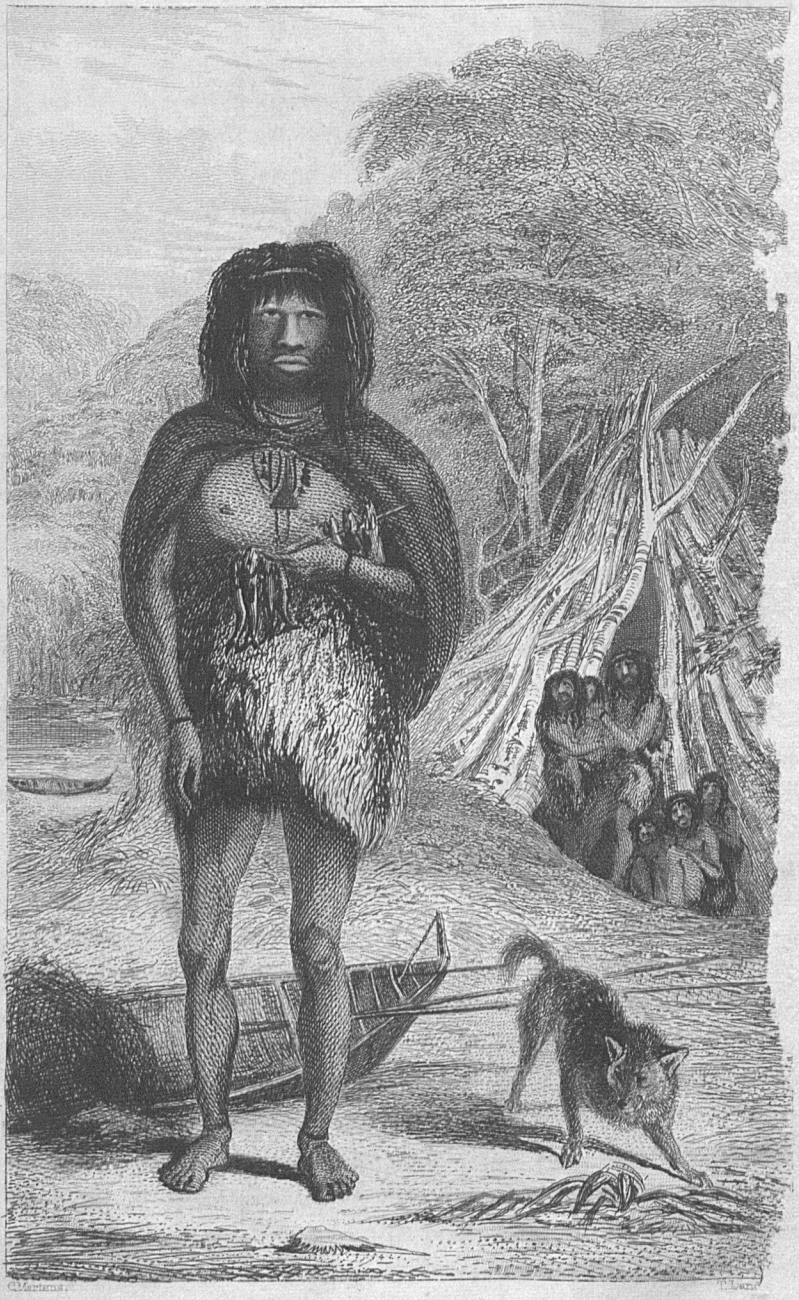

G. Martens. T. Lewis

FUEGIAN.

(YAPOO TEKEENICA)

AS PORTRAYED COVE

Published by Henry Colburn, Great Marlborough Street, 1838.

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OF THE

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IS MAJESTY'S SHIPS

URE AND BEAGLE,

BETWEEN

EARS 1826 AND 1836,

DESCRIBING THEIR

OF THE SOUTHERN SHORES

OF

TH AMERICA,

AND

CUMNAVIGATION OF THE GLOBE.

THREE VOLUMES.

VOL. II.

LONDON:

, GREAT MARLBOROUGH STREET.

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VOLUME II.

PROCEEDINGS

OF

THE SECOND EXPEDITION,

1831—1836,

UNDER THE COMMAND OF

CAPTAIN ROBERT FITZ-ROY, R.N.

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FOR PLACING THE PLATES.

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SURVEYING VOYAGES

OF

THE BEAGLE.

1831—1836.

CHAPTER I.

Explanation—Natives of Tierra del Fuego, or Fuegians—Passages across the Equator (Atlantic)—Letters—Small-pox—Hospital—Boat Memory—Fuegians in London—At Walthamstow—At St. James's—Beagle recommissioned—Correspondence with Mr. Wilson—Fuegians re-embark.

As the following narrative of the Beagle's second voyage to South America is a sequel to the "Surveying Voyages of the Adventure and the Beagle," which are related in the preceding volume, it may be advisable that this chapter should contain a sketch of some few incidents intimately connected with the origin and plan of the second Expedition.

Captain King has already mentioned that the two ships under his orders sailed from Rio de Janeiro, on their homeward passage, early in August 1830.

During the time which elapsed before we reached England, I had time to see much of my Fuegian companions; and daily became more interested about them as I attained a further acquaintance with their abilities and natural inclinations. Far,

very far indeed, were three of the number from deserving to be called savages—even at this early period of their residence among civilized people — though the other, named York Minster, was certainly a displeasing specimen of uncivilized human nature.

The acts of cannibalism occasionally committed by their countrymen, were explained to me in such terms, and with such signs, that I could not possibly misunderstand them ; and a still more revolting account was given, though in a less explicit manner, respecting the horrible fate of the eldest women of their own tribes, when there is an unusual scarcity of food.

This half-understood story I did not then notice much, for I could not believe it ; but as, since that time, a familiarity with our language has enabled the Fuegians to tell other persons, as well as myself, of this strange and diabolical atrocity ; and as Mr. Low (of whom mention will often be made in the following pages) was satisfied of the fact, from the concurrent testimony of other Fuegians who had, at different times, passed months on board his vessel, I no longer hesitate to state my firm belief in the most debasing trait of their character which will be found in these pages.

At the sea-ports which the Beagle visited in her way from Tierra del Fuego to England, animals, ships, and boats seemed to engage the notice of our copper-coloured friends far more than human beings or houses. When any thing excited their attention particularly, they would appear, at the time, almost stupid and unobservant ; but that they were not so in reality was shown by their eager chattering to one another at the very first subsequent opportunity, and by the sensible remarks made by them a long time afterwards, when we fancied they had altogether forgotten unimportant occurrences which took place during the first few months of their sojourn among us.

A large ox, with unusually long horns, excited their wonder remarkably ; but in no instance was outward emotion noticed, to any great degree, excepting when they saw a steam-vessel going into Falmouth Harbour. What extraordinary monster it was, they could not imagine. Whether it was a

huge fish, a land animal, or the devil (of whom they have a notion in their country), they could not decide; neither could they understand the attempted explanations of our sailors, who tried to make them comprehend its nature: but, indeed, I think that no one who remembers standing, for the first time, near a railway, and witnessing the rapid approach of a steam-engine, with its attached train of carriages, as it dashed along, smoking and snorting, will be surprised at the effect which a large steam-ship, passing at full speed near the Beagle, in a dark night, must have had on these ignorant, though rather intelligent barbarians.

Before relating occurrences subsequent to our arrival in England, I must ask permission to make the first of a few nautical remarks that will be found in this volume, some of which, I hope, may be useful to young sailors.

Our passage across the Atlantic, from Rio de Janeiro to Falmouth, was unusually long. In order to sail within sight of the Cape Verd Islands, for a particular purpose, we steered eastward from the coast of Brazil, and crossed the equator far east. This course, unavoidable in our case, carried us into that tract of ocean, between the trade-winds, which in August and September is subject to westerly winds—sometimes extremely strong—and we encountered a very heavy gale, although so near the equator. Afterwards, when close to our own shores, we were unfortunate enough to be delayed by what seamen call a hard-hearted easterly wind; and not until the middle of October were we moored in a British port.

As a remarkable contrast, a Falmouth packet, which sailed from Rio de Janeiro some time after our departure, steered northward, as soon as she had cleared the coast of Brazil, crossed the line far to the west, and arrived in England a fortnight before us.

My own humble opinion, with respect to crossing the equator, is, that an outward-bound ship ought to cross near twenty-five—and that one homeward-bound may go even beyond thirty degrees of west longitude—but should not attempt to pass eastward of twenty-five. Ships crossing the line between

twenty-five and thirty degrees west, are, I believe, far less subject to detention—taking the year through—than those which adopt easterly courses.

