay duties; that all lands are to be considered as belonging to the Queen, even those purchased of the chiefs prior to the treaty, while the purchasers shall be only entitled to as many acres as the amount paid to the chiefs will cover at the rate of five shillings per acre. The government in addition reserves to itself the right to such portions as it may require. Many of these purchases were made from the native chiefs, prior to the treaty, in good faith, and for an equivalent with which they were well satisfied, and so expressed themselves.

The destructive effect of these laws on American commerce will be great, particularly as those engaged in mercantile pursuits find themselves called upon to pay heavy duties on their stocks. Americans are not permitted to hold property, and, in consequence, their whaling

establishments on shore must either be broken up altogether, or transferred to other places, at a great loss of outlay and capital. Our whalers are now prevented from resorting to the New Zealand ports, or fishing on the coast, by the tonnage duty, port charges, &c.; are denied the privilege of disposing of any thing in barter, and obliged to pay a duty on American articles of from ten to five hundred per cent. The expenses of repairs have so much increased, that other places must be sought for the purpose of making them. The timber and timber-lands are exclusively claimed as belonging to Her Majesty. Thus have our citizens been deprived of a fishery yielding about three hundred thousand dollars annually in oil.

Governor Hobson's proclamation will be found in Appendix XXXI.

The expenses of this new government were estimated for the year 1841 at £50,922 3s. 4d., sterling, which is about equal to £10 for each man, woman, and child; for the whole foreign population on all the islands, is not supposed to be more than five thousand. The great precipitancy with which the islands were taken possession of, is said to have been owing to the fears entertained that the French intended forming a colony on the southern island in like manner.

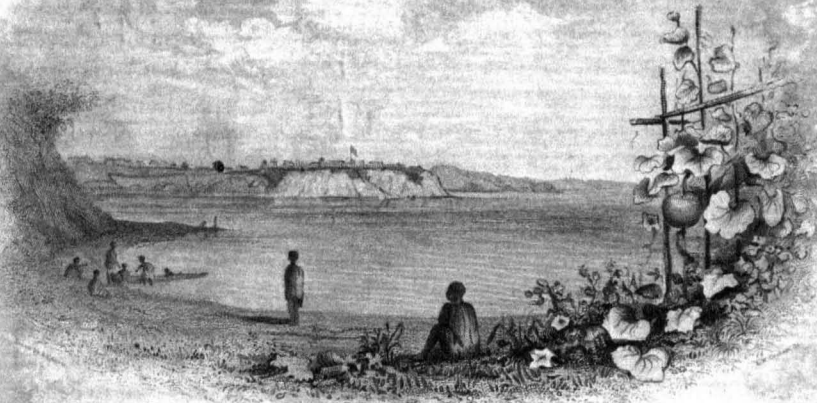
After my arrival I gave the men liberty. Among the first who obtained it was John Sac, a native of New Zealand, and of the neighbourhood of this bay. His native name was Tuatti, and he was a petty chief. He had been some time absent from his country, and had sailed in the Expedition from the United States, was an excellent sailor, a very good fellow, and had been enthusiastic in the praise of his country and countrymen. According to him, there was nothing like New Zealand; and under this feeling he hired a canoe to take him on shore, for which his countryman charged him three dollars, although half a dollar would have been an exorbitant price. He landed at Tibbey's, and being desirous of going to his friends, wished to engage a canoe to take him about ten miles up one of the rivers, the Kawa-Kawa, where they resided. For this conveyance he was asked £2, nearly a month's pay. Poor John could not submit to this extortion, and was found sitting on a log, greatly mortified, depressed, and incensed at such treatment.

After John returned on board, he made a proposition to Mr. Waldron, in a letter, to purchase the island which he called Motugee, with the territory of Muckatoo, belonging to his father and family, and expressing his belief that they were all opposed to the encroachments of the English, and were determined not to part with their land to them.