Cape St. Roque, St. Paul Rocks, Fernando Noronha, and the Roccas, ought not to be thought of too lightly; but in avoiding them, and the lee current near St. Roque, many ships have encountered the tedious calms, extremely hot weather, frequent torrents of rain, and violent squalls, which are more or less prevalent between the longitudes of twenty and ten degrees west.

To return to the Fuegians. While on our passage home I addressed the following letter to my commanding officer and kind friend, Captain King.

"Sir, Beagle, at sea, Sept. 12, 1830.

"I have the honour of reporting to you that there are now on board of his Majesty's sloop, under my command, four natives of Tierra del Fuego.

"Their names and estimated ages are,

York Minster	26
Boat Memory	20
James Button	14
Fuegia Basket (a girl)	9

"I have maintained them entirely at my own expense, and hold myself responsible for their comfort while away from, and for their safe return to their own country: and I have now to request that, as senior officer of the Expedition, you will consider of the possibility of some public advantage being derived from this circumstance; and of the propriety of offering them, with that view, to his Majesty's Government.

"If you think it proper to make the offer, I will keep them in readiness to be removed according to your directions.

"I am now to account for my having these Fuegians on board, and to explain my future views with respect to them.

"In February last, the Beagle being moored in 'Townshend Harbour,' on the south-west coast of Tierra del Fuego, I sent Mr. Matthew Murray (master), with six men, in a whale-boat, to Cape Desolation; the projecting part of a small,

but high and rugged island, detached from the main land, and twelve miles distant from Townshend Harbour.

"Mr. Murray reached the place, and secured his party and the boat in a cove near the cape: but during a very dark night, some Fuegians, whose vicinity was not at all suspected, approached with the dexterous cunning peculiar to savages and stole the boat.

"Thus deprived of the means of returning to the Beagle, and unable to make their situation known, Mr. Murray and his party formed a sort of canoe, or rather basket, with the branches of trees and part of their canvas tent, and in this machine three men made their way back to the Beagle, by his directions: yet, although favoured by the only fine day that occurred during the three weeks which the Beagle passed in Townshend Harbour, this basket was twenty hours on its passage.

"Assistance was immediately given to the master and the other men, and a chase for our lost boat was begun, which lasted many days, but was unsuccessful in its object, although much of the lost boat's gear was found, and the women and children of the families from whom it was recovered, were brought on board as hostages. The men, excepting one of them, escaped from us, or were absent in our missing boat.

"At the end of February the Beagle anchored in Christmas Sound; but before this time all our prisoners had escaped, except three little girls, two of whom we restored to their own tribe, near 'Whale-boat Sound,' and the other is now on board.

"From the first canoe seen in Christmas Sound, one man was taken as a hostage for the recovery of our boat, and to become an interpreter and guide. He came to us with little reluctance, and appeared unconcerned.

"A few days afterwards, traces of our boat were found at some wigwams on an island in Christmas Sound, and from the families inhabiting those wigwams I took another young man, for the same purpose as that above-mentioned. No useful information respecting our lost boat was, however, gained from them, before we were obliged to leave that coast, and she remained the prize of their companions.

"Afterwards, when in Nassau Bay, our captives informed us that the natives of that part of the coast, and all to the eastward, were their enemies, and that they spoke a different language. This intelligence was extremely disappointing, and made me anxious to persuade one of this eastern tribe to come on board and stay with us; but I had then no hopes of doing so, and gave up the idea: however, some time afterwards, accidentally meeting three canoes, when away in my boat exploring the Beagle Channel, I prevailed on their occupants to put one of the party, a stout boy, into my boat, and in return I gave them beads, buttons, and other trifles. Whether they intended that he should remain with us permanently, I do not know; but they seemed contented with the singular bargain, and paddled again towards the cove from which they had approached my boat. We pulled on along shore, attended by other canoes, which had been endeavouring to barter with us whenever we stopped; but at dusk they ceased following, us and went ashore.

"When about to depart from the Fuegian coast, I decided to keep these four natives on board, for they appeared to be quite cheerful and contented with their situation; and I thought that many good effects might be the consequence of their living a short time in England. They have lived, and have been clothed like the seamen, and are now, and have been always, in excellent health and very happy. They understand why they were taken, and look forward with pleasure to seeing our country, as well as to returning to their own.

"Should not his Majesty's Government direct otherwise, I shall procure for these people a suitable education, and, after two or three years, shall send or take them back to their country, with as large a stock as I can collect of those articles most useful to them, and most likely to improve the condition of their countrymen, who are now scarcely superior to the brute creation.

"I have, &c.
ROBERT FITZ-ROY,
Commander."

"Phillip Parker King, Esq.
Commander H.M.S. Adventure,
Senior officer of the Expedition."

This letter was forwarded to the Admiralty by Captain King, as soon as he arrived in England; and a few days afterwards the following answer was received.

"Sir, Admiralty Office, 19th Oct. 1830.

"Having laid before my Lords Commissioners of the Admiralty your letter and its enclosure from Commander Fitz-Roy, of the Beagle, relative to the four Indians whom he has brought from Tierra del Fuego under the circumstances therein stated; I am commanded to acquaint you that their Lordships will not interfere with Commander Fitz-Roy's personal superintendence of, or benevolent intentions towards these four people, but they will afford him any facilities towards maintaining and educating them in England, and will give them a passage home again.

"I am, &c.

"To Commander King, (Signed) JOHN BARROW."
H.M.S.V. Adventure."

I was, of course, anxious to protect the Fuegians, as far as possible, from the contagion of any of those disorders, sometimes prevalent, and which unhappily have so often proved fatal to the aboriginal natives of distant countries when brought to Europe; and, immediately after our arrival in England, they landed with me, after dark, and were taken to comfortable, airy lodgings, where, next day, they were vaccinated, for the second time.

Two days afterwards they were carried a few miles into the country, to a quiet farm-house, where I hoped they would enjoy more freedom and fresh air, and, at the same time, incur less risk of contagion than in a populous sea-port town, where curiosity would be excited.

Meanwhile, the Beagle was stripped and cleared out; and the Adventure went to Woolwich for a similar purpose, preparatory to being paid off. On the 27th of October, the Beagle's pendant was hauled down; and on the 15th of November, the Adventure was put out of commission.

Both vessels' crews were dispersed, as usual, unfortunately; and of those who had passed so many rough hours together, but few were likely to meet again. I much regretted the separation from my tried and esteemed shipmates, and from our excellent little vessel.

Soon afterwards, Captain King and Lieutenant Skyring were promoted: a gratifying proof of the good opinion of their exertions and conduct, which was entertained by the Lords Commissioners of the Admiralty.

Early in November I received the sad intelligence that the young man, called Boat Memory, was taken ill; and that the symptoms of his disorder were like those of the small-pox. Dr. Armstrong, of the Royal Hospital at Plymouth, whose advice I solicited, suggested that he and the other three Fuegians should be received immediately into the hospital, with the view of preventing further infection, and ensuring the best treatment for the poor sufferer. Dr. Armstrong applied to the physician, Dr. Dickson (now Sir David Dickson), as well as Sir James Gordon, the superintendent, and by their advice and permission the Fuegians were removed into the hospital without delay; and an application was made to the Admiralty, of which the following is a copy.

"Sir, "Devonport, 7th Nov. 1830.

"I have the honour of addressing you to request that the four Fuegians, whom I brought to England in the Beagle, may be received into the Royal Naval Hospital.

"The Lords Commissioners of the Admiralty have stated in a letter to Commander King, dated 19th Oct. 1830, that 'their Lordships will not interfere with Commander Fitz-Roy's personal superintendance of, or benevolent intentions towards these four people, but they will afford him any assistance in maintaining and educating them in England, and will give them a passage home again.'

"In consequence of this assurance, I now beg that you will draw their Lordships' attention to the circumstance of an eruption having broken out upon one of the Fuegian men, since he

was vaccinated, which is supposed, by the medical officers of the hospital, to be the small-pox.

"As the other three individuals have been always in company with him, it is to be feared that they also are affected; and as the vaccination has not yet taken a proper effect, it is the opinion of the medical officers that it would be safer to receive them into the hospital, until the present critical period is passed, than to allow them to remain in private care.

"I have further to request, that my late coxswain, James Bennett, may be permitted to accompany, and remain with the Fuegians, in order to attend upon them, in the event of their Lordships allowing them to be admitted into the hospital; and I hope, Sir, that the peculiar nature of the case may be thought to justify this application.

"I have, &c.

"The Secretary of the Admiralty. ROBERT FITZ-ROY, Commander."

"Sir, Admiralty-Office, 10th Nov. 1830.

"I am commanded by my Lords Commissioners of the Admiralty to acquaint you, in answer to your letter of this day's date, that directions have been given for the admission of the four Fuegians therein alluded to, into the Naval Hospital at Plymouth, and that James Bennett be allowed to attend them, agreeably with your request.

"I am, Sir, &c.

"Commander Fitz-Roy. (Signed) "JOHN BARROW."

The Admiralty having thus sanctioned the admission of the Fuegians into one of the best hospitals, and assured that they could not be under better treatment than that of the well-known gentlemen whom I have mentioned, I felt less anxiety in leaving them for a time, as I was obliged to do, in order to attend to duties connected with the survey; but I had hardly reached London, when a letter from Dr. Dickson informed me of the untimely fate of Boat Memory. He had been vaccinated four different times; but the three first opera-

tions had failed, and the last had just taken effect, when the disease showed itself. It was thought that the fatal contagion must have attacked him previously.

This poor fellow was a very great favourite with all who knew him, as well as with myself. He had a good disposition, very good abilities, and though born a savage, had a pleasing, intelligent appearance. He was quite an exception to the general character of the Fuegians, having good features and a well-proportioned frame. It may readily be supposed that this was a severe blow to me, for I was deeply sensible of the responsibility which had been incurred; and, however unintentionally, could not but feel how much I was implicated in shortening his existence. Neither of the others were attacked, the last vaccination having taken full effect; but they were allowed to remain in the hospital for some time longer, until I could make satisfactory arrangements for them. While they were under Dr. Dickson's care, in the hospital, his own children had the measles; and thinking that it would be a good opportunity to carry the little Fuegian girl through that illness, he prepared her for it, and then took her into his house, among his own children; where she had a very favourable attack, and recovered thoroughly.

Of course, I was anxious that no time should be lost in arranging a plan for their education and maintenance; and deeming the Church Missionary Society to be in some measure interested about the project I had in view, I applied to their secretary, through whose kindness I became acquainted with the Rev. Joseph Wigram; to whom I am under great obligations for the friendly interest taken at that time in my wishes with respect to the Fuegians, and for introducing them and myself to the notice of the Rev. William Wilson, of Walthamstow. Mr. Wilson at once relieved my mind from a load of uncertainty and anxiety, by saying that they should be received into his parish, and that he would talk to the master of the Infant School about taking them into his house, as boarders and pupils. In a short time, it was arranged that the school-

master should receive, and take entire charge of them, while they remained in England, and should be paid by me for their board and lodging, for his own trouble, and for all contingent expenses.

Mr. Wilson proposed to keep a watchful eye over them himself, and give advice from time to time to their guardian and instructor. Mr. Wigram also lived at Walthamstow, and as he would have frequent opportunities of offering a useful caution, in case that the numerous calls upon Mr. Wilson's attention should at any time render additional thoughts for the Fuegians an unfair or unpleasant trouble to him—I did indeed think that no plan could be devised offering a better prospect; and immediately made arrangements for conveying them to London.

The inside of a stage-coach was taken, and under the guidance of Mr. Murray (the Beagle's late master), attended by James Bennett, they arrived in Piccadilly, and were immediately carried to Walthamstow, without attracting any notice. Mr. Murray told me that they seemed to enjoy their journey in the coach, and were very much struck by the repeated changing of horses.

I took them myself from the coach-office to Walthamstow; they were glad to see me, but seemed bewildered by the multitude of new objects. Passing Charing Cross, there was a start and exclamation of astonishment from York. 'Look!' he said, fixing his eyes on the lion upon Northumberland House, which he certainly thought alive, and walking there. I never saw him show such sudden emotion at any other time. They were much pleased with the rooms prepared for them at Walthamstow; and the schoolmaster and his wife were equally pleased to find the future inmates of their house very well disposed, quiet, and cleanly people; instead of fierce and dirty savages.

At Walthamstow they remained from December 1830 till October 1831; and during all that time were treated with the utmost kindness by the benevolent men whose names I have mentioned; by their families, and by many others in the

neighbourhood, as well as casual visitors, who became much interested in their welfare, and from time to time gave them several valuable presents.

The attention of their instructor was directed to teaching them English, and the plainer truths of Christianity, as the first object; and the use of common tools, a slight acquaintance with husbandry, gardening, and mechanism, as the second. Considerable progress was made by the boy and girl; but the man was hard to teach, except mechanically. He took interest in smith's or carpenter's work, and paid attention to what he saw and heard about animals; but he reluctantly assisted in garden work, and had a great dislike to learning to read. By degrees, a good many words of their own languages were collected (the boy's differed from that of the man and the girl), and some interesting information was acquired, respecting their own native habits and ideas. They gave no particular trouble; were very healthy; and the two younger ones became great favourites wherever they were known. Sometimes I took them with me to see a friend or relation of my own, who was anxious to question them, and contribute something to the increasing stock of serviceable articles which I was collecting for their use, when they should return to Tierra del Fuego. My sister was a frequent benefactress; and they often talked, both then and afterwards, of going to see 'Cappen Sisser.'

During the summer of 1831, his late Majesty expressed to Colonel Wood a wish to see the Fuegians, and they were taken to St. James's. His Majesty asked a great deal about their country, as well as themselves; and I hope I may be permitted to remark that, during an equal space of time, no person ever asked me so many sensible and thoroughly pertinent questions respecting the Fuegians and their country also relating to the survey in which I had myself been engaged, as did his Majesty. Her Majesty Queen Adelaide also honoured the Fuegians by her presence, and by acts of genuine kindness which they could appreciate, and never forgot. She left the room, in which they were, for a minute, and returned with one

of her own bonnets, which she put upon the girl's head. Her Majesty then put one of her rings upon the girl's finger, and gave her a sum of money to buy an outfit of clothes when she should leave England to return to her own country.

I must now revert to matters more immediately connected with the Beagle's second voyage.

My own official duties, relating to the survey, were completed in March 1831; when my late commanding officer, Captain King, addressed a letter to the Lords Commissioners of the Admiralty expressive of his approbation of the part I had taken, under his direction, and recommending me to their Lordships.*

From various conversations which I had with Captain King, during the earlier period of my service under him, I had been led to suppose that the survey of the southern coasts of South America would be continued; and to some ship, ordered upon such a service, I had looked for an opportunity of restoring the Fuegians to their native land.

Finding, however, to my great disappointment, that an entire change had taken place in the views of the Lords of the Admiralty, and that there was no intention to prosecute the survey, I naturally became anxious about the Fuegians; and, in June, having no hopes of a man-of-war being sent to Tierra del Fuego, and feeling too much bound to these natives to trust them in any other kind of vessel, unless with myself—because of the risk that would attend their being landed anywhere, excepting on the territories of their own tribes—I made an agreement† with the owner of a small merchant-vessel, the John of London, to carry me and five other persons to such places in South America as I wished to visit, and eventually to land me at Valparaiso.

My arrangements were all made, and James Bennett, who was to accompany me, had already purchased a number of goats, with which I purposed stocking some of the islands of Tierra del Fuego—when a kind uncle, to whom I mentioned

* Appendix. † Ibid.

my plan, went to the Admiralty, and soon afterwards told me that I should be appointed to the command of the Chanticleer, to go to Tierra del Fuego.

My agreement with the owner of the John was, however, in full force, and I could not alter it without paying a large proportion of the whole sum agreed on for the voyage.

The Chanticleer was not, upon examination, found quite fit for service; and, instead of her, I was again appointed to my well-tried little vessel, the Beagle. My commission was dated the 27th of June, and on the same day two of my most esteemed friends, Lieutenants Wickham and Sulivan, were also appointed.

While the Beagle was fitting out at Devonport, I received the following letter from Mr. Wilson.

"Sir, Walthamstow, 5th Aug. 1831.

"I am informed that the Fuegians who have been lately resident in this place are shortly to return to their native country under your care. Will you permit me to ask whether, if two individuals should volunteer to accompany and remain with them, in order to attempt to teach them such useful arts as may be thought suited to their gradual civilization, you will give them a passage in the Beagle? and whether, upon your arrival on the coast of Tierra del Fuego, you will be able to give them some assistance in establishing a friendly intercourse with, and settlement amongst the natives of that country? Would these individuals be required to pay you for their passage, and maintenance on board? or would his Majesty's Government allow them to be maintained on board at the public expense? Do you think that you would be able to visit them, after their first settlement, supposing so desirable an object should be attained, in order to give them some encouragement, and perhaps assistance; or to remove them if they should find it impracticable to continue their residence among the natives?

"A subscription has been set on foot by gentlemen who are extremely desirous that this opportunity of extending the benefits of civilization should not be lost; and, in consequence of their united wishes, I now take the liberty of asking these questions.