Although the land about the Bay of Islands is much cut up by indentations, yet from this circumstance it affords many pretty views.

which have in some respects an appearance of an advance towards civilization, that one hardly expects to find within the scope of the residences of these savages.

One of the many sketches Mr. Agate made, will serve to convey an idea of their beauty, as well as a distant view of their pas.



VIEW IN NEW-ZEALAND

At the time of my visit, which was, as has been seen, immediately after Captain Hobson's arrival, and the signing of the *treaty*, or cession, it was evident that full seven-eighths of the native population had the same feelings as are found expressed in this note. The circumstances that have occurred at New Zealand fully prove the necessity of having American citizens as our consuls abroad. Mr. J. R. Clendon, our consul at New Zealand, an independent state, and the only representative of a foreign power, whose interest was at stake, was consulted by some of the most powerful and influential chiefs, who had refused to sign the treaty or cession to Great Britain. They came to Mr. Clendon for advice, how they should act, and he admitted that he had advised them to sign, telling them it would be for their good. He himself signed the treaty as a witness, and did all he could to carry it into effect; but, in doing this, he said, he had acted as a private citizen, by request of the Governor, thus separating his public duties from his private acts. At the same time he buys large tracts of land, for a few

trifles, and expects to have his titles confirmed as Consul of the United States. This is not surprising, and any foreigner would undoubtedly have pursued the same course; for his personal interest was very great in having the British authority established, while the influence he had over the chiefs was too great not to attract the attention of the Governor, and make it an object to secure his good-will and services.

The prospects of these islanders are, in my opinion, any thing but pleasing, and the change by no means calculated to insure their happiness, or promote their welfare. It seems to have been brought about by a rage for speculation, and a desire to take possession of this country, in order to secure it from the French. The idea that it was necessary to extend the laws of New South Wales over the island, in order to protect the natives, and break up the nest of rogues that had taken refuge there, is far from being true. No such necessity existed, for there was no difficulty in having any one apprehended by sending officers for the purpose, or offering a reward.

The New Zealand Land Company have been the secret spring of this transaction, and under the shelter of certain influential names, the managers have contrived to blind the English public. It will scarcely be believed that the New Zealand Land Company had disposed of several thousand shares of land before they purchased an acre. Some three or four thousand emigrants, who had purchased allotments, left England on their way to take possession of them, just after the agent. Upon their arrival they could obtain no satisfactory information respecting their allotments, and were left in a destitute condition, to spend the few earnings they had left, and to endure all the privations to which people landed in a new country are subject.

Even of those allotments that have been given out, many are not susceptible of cultivation. It is scarcely to be believed that the high names which stand at the head of this Company could have been informed of the true state of things; yet it is generally supposed in this part of the world, that it is by their exertions and influence that the British government has been induced to take forcible possession of the territory of an independent state, which New Zealand undoubtedly was. However this may be, the speculators have succeeded in their object, and the country will now be retained by England, even if a military power should be necessary. Should the New Zealanders resist, and they are a warlike race, yet acting against European discipline, they will readily be overcome. They are not unlike grown children, and may be more easily ruled by kindness, and by satisfying the wants of the chiefs, than by force. The population will soon disappear before the whites, for the causes that have operated else-

where are to be seen in action here, where the savage is already sinking imperceptibly before the advances of civilization. While philanthropy, real or pretended, is ransacking the globe to find subjects for its benevolence, it seems a little surprising that scarcely a voice has been raised in Parliament against this act of usurpation.