"I am, &c.

(Signed) "WILLIAM WILSON."

"To Captain Fitz-Roy, R.N."

After reading this communication, I wrote to the Secretary of the Admiralty, and enclosed a copy of Mr. Wilson's letter. The answer is subjoined.

"Sir, Admiralty Office, 10th Aug. 1831.

"Having laid before my Lords Commissioners of the Admiralty your letter of yesterday's date, with the letter which accompanied it, from the Rev. William Wilson, respecting the natives of Tierra del Fuego who were brought to England in his Majesty's ship Beagle; I am commanded to acquaint you that their Lordships will give the necessary orders for the passage of these individuals, and of the two persons who are to accompany them; and that your request to be allowed to visit these people, after their arrival, will be taken into consideration in preparing your instructions.

"I am, &c.

(Signed) "JOHN BARROW."

"To Commander Fitz-Roy,
"H.M.S. Beagle."

In consequence of this reply, it was wished that two persons should accompany the Fuegians, and endeavour to pass some time in their country: but it was not easy to find individuals sufficiently qualified, and in whom confidence could be placed, who would willingly undertake such an enterprise. One young man was selected by Mr. Wilson, but a companion for him could not be found in time to embark on board the Beagle.

In October the party from Walthamstow arrived, in a

steam-vessel, at Plymouth, and not a few boats were required to transport to our ship the large cargo of clothes, tools, crockery-ware, books, and various things which the families at Walthamstow and other kind-hearted persons had given. In the small hold of the Beagle, it was not easy to find places for the stowage of so many extra stores; and when dividing the contents of large chests, in order to pack them differently, some very fair jokes were enjoyed by the seamen, at the expense of those who had ordered complete sets of crockery-ware, without desiring that any selection of articles should be made.

Instructions were given, by the Secretary of the Church Missionary Society, to the young man who wished to accompany the Fuegians, which will be found in the Appendix; and although he was rather too young, and less experienced than might have been wished, his character and conduct had been such as to give very fair grounds for anticipating that he would, at least, sincerely endeavour to do his utmost in a situation so difficult and trying as that for which he volunteered.

CHAPTER II.

Hydrographer's Opinion—Continuation of Survey—Chain of Meridian Distances—Efficient Arrangements—Repair and raise Deck—Outfit—Boats—Lightning-Conductors—Rudder—Stove—Windlass—Chronometers—Mr. Darwin—Persons on board—Changes—List of those who returned—Supplies—Admiralty Instructions—Memorandum—Hydrographer's Memorandum.

WHEN it was decided that a small vessel should be sent to Tierra del Fuego, the Hydrographer of the Admiralty was referred to for his opinion, as to what addition she might make to the yet incomplete surveys of that country, and other places which she might visit.

Captain Beaufort embraced the opportunity of expressing his anxiety for the continuance of the South American Surveys, and mentioning such objects, attainable by the Beagle, as he thought most desirable: and it was soon after intimated to me that the voyage might occupy several years. Desirous of adding as much as possible to a work in which I had a strong interest, and entertaining the hope that a chain of meridian distances might be carried round the world if we returned to England across the Pacific, and by the Cape of Good Hope; I resolved to spare neither expense nor trouble in making our little Expedition as complete, with respect to material and preparation, as my means and exertions would allow, when supported by the considerate and satisfactory arrangements of the Admiralty: which were carried into effect (at that time) by the Navy Board, the Victualling Board, and the Dockyard officers at Devonport.

The Beagle was commissioned on the 4th of July 1831, and was immediately taken into dock to be thoroughly examined, and prepared for a long period of foreign service. As she required a new deck, and a good deal of repair about the upper works, I obtained permission to have the upper-deck

raised considerably,* which afterwards proved to be of the greatest advantage to her as a sea boat, besides adding so materially to the comfort of all on board. While in dock, a sheathing of two-inch fir plank was nailed on the vessel's bottom, over which was a coating of felt, and then new copper. This sheathing added about fifteen tons to her displacement, and nearly seven to her actual measurement. Therefore, instead of 235 tons, she might be considered about 242 tons burthen. The rudder was fitted according to the plan of Captain Lihou: a patent windlass supplied the place of a capstan: one of Frazer's stoves, with an oven attached, was taken instead of a common 'galley' fire-place; and the lightning-conductors, invented by Mr. Harris, were fixed in all the masts, the bowsprit, and even in the flying jib-boom. The arrangements made in the fittings, both inside and outside, by the officers of the Dock-yard, left nothing to be desired. Our ropes, sails, and spars, were the best that could be procured; and to complete our excellent outfit, six superior boats† (two of them private property) were built expressly for us, and so contrived and stowed that they could all be carried in any weather.

Considering the limited disposable space in so very small a ship, we contrived to carry more instruments and books than one would readily suppose could be stowed away in dry and secure places; and in a part of my own cabin twenty-two chronometers were carefully placed.

Anxious that no opportunity of collecting useful information, during the voyage, should be lost; I proposed to the Hydrographer that some well-educated and scientific person should be sought for who would willingly share such accommodations as I had to offer, in order to profit by the opportunity of visiting distant countries yet little known. Captain Beaufort approved of the suggestion, and wrote to Professor Peacock, of Cambridge, who consulted with a friend, Professor Henslow, and he named Mr. Charles Darwin, grandson of Dr. Darwin the poet, as a young man of promising ability,

* Eight inches abaft and twelve forward.

† Besides a dinghy carried astern.

extremely fond of geology, and indeed all branches of natural history. In consequence an offer was made to Mr. Darwin to be my guest on board, which he accepted conditionally; permission was obtained for his embarkation, and an order given by the Admiralty that he should be borne on the ship's books for provisions. The conditions asked by Mr. Darwin were, that he should be at liberty to leave the Beagle and retire from the Expedition when he thought proper, and that he should pay a fair share of the expenses of my table.

Knowing well that no one actively engaged in the surveying duties on which we were going to be employed, would have time—even if he had ability—to make much use of the pencil, I engaged an artist, Mr. Augustus Earle, to go out in a private capacity; though not without the sanction of the Admiralty, who authorized him also to be victualled. And in order to secure the constant, yet to a certain degree mechanical attendance required by a large number of chronometers, and to be enabled to repair our instruments and keep them in order, I engaged the services of Mr. George James Stebbing, eldest son of the mathematical instrument-maker at Portsmouth, as a private assistant.

The established complement of officers and men (including marines and boys) was sixty-five: but, with the supernumeraries I have mentioned, we had on board, when the Beagle sailed from England, seventy-four persons, namely:—

Robert Fitz-Roy	Commander and Surveyor.
John Clements Wickham	Lieutenant.
Bartholomew James Sulivan	Lieutenant.
Edward Main Chaffers	Master.
Robert Mac-Cormick	Surgeon.
George Rowlett	Purser.
Alexander Derbishire	Mate.
Peter Benson Stewart	Mate.
John Lort Stokes	Mate and Assistant Surveyor.
Benjamin Bynoe	Assistant Surgeon.
Arthur Mellersh	Midshipman.
Philip Gidley King	Midshipman.

Alexander Burns Usborne ..... Master's Assistant.
Charles Musters ..... Volunteer 1st Class.
Jonathan May ..... Carpenter.
Edward H. Hellyer ..... Clerk.
Acting boatswain : sergeant of marines and seven privates : thirty-four seamen and six boys.

On the List of supernumeraries were—
Charles Darwin ..... Naturalist.
Augustus Earle ..... Draughtsman.
George James Stebbing ..... Instrument Maker.
Richard Matthews and three Fuegians : my own steward : and Mr. Darwin's servant.

Some changes occurred in the course of the five years' voyage, which it may be well to mention in this place.

In April 1832, Mr. Mac-Cormick and Mr. Derbishire returned to England. Mr. Bynoe was appointed to act as Surgeon. Mr. Mellersh received a Mate's warrant; and Mr. Johnson joined the Beagle as Midshipman. In May Mr. Musters fell a victim to fever, caught in the harbour of Rio de Janeiro:—Mr. Forsyth took his place.

Mr. Earle suffered so much from continual ill health, that he could not remain on board the Beagle after August 1832; but he lived at Monte Video several months previously to his return to England. The disappointment caused by losing his services was diminished by meeting Mr Martens at Monte Video, and engaging him to embark with me as my draughtsman.

In March 1833, Mr. Hellyer was drowned at the Falkland Islands, in attempting to get a bird he had shot. In September 1833, Mr. Kent joined as Assistant Surgeon. In June 1834, Mr. Rowlett died, at sea, of a complaint under which he had laboured for years: and the vacancy caused by his lamented decease was filled by Mr. Dring.

Mr. Martens left me, at Valparasio, in 1834; and Mr. King remained with his father, at Sydney, in Australia, in February 1836. After these changes, and at our return to England in October 1836, the list stood thus—

Robert Fitz-Roy	Captain and Surveyor.
John Clements Wickham.....	Lieutenant.
Bartholomew James Sulivan	Lieutenant.
Edward Main Chaffers.....	Master.
Benjamin Bynoe	Surgeon (Acting.)
John Edward Dring.....	Purser (Acting.)
Peter Benson Stewart	Mate.
John Lort Stokes.....	Mate and Assistant Surveyor.
Arthur Mellersh	Mate.
Charles Richardson Johnson	Mate.
William Kent	Assistant Surgeon.
Charles Forsyth	Midshipman.
Alexander Burns Usborne	Master's Assistant.
Thomas Sorrell	Boatswain (Acting.)
Jonathan May.....	Carpenter.

And on the List of supernumeraries were Mr. Darwin: George J. Stebbing: my steward: and Mr. Darwin's servant.

Our complement of seamen, marines, and boys was complete at our return, and generally during the voyage; because, although many changes happened, we had always a choice of volunteers to fill vacant places.

Many of the crew had sailed with me in the previous voyage of the Beagle; and there were a few officers, as well as some marines and seamen, who had served in the Beagle, or Adventure, during the whole of the former voyage. These determined admirers of Tierra del Fuego were, Lieutenant Wickham, Mr. Bynoe, Mr. Stokes, Mr. Mellersh, and Mr. King; the boatswain, carpenter, and sergeant; four private marines, my coxswain, and some seamen.

I must not omit to mention that among our provisions were various antiscorbutics—such as pickles, dried apples, and lemon juice—of the best quality, and in as great abundance as we could stow away; we had also on board a very large quantity of Kilner and Moorsom's preserved meat, vegetables, and soup: and from the Medical Department we received an ample supply of antiseptics, and articles useful for preserving specimens of natural history.

Not only the heads of departments exerted themselves for

the sake of our health and safety, but the officers subordinate to them appeared to take a personal interest in the Beagle; for which I and those with me felt, and must always feel, most grateful.

Perhaps no vessel ever quitted her own country with a better or more ample supply (in proportion to her probable necessities) of every kind of useful provision and stores than the little ship of whose wanderings I am now about to give a brief and very imperfect narrative; and, therefore, if she succeeded in effecting any of the objects of her mission, with comparative ease and expedition, let the complete manner in which she was prepared for her voyage, by the Dock-yard at Devonport, be fully remembered.

On the 15th of November I received my instructions from the Lords Commissioners of the Admiralty.

INSTRUCTIONS

By the Commissioners for executing the office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, &c.

"You are hereby required and directed to put to sea, in the vessel you command, so soon as she shall be in every respect ready, and to proceed in her, with all convenient expedition, successively to Madeira or Teneriffe; the Cape de Verde Islands; Fernando Noronha; and the South American station; to perform the operations, and execute the surveys, pointed out in the accompanying memorandum, which has been drawn up under our direction by the Hydrographer of this office; observing and following, in the prosecution of the said surveys, and in your other operations, the directions and suggestions contained in the said memorandum.

"You are to consider yourself under the command of Rear-Admiral Sir Thomas Baker, Commander-in-chief of his Majesty's ships on the South American station, whilst you are within the limits of that station, in execution of the services

above-mentioned; and in addition to the directions conveyed to you in the memorandum, on the subject of your supplies of provisions, we have signified to the Rear-Admiral our desire that, whenever the occasion offers, you should receive from him and the officers of his squadron, any assistance, in stores and provisions, of which you may stand in need.

"But during the whole time of your continuing on the above duties, you are (notwithstanding the 16th article of the 4th section of the 6th chapter, page 78, of the General Printed Instructions) to send reports, by every opportunity, to our Secretary, of your proceedings, and of the progress you make.

"Having completed the surveys which you are directed to execute on the South American station, you are to proceed to perform the several further operations set forth in the Hydrographer's memorandum, in the course therein pointed out; and having so done, you are to return, in the vessel you command, to Spithead, and report your arrival to our Secretary, for our information and further directions.

"In the event of any unfortunate accident happening to yourself, the officer on whom the command of the Beagle may in consequence devolve, is hereby required and directed to complete, as far as in him lies, that part of the survey on which the vessel may be then engaged, but not to proceed to a new step in the voyage; as, for instance, if at that time carrying on the coast survey on the western side of South America, he is not to cross the Pacific, but to return to England by Rio de Janeiro and the Atlantic.

"Given under our hands, the 11th of November 1831.

(Signed) "T. M. HARDY,
"G. BARRINGTON."

"To Robert Fitz-Roy, Esq.,
Commander of his Majesty's surveying vessel
'Beagle,' at Plymouth."

"By command of their Lordships,

(Signed) "GEO. ELLIOT."

"SIR; Admiralty Office, 11th November 1831.

"With reference to the order which my Lords Commissioners of the Admiralty have this day addressed to you, I am commanded by their lordships to transmit to you a memorandum, to be shown by you to any senior officer who may fall in with you, while you are employed on the duties pointed out in the above order.

"I am, Sir, &c.
(Signed) "GEO. ELLIOT."

"To Commander Fitz-Roy,
'Beagle' surveying vessel, Plymouth."

"Admiralty Office, 11th November 1831.
"Memorandum.

"My Lords Commissioners of the Admiralty having ordered Commander Fitz-Roy, of his Majesty's surveying vessel the 'Beagle,' to make surveys of various parts of the South American station, it is their lordships' direction that no senior officer who may fall in with Commander Fitz-Roy, while he is employed in the above important duties, do divert him therefrom, or in any way interfere with him, or take from him, on any account, any of his instruments or chronometers.

(Signed) "GEO. ELLIOT."

"Memorandum.

"A considerable difference still exists in the longitude of Rio de Janeiro, as determined by Captains King, Beechey, and Foster, on the one hand, and Captain W. F. Owen, Baron Roussin, and the Portuguese astronomers, on the other; and as all our meridian distances in South America are measured from thence, it becomes a matter of importance to decide between these conflicting authorities. Few vessels will have ever left this country with a better set of chronometers, both public and private, than the Beagle; and if her voyage be made in short stages, in order to detect the changes which take place in all chronometers during a continuous increase of temperature, it will probably enable us to reduce that difference within limits too small to be of much import in our future conclusions.

"With this view, the run to Rio de Janeiro may be conveniently divided into four parts:—

"1st. Touching at Madeira, the exact position of which has been admitted by all parties. Having obtained a four days' rate there, or, if the weather and the exposed anchorage will not permit, at Teneriffe, the Beagle should, 2dly, proceed with the least possible delay to Port Praya, in the Cape de Verde Islands, not only to establish a fresh four days' rate; but that point being the pivot on which all Captain Owen's longitudes turn, no pains should be spared in verifying the position he has assumed for it. From thence, 3dly, she should make the best of her way across the Line to Fernando Noronha. This island, indeed, lies somewhat to the westward of her track, and may retard her progress a little; yet a series of chronometric observations there is essential to the object in view, because it forms the third nearly equal division of the whole run, and because it was the point of junction of Commander Foster's double line of longitudes. If two or three days' delay at either of these two last stations will enable him to obtain satisfactory occultations, and moon culminating observations, which are likely to be seen in this country, the increased certainty of the results will well atone for that loss of time. The Commander will, of course, be careful to adopt, in all those stations, the precise spot of the former observations, with which his are to be compared. The Governor of Fernando Noronha was peculiarly obliging to Commander Foster, and gave up part of his own house for the pendulum experiments. There will be no occasion now for trespassing so heavily on his kindness; but the difference of longitude between that station and Commander Fitz-Roy's must be well measured.

"However desirable it may be that the Beagle should reach Rio de Janeiro as soon as possible, yet the great importance of knowing the true position of the Abrolhos Banks, and the certainty that they extend much further out than the limits assigned to them by Baron Roussin, will warrant the sacrifice of a few days, if other circumstances should enable her to beat down about the meridian of 36° W. from the latitude of

16° S. The deep sea-line should be kept in motion; and if soundings be obtained, the bank should be pursued both ways, out to the edge, and in to that part already known.

"Its actual extent to the eastward, and its connection with the shoals being thus ascertained, its further investigation may be left to more convenient opportunities.

"At Rio de Janeiro, the time necessary for watering, &c. will, no doubt, be employed by the commander in every species of observation that can assist in deciding the longitude of Villegagnon Island.