On the 29th of February, 1840, there was a violent gale at the Bay of Islands, said by the missionaries to have been the severest they had experienced, with perhaps the exception of one which took place shortly after their arrival. Many vessels suffered great damage. The *Thorn*, of Sag Harbour, which sailed a few days before, bound home, was obliged to put back, and in consequence of the damage received, was condemned as unseaworthy, as was also the *Tuscan*, an English whaler. The barque *Nimrod* arrived, having lost her topmast, and several coasters were missing, supposed to have been lost. Most of the vessels lying off Kororarika dragged their anchors, but they suffered less from not being much exposed; the *Harriet* was driven ashore at Tipoonā, a few miles to the eastward, near Point Pocock. This vessel parted her cables during the night, and the next morning was found a complete wreck. The crew barely escaped with their lives. Besides these disasters on the water, those on the land were also great: fences were carried away, houses deluged, grounds overflowed, wharves injured, and the extensive embankment of the missionary establishment at Pahia nearly demolished. The tide rose six feet, during the night of Saturday, beyond its usual mark, which caused most of the damage.

This gale was experienced at the Thames on board H. B. M. ship *Herald*, one hundred and forty miles to the south; also by the *Flying-Fish*, off Cook's Straits, and by the barque *Achilles*, to the north. Mr. Hale was a passenger in the last named vessel, and took barometrical observations and notes during the continuance of the gale.

From the observations, it appears that the change took place at the two northern and two southern positions, in opposite directions, proving that the gale was a rotary one, and that its centre must have passed between the Bay of Islands and the river Thames. The greatest force of the gale was between the hours of 1 and 3 A. M., on the 1st of March. At the Bay of Islands, a calm was observed by Mr. Dana and others, which lasted fifteen minutes, after which the wind rapidly hauled round to the westward, and blew with increased violence. On board the *Herald*, the barometer fell to 28.75 in., and from the fact of the gale having been experienced first to the northward and eastward, it is certain that it came from that quarter, and passed over New Zealand in a southwest direction: the width of the track was about five hundred

miles. The particulars of the preceding observations will be found in the Meteorological Report.

Foreign residents have established themselves in many places, and on all the inlets or arms of the Bay of Islands their cottages are to be seen, occupying the points and coves.

On the north, the British resident, Mr. Busby, has built a large and commodious cottage, and commenced laying out his grounds in town lots for the future city of Victoria, of which there was a public sale previous to our arrival. All the lots were, I believe, purchased on speculation, for after seeing the locality, one must be convinced that it offers no advantages for more than a village, if indeed for that. More to the westward, is situated Pahia, the mission establishment. For commercial purposes, the south or Kororarika shore offers the greatest advantages, having the deepest water, and being the most sheltered from the stormy winds.

The extent to which speculation has raised the prices of land in this neighbourhood is almost incredible. Mayew's Point, the first above Kororarika Bay, has on it a few storehouses, which are rented for six hundred pounds (\$3,000) a-year.

Mr. Clendon, the American consul, for about three hundred and twenty-five acres, of which only fifty are level, has received thirty thousand pounds from the British government, reserving to himself the remainder, one hundred acres. He bought the whole for a trifle a few years ago. The location is a pretty one, on a hill about three hundred feet high, and is, perhaps, the most commanding spot on these waters. The neatness of his cottage and of the grounds about it adds much to its pleasing appearance.

The introduction of a Sydney police at Kororarika has been of service to that place, for they have dealt in a summary manner with the vagabonds who formerly frequented it.

A Roman Catholic bishop is established here, who has a chapel, and it was said, was making many converts; but it was supposed that the principal inducement to conversion was the liberality with which he and his associates bestowed gifts and presents upon those who joined in their prayers and received the cross.

Besides the Episcopal mission, under the Reverend Mr. Williams, formerly a lieutenant in the British navy, there is a Wesleyan mission at Hokianga, which is highly spoken of. Many reports have been put in circulation by the evil-disposed, in relation to these missions; but as far as my observations went, they seemed exemplary in their duties; they were also occupied in farming, in which native labourers were employed. Mr. Williams having a large family growing up, many of

them obtained farms, and are now in the successful occupation of them. There is no doubt the hue and cry against the father, that the mission had obtained all the best land from the natives, arose from this cause. Some circumstances were remarked, from which it was evident that the interests of the natives were looked after by the missionaries, who protected their lands and induced them not to sell to the emigrants, who would otherwise have found them only too ready to part with them.