"It is understood that a French Expedition is now engaged in the examination of the coast between St. Catherine's and the Rio de la Plata; it would therefore be a waste of means to interfere with that interval; and Commander Fitz-Roy should be directed to proceed to Monte Video, and to rate his chronometers in the same situation occupied by Captain King.

"To the southward of the Rio de la Plata, the real work of the survey will begin. Of that great extent of coast which reaches from Cape St. Antonio to St. George's bay, we only know that it is inaccurately placed, and that it contains some large rivers, which rise at the other side of the continent, and some good harbours, which are undoubtedly worth a minute examination. Much of it, however, from the casual accounts of the Spaniards, seems to offer but little interest either to navigation or commerce, and will scarcely require more than to have its direction laid down correctly, and its prominent points fixed. It should nevertheless be borne in mind there, and in other places, that the more hopeless and forbidding any long line of coast may be, the more precious becomes the discovery of a port which affords safe anchorage and wholesome refreshments.

"The portions of the coast which seem to require particular examination are—

"1st. From Monte Hermoso to the Rio Colorado, including the large inlet of Bahia Blanco, of which there are three manuscripts in this office that differ in every thing but in name.

"2dly. The gulf of Todos los Santos, which is studded in the Spanish charts with innumerable islands and shoals. It is said to have an excellent harbour on its southern side, which should be verified; but a minute survey of such an Archipelago would be a useless consumption of time, and it will therefore be found sufficient to give the outer line of the dangers, and to connect that line with the regular soundings in the offing.

"3dly. The Rio Negro is stated to be a river of large capacity, with settlements fifty miles from its mouth, and ought to be partially reconnoitred as far as it is navigable.

"4thly. The gulf of San Matias should be examined, especially its two harbours, San Antonio and San José, and a narrow inlet on the eastern side of the peninsula, which, if easy of access, appears to be admirably situated: and—

"5thly. From the Bahia Nueva to Cape Blanco, including the Gulf of St. George, the coast is of various degrees of interest, and will accordingly require to have more or less time bestowed on its different parts. The position of Cape Blanco should be determined, as there appears to be an error of some miles in its latitude, as well as much doubt about the places of two shoals which are marked near it in the Spanish charts.

"From Cape Blanco to the Strait of Magalhaens, the coast has been partially corrected by Captain King; and Port Desire, having been carefully placed by him, will afford a good place for rating the chronometers, and an opportunity for exploring the river.

"Port San Julian, with its bar and wide river, should be surveyed, as well as any parts of that interval which were not visited in the last expedition.

"The above are the principal points of research between the Rio de la Plata and the Strait. They have been consecutively mentioned in order to bring them into one point of view; but that part of this service would perhaps be advantageously postponed till after the Beagle's first return from the southward; and, generally speaking, it would be unwise to lay down here a specific route from which no deviation

would be permitted. Where so many unforeseen circumstances may disturb the best-concerted arrangements, and where so much depends on climates and seasons with which we are not yet intimately acquainted, the most that can be safely done is to state the various objects of the voyage, and to rely on the Commander's known zeal and prudence to effect them in the most convenient order.

"Applying this principle to what is yet to be done in the Strait, and in the intricate group of islands which forms the Tierra del Fuego, the following list will show our chief desiderata.

"Captain King, in his directions, alludes to a reef of half a mile in length, off Cape Virgins, and in his chart he makes a seven fathoms' channel outside that reef; and still further out, five fathoms with overfalls. Sarmiento places fifty fathoms at ten miles E.S.E. from that Cape; thirteen fathoms at nineteen miles; and, at twenty-one miles in the same direction, only four fathoms, besides a very extensive bank projecting from Tierra del Fuego, between which and the above shoals Malaspina passed in thirteen fathoms. In short, there is conclusive evidence of there being more banks than one that obstruct the entrance to the Strait, and undoubtedly their thorough examination ought to be one of the most important objects of the Expedition; inasmuch, as a safe approach to either straits or harbours is of more consequence to determine than the details inside.

"None of the above authors describe the nature of these shoals, whether rock or sand; it will be interesting to note with accuracy the slope, or regularity, of the depths, in their different faces, the quality of their various materials, and the disposition of the coarse or fine parts, as well as of what species of rock in the neighbourhood they seem to be the detritus; for it is probable that the place of their deposition is connected with the very singular tides which seem to circulate in the eastern end of the Strait.

"Beginning at Cape Orange, the whole north-eastern coast of Tierra del Fuego as far as Cape San Diego should be sur-

veyed, including the outer edge of the extensive shoals that project from its northern extreme, and setting at rest the question of the Sebastian Channel.

"On the southern side of this great collection of islands, the Beagle Channel and Whale-boat Sound should be finished, and any other places which the Commander's local knowledge may point out as being requisite to complete his former survey, and sufficiently interesting in themselves to warrant the time they will cost; such as some apparently useful ports to the westward of Cape False, and the north side of Wakefield Channel, all of which are said to be frequented by the sealers.

"In the north-western part it is possible that other breaks may be found interrupting the continuity of Sta. Ines Island, and communicating from the Southern Ocean with the Strait; these should be fully or cursorily examined, according to their appearance and promise; and though it would be a very useless waste of time to pursue in detail the infinite number of bays, openings, and roads, that teem on the western side of that island, yet no good harbour should be omitted. It cannot be repeated too often that the more inhospitable the region, the more valuable is a known port of refuge.

"In the western division of the Strait, from Cape Pillar to Cape Froward, there are a few openings which may perhaps be further explored, on the chance of their leading out to sea; a few positions which may require to be reviewed; and a few ports which were only slightly looked into during Captain King's laborious and excellent survey, and which may now be completed, if likely to augment the resources of ships occupied in those dreary regions.

"In the eastern division of the Strait there is rather more work to be done, as the Fuegian shore from Admiralty Sound to Cape Orange has not been touched. Along with this part of the service, the Islands of Saints Martha and Magdalena, and the channel to the eastward of Elizabeth Island, will come in for examination; and there is no part of the Strait which requires to be more accurately laid down and distinctly described, from the narrowness of the channels and the trans-

verse direction of the tides. Sweepstakes Foreland may prove to be an Island; if so, there may be found an useful outlet to the long lee-shore that extends from Cape Monmouth; and if not, perhaps some safe ports might be discovered in that interval for vessels caught there in strong westerly gales.

"It is not likely that, for the purposes of either war or commerce, a much more detailed account will be necessary of those two singular inland seas, Otway and Skyring Waters, unless they should be found to communicate with one of the sounds on the western coast, or with the western part of the Strait. The general opinion in the former Expedition was certainly against such a communication, and the phenomena of the tides is also against it; still the thing is possible, and it becomes an interesting geographical question, which a detached boat in fine weather will readily solve.

"These several operations may probably be completed in the summer of 1833-34, including two trips to Monte Video for refreshments; but before we finally quit the eastern coast of South America, it is necessary to advert to our present ignorance of the Falkland Islands, however often they have been visited. The time that would be occupied by a rigorous survey of this group of islands would be very disproportionate to its value; but as they are the frequent resort of whalers, and as it is of immense consequence to a vessel that has lost her masts, anchors, or a large part of her crew, to have a precise knowledge of the port to which she is obliged to fly, it would well deserve some sacrifice of time to have the most advantageous harbours and their approaches well laid down, and connected by a general sketch or running survey. Clear directions for recognizing and entering these ports should accompany these plans; and as most contradictory statements have been made of the refreshments to be obtained at the east and west great islands, an authentic report on that subject by the Commander will be of real utility.

"There is reason to believe that deep soundings may be traced from these islands to the main, and if regular they would be of great service in rectifying a ship's place.

"Having now stated all that is most urgent to be done on this side of the South American Continent as well as in the circuit of Tierra del Fuego, the next step of the voyage will be Concepçion, or Valparaiso, to one of which places the Beagle will have to proceed for provisions, and where Captain King satisfactorily determined the meridian distances.

"The interval of coast between Valparaiso and the western entrance of the Strait has been partly surveyed, as well as most of the deep and narrow channels formed by the islands of Hanover, Wellington, and Madre de Dios; but of the sea face of that great chain of islands which stretches from Queen Adelaide Archipelago to Campana Island, little has yet been done. It presents a most uninviting appearance, can probably afford but little benefit to the navigator, and the chief object in urging its partial examination, is to remove a blank from this great survey, which was undertaken by Great Britain from such disinterested motives, and which was executed by Captains King and Fitz-Roy with so much skill and zeal.

"The experience gained by the latter in that climate will enable him to accomplish all that is now required in much less time than it would have occupied in the beginning of the former expedition.

"At the Gulf of Peñas the last survey terminated. Of the peninsula de Tres Montes, and of the islands between that and Chilóe, a Spanish manuscript has been procured from Don Felipe Bauzá, which may greatly abridge the examination of that interval.

"From thence to Valdivia, Concepçion, and Valparaiso, the shore is straight, and nearly in the direction of the meridian, so that it will require no great expenditure of time to correct the outline, and to fix the positions of all the salient points. Mocha Island is supposed to be erroneously placed: and the depth, breadth, and safety of its channel are not known.

"To the south of Valparaiso the port of Topocalmo and the large shoal in the offing on which an American ship was wrecked, require special examination; and according to Captain Burgess, of the Alert, the coast and islands near Coquimbo

are very imperfectly laid down. Indeed of the whole of this coast, the only general knowledge we have is from the Spanish charts, which seem, with the exception of certain ports, to have been merely the result of a running view of the shore. Of this kind of half-knowledge we have had too much: the present state of science, which affords such ample means, seems to demand that whatever is now done should be finally done; and that coasts, which are constantly visited by English vessels, should no longer have the motley appearance of alternate error and accuracy. If, therefore, the local Governments make no objections, the survey should be continued to Coquimbo, and indefinitely to the northward, till that period arrives when the Commander must determine on quitting the shores of South America altogether. That period will depend on the time that has been already consumed, and on the previous management of his resources, reserving sufficient to ensure his obtaining a series of well-selected meridian distances in traversing the Pacific Ocean.

"The track he should pursue in executing this important duty cannot well be prescribed here, without foreseeing to what part of the coast he may have pushed the survey, and at what place he may find it convenient to take in his last supplies. If he should reach Guayaquil, or even Callao, it would be desirable he should run for the Galapagos, and, if the season permits, survey that knot of islands. Felix Island, the London bank seen by the brig Cannon, in 1827, in 27° 6′ S. 92° 16′ W., even with the water's edge, and half a mile in length; some coral islands, supposed to be 5° or 6° south of Pitcairn Island, and other spots, which have crept into the charts on doubtful authority, would all be useful objects of research if the Beagle's route should fall in their vicinity. But whatever route may be adopted, it should conduct her to Tahiti, in order to verify the chronometers at Point Venus, a point which may be considered as indisputably fixed by Captain Cook's and by many concurrent observations. Except in this case, she ought to avoid as much as possible the ground examined by Captain Beechey.

"From Tahiti the Beagle should proceed to Port Jackson touching at some of the intervening islands, in order to divide the run into judicious chronometer stages; for the observatory at Paramatta (Port Jackson) being absolutely determined in longitude, all those intervening islands will become standard points to which future casual voyagers will be able to refer their discoveries or correct their chronometers.

"From Port Jackson her course will depend on the time of the year. If it be made by the southward, she might touch at Hobart Town, King George Sound, and Swan River, to determine the difference of longitude from thence to the Mauritius, avoiding the hurricane months; to Table or Simon's Bay, according to the season; to St. Helena, Ascension, and home.

"If she should have to quit Port Jackson about the middle of the year, her passage must be made through Torres Strait. In her way thither, if the in-shore route be adopted, there are several places whose positions it will be advantageous to determine:—Moreton Bay, Port Bowen, Cape Flinders, and one of the Prince of Wales Islands; and in pursuing her way towards the Indian Ocean, unless the wind should hang to the southward, Cape Valsche or the south-west extreme of New Guinea, one of the Serwatty Chain, Coupang, or the extreme of Timor, Rotte Island, and one of the extremes of Sandalwood Island, may be easily determined without much loss of time. And, perhaps, in crossing the ocean, if circumstances are favourable, she might look at the Keeling Islands, and settle their position.

"Having now enumerated the principal places at which the Beagle should be directed to touch in her circuit of the globe, and described the leading operations which it would be desirable to effect, it remains to make some general remarks on the conduct of the whole survey.

"In such multiplied employments as must fall to the share of each officer, there will be no time to waste on elaborate drawings. Plain, distinct roughs, every where accompanied by explanatory notes, and on a sufficiently large scale to show the

minutiæ of whatever knowledge has been acquired, will be documents of far greater value in this office, to be reduced or referred to, than highly finished plans, where accuracy is often sacrificed to beauty.

"This applies particularly to the hills, which in general cost so much labour, and are so often put in from fancy or from memory after the lapse of months, if not of years, instead of being projected while fresh in the mind, or while any inconsistencies or errors may be rectified on the spot. A few strokes of a pen will denote the extent and direction of the several slopes much more distinctly than the brush, and if not worked up to make a picture, will really cost as little or less time. The in-shore sides of the hills, which cannot be seen from any of the stations, must always be mere guess-work, and should not be shown at all.

"It should be considered an essential branch of a nautical survey, to give the perpendicular height of all remarkable hills and headlands. It requires but a single angle at each station, adds much to our geographical knowledge, materially assists the draftsman, and by tables which are now printing it will afford to the seaman a ready and exact means of knowing his distance.

"All charts and plans should be accompanied by views of the land; those which are to be attached to the former should be taken at such a distance as will enable a stranger to recognize the land, or to steer for a certain point; and those best suited for the plan of a port should show the marks for avoiding dangers, for taking a leading course, or choosing an advantageous berth. In all cases the angular distances and the angular altitudes of the principal objects should be inserted in degrees and minutes on each of the views, by which means they can be projected by scale, so as to correct any want of precision in the eye of the draftsman. Such views cannot be too numerous; they cost but a few moments, and are extremely satisfactory to all navigators.

"Trifling as it may appear, the love of giving a multiplicity of new and unmeaning names tends to confuse our geogra-

phical knowledge. The name stamped upon a place by the first discoverer should be held sacred by the common consent of all nations; and in new discoveries it would be far more beneficial to make the name convey some idea of the nature of the place; or if it be inhabited, to adopt the native appellation, than to exhaust the catalogue of public characters or private friends at home. The officers and crews, indeed, have some claim on such distinction, which, slight as it is, helps to excite an interest in the voyage.

"Constant observations on the tides, including their set, force, and duration, the distance to which they carry salt water up the rivers, their rise at the different periods of the lunation, and the extent to which they are influenced by the periodic winds, by the sea currents, or by the river freshes, form so prominent a part of every surveyor's duty, that no specific directions on this subject can be necessary. Nor is there any occasion to insist here on the equally important subject of currents; for it is only by a great accumulation of data that we can ever hope to reduce them to regular systems, or that we can detect the mode in which they are affected by change of seasons, or influenced by distant winds.

"The periods and limits of the monsoons and trade-winds will naturally be a continual object of the Commander's observation and study. It is true that he can only witness what occurs during his voyage; but besides collecting facts on this and the last subject, on which others can hereafter reason, it will be of immense advantage that he should endeavour to digest them with the remarks of former voyagers when on the spot.

"On the western coast of South America, for instance, some skill is required in making passages at different periods, and much scattered experience has been gained by seamen who have been long occupied there; but this information has not yet been presented to the public in an intelligible form; and it seems to be the peculiar province of an officer expressly employed on a scientific mission like this, to combine that information with his own, and to render it accessible to every navigator.

"The local attraction of the Beagle will of course have been ascertained before she leaves England; but when favourable opportunities occur, it will be satisfactory to swing her again in different latitudes, and under large differences of variation.

"No day should pass at sea without a series of azimuths, and no port should be quitted without having ascertained not only the magnetic angle, but the dip, intensity, and diurnal variation. If these observations should have been well made in the same places before, we shall at once obtain the annual change; and by multiplying them in new places, we shall have the means of inferring the magnetic curves.

"The Commander has been so accustomed to the management of chronometers, that there is no doubt, with proper precautions and with proper formulæ for determining their rates, that he will succeed in obtaining good results in reasonably short intervals of time and in gradual changes of temperature; but after long periods, and sudden changes of heat and cold, it will be absolutely necessary to check them by astronomical means.

"Eclipses, occultations, lunar distances, and moon-culminating stars, will furnish those means in abundance: of all these, the last can be obtained with the greatest regularity and certainty; they have become part of the current business at the establishments of the Cape of Good Hope, Paramatta, and St. Helena, in the southern hemisphere; probably at Madras, and in many of the European observatories, and it will therefore be scarcely possible that there should not be corresponding observations for all such as he may have made.

"The eclipses of Jupiter's third and fourth satellites should also be sedulously observed whenever both immersion and emersion can be seen, as the different powers of the telescopes employed by the observers do not in that case affect the results.

"There are also some remarkable phenomena, which will be announced in the Nautical Almanacks, and which will occur during the Beagle's voyage. Some of these will be highly

interesting to astronomers, and if it would not much derange her operations, she should be taken to some convenient anchorage for the purpose of landing the instruments.