It is true that the situation of these missionaries of the Church of England is different from that of any we had heretofore seen, and equally so that they do not appear to have succeeded as well in making proselytes as those in the other Polynesian islands; but I am persuaded that they have done and are still endeavouring to do much good. They are, however, separated, as it were, from their flocks, and consequently, cannot have that control over their behaviour that would be desirable. Many scenes, therefore, take place at the pas or strongholds, that might be prevented if the missionaries mingled more with their converts.

Mr. Williams was kind enough to have divine service at the house where our naturalists stayed,—Mr. Tibbey's. I was not a little surprised when I heard that Mr. Williams had refused any opportunity to our philologist to inspect a grammar of the New Zealand language, that was then going through the press. I mention the circumstance as remarkable, from being the only instance of the kind that occurred to us during the cruise; and it cannot be easily imagined what could have been the cause of his refusal, for a very short period after our departure it would be published, and there could have been no fear of his being forestalled by us.

Among the natives the taboo is yet law, though endeavours are making to introduce other laws among them. It was told me, on good authority, that there had been a trial for murder by a jury of chiefs at or near Hokianga, under the direction of a white man, but there was great reason to believe that the person did not receive that impartial justice which a duly organized court would have assured him. The evidence was said to have been deficient, but the current belief being against him, he was notwithstanding shot.

The natives, we were told, were not a little surprised at the summary way in which justice, or rather punishment, is dealt out by the magistrate of Kororarika.

Their taboo laws are very strict, and carefully observed, even among those who are considered Christians. The chief, Tomati, refused to enter the house of a person whom he took Mr. Hale to visit;

for if he had entered, it would have become tabooed; and the native law, which does not permit any man to enter a house in which a chief has resided, even temporarily, would have compelled him to abandon his dwelling. Women alone are allowed to enter the houses of chiefs. An instance of this was witnessed at the pa of Pomare, and another where we attempted to purchase the prow of a canoe. This prow, which was elaborately carved to represent some non-descript animal, with a human head, having the tongue protruded, was accidentally seen in an out-of-the-way storehouse, and was somewhat mutilated; it had belonged to the late chief Kiwikiwi, and was tabooed in the first degree. Overtures were made to the widow of Kiwikiwi for its purchase. It was evidently considered very sacred, for none of the natives would touch it, or even enter the storehouse in which it was kept. Notwithstanding all its sacredness, it was sold, after a little chaffering, for six dollars. The first price asked was two pounds, but the widow could not resist the chance of its sale. After the bargain was concluded, no native could be found willing to incur the penalty of the taboo, by carrying it. When the transportation was accomplished, a new and unexpected difficulty arose: it could not be carried across the water in a canoe, as it was against taboo to do it. The threat of making them refund the money, and take back the *ihu* or nose, so worked upon the covetousness of old Kawiti, the chief, that he consented to remove it, and also promised to come the next day and paint it red, after the native fashion. This he punctually performed, using a kind of red earth mixed with water. This is represented in the tail-piece at the end of this chapter.

The taboo is always resorted to, to protect their kumara-patches, and the fear of breaking it was strongly shown by the intrusion of Mr. Tibbey's goats into the kumara-patch of Pomare, near his pa. No one could be induced to go in to drive them out, for fear of punishment; and a message was sent to the chief to allow them to be expelled. After the permission was given, the natives could not be induced to enter by any other place but that where the goats had broken through.

The natives, for the most part, have their permanent residence in towns, or what are here termed "pas," which are generally built on high promontories, or insulated hills, and fortified in a rude fashion, with a palisade of upright stakes, about ten feet high: the houses or huts are all built closely together.

Pomare's pa being near our anchorage, was frequently visited. It contained about three hundred huts. There was a main entrance through the palisade, near which are two posts, the tops of which are carved into distorted representations of the human figure.