"If a comet should be discovered while the Beagle is in port, its position should be determined every night by observing its transit over the meridian, always accompanied by the transits of the nearest known stars, and by circum-meridional altitudes, or by measuring its angular distance from three well-situated stars by a sextant. This latter process can be effected even at sea, and the mean of several observations may give very near approximations to its real position.

"Meteorological Registers may be of use in a variety of ways; but then they must be steadily and accurately kept. The barometer should be read off to the third place of decimals, and recorded at regular periods of the day; nine o'clock and four o'clock may be recommended as the best, as being the usual hours of its maximum and minimum. The temperature should be marked at the same time, and the extremes of the self-registering thermometer should be daily recorded; care being taken that no reflected heat should act on any of these instruments. The temperature of the sea at the surface ought to be frequently observed and compared with that of the air. An officer cruizing on the east coast of South America, between the parallels of 20° and 35°, was enabled by these means to predict with singular precision the direction and strength of the current.

"In this register the state of the wind and weather will, of course, be inserted; but some intelligible scale should be assumed, to indicate the force of the former, instead of the ambiguous terms 'fresh,' 'moderate,' &c., in using which no two people agree; and some concise method should also be employed for expressing the state of the weather. The suggestions contained in the annexed printed paper are recommended for the above purposes, and if adopted, a copy should be pasted on the first page of every volume of the log-book; and the officer of the watch should be directed to use the same terms in the columns of the log-board.

"The circularly-formed Coral Islands in the Pacific occasionally afford excellent land-locked harbours, with a sufficient entrance, and would be well adapted to any nice astronomical observations which might require to be carried on in undisturbed tranquillity. While these are quietly proceeding, and the chronometers rating, a very interesting inquiry might be instituted respecting the formation of these coral reefs.

"An exact geological map of the whole island should be constructed, showing its form, the greatest height to which the solid coral has risen, as well as that to which the fragments appear to have been forced. The slope of its sides should be carefully measured in different places, and particularly on the external face, by a series of soundings, at very short distances from each other, and carried out to the greatest possible depths, at times when no tide or current can affect the perpendicularity of the line. A modern and very plausible theory has been put forward, that these wonderful formations, instead of ascending from the bottom of the sea, have been raised from the summits of extinct volcanoes; and therefore the nature of the bottom at each of these soundings should be noted, and every means exerted that ingenuity can devise of discovering at what depth the coral formation begins, and of what materials the substratum on which it rests is composed. The shape, slope, and elevation of the coral knolls in the lagoon would also help the investigation; and no circumstances should be neglected which can render an account of the general structure clear and perspicuous.

"A set of observations connected with the theory of the tides might likewise be carried on with peculiar propriety in one of these coral basins, provided the openings should be sufficiently wide and deep to admit the flux and reflux without material impediment. The island selected for such a purpose should be nearly midway in the ocean, and not very far from the equator. There the tidal wave, uninfluenced by the interrupting barrier of one continent, and equally far from the reaction of the other, might be measured with very beneficial results. Delicate tide-gauges should be prepared beforehand,

and immediately fixed in some snug nook, where the undulation of the sea could not reach. The rise and fall of the tide should be registered every hour, during the stay of the Beagle, as well as the moments (stated whether in apparent or mean time) of high and low water, as nearly as they can be obtained; and the periods at which the sea and land breezes spring up and fail should likewise be noted, with their effects on the tide, if they can be detected. A boat should be detached, on each tide, to some distance from the island, in order to ascertain the strength and direction of the stream; and all these operations should be continued, if possible, through a whole lunation.

"Compiling general and particular instructions, for the navigation of all the places which he may visit, will of course be an essential part of the Commander's duty; but he will also have innumerable opportunities of collecting a variety of auxiliary information, which, when judiciously combined with the above instructions, of a purely nautical character, will much enhance their utility to all classes of vessels. Such as the general resources on which ships may depend in different places: the chief productions that can be obtained, and the objects most anxiously desired in return: the effect of seasons, of climate, and of peculiar articles of food on the health of the crew, and many others which will readily occur to his mind, and which become of great value to a stranger.

"On all the subjects touched on in these memoranda, Commander Fitz-Roy should be directed to draw up specific reports, and to transmit them from time to time, through their Lordship's Secretary, to the Hydrographic Office, so that if any disaster should happen to the Beagle, the fruits of the expedition may not be altogether lost. Besides such reports, and with the same object in view, he should keep up a detailed correspondence by every opportunity with the Hydrographer.

"The narrative of every voyage in the Pacific Ocean abounds with proofs of the necessity of being unremittingly on guard against the petty treacheries or more daring attacks of the natives. It should be recollected that they are no longer the timid and unarmed creatures of former times, but that many of

them now possess fire-arms and ammunition, and are skilful in the use of them. Temper and vigilance will be the best preservatives against trivial offences and misunderstandings, which too often end in fatal quarrels; and true firmness will abandon objects of small importance, where perseverance must entail the necessity of violence; for it would be a subject of deep regret that an expedition devoted to the noblest purpose, the acquisition of knowledge, should be stained by a single act of hostility.

(Signed) "F. BEAUFORT."

"Hydrographical Office, 11th November 1831."

FIGURES

TO DENOTE THE FORCE OF THE WIND.

0	Calm.		
1	Light Air.....	Or just sufficient to give steerage way.	
2	Light Breeze	Or that in which a man-of-war, with all sail set, and clean full, would go in smooth water from	1 to 2 knots.
3	Gentle Breeze ..		3 to 4 knots.
4	Moderate Breeze		5 to 6 knots.
5	Fresh Breeze	Or that to which a well-conditioned man-of-war could just carry in chase, full and by	Royals, &c.
6	Strong Breeze....		Single-reefed topsails and top-gall. sails.
7	Moderate Gale ..		Double-reefed topsails, jib, &c.
8	Fresh Gale		Treble-reefed topsails, &c.
9	Strong Gale.....		Close-reefed topsails and courses.
10	Whole Gale	Or that with which she could scarcely bear close-reefed main-topsail and reefed fore-sail.	
11	Storm	Or that which would reduce her to storm stay-sails.	
12	Hurricane	Or that which no canvass could withstand.	

LETTERS

TO DENOTE THE STATE OF THE WEATHER.

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b Blue Sky; (whether clear, or hazy, atmosphere).
c Clouds; (detached passing clouds).
d Drizzling Rain.
f Foggy——f Thick fog.
g Gloomy (dark weather).
h Hail.
l Lightning.
m Misty (hazy atmosphere).
o Overcast (or the whole sky covered with thick clouds).
p Passing (temporary showers).
q Squally.
r Rain (continued rain).
s Snow.
t Thunder.
u Ugly (threatening appearances).
v Visible (clear atmosphere).
w Wet Dew.
. Under any letter, indicates an extraordinary degree.

By the combination of these letters, all the ordinary phenomena of the weather may be expressed with facility and brevity.

Examples :—Bcm, Blue sky, with passing clouds, and a hazy atmosphere.

Gv, Gloomy dark weather, but distant objects remarkably visible.

Qpdlt, Very hard squalls, with passing showers of drizzle, and accompanied by lightning with very heavy thunder.

CHAPTER III.

Ready for sea—Detained—Sail from England—Well provided—Bay of Biscay — Compasses — Local attraction — Eight Stones—Madeira—Deception—Squall—Teneriffe — Santa Cruz—Quarantine—Squalls—Cape Verd Islands—Port Praya—Produce—Archilla—Bad season—St. Paul Rocks — Cross Equator — Fernando Noronha — Bahia — Slavery—Abrolhos—Cape Frio.

In November, the Beagle was ready for sea, but a succession of hard gales from the westward prevented her leaving England until the end of December. Twice she sailed, and went a few leagues; yet was obliged to return in order to avoid the risk of being damaged, or losing a boat, at the very beginning of her voyage. At last the westerly gales seemed exhausted, a dead calm succeeded, and, warned by the appearances so peculiar to easterly winds, we unmoored at daylight on the 27th, and, as soon as the tide would allow, for there was still no breeze, we warped from our sheltered and picturesque retreat in Barn-pool, under that beautiful place Mount Edgecumbe.

Vessels in the offing, and distant land 'looming' much; a few mottled, hard-edged clouds appearing in the east; streaks (mare's tails) across the sky, spreading from the same quarter; a high barometer (30.3); and the smoke from chimneys rising high into the air, and then going westward; were the signs which assured us of a favourable wind. A light 'cat's paw' rippled the water, we made all sail, the breeze increased, and at noon our little vessel was outside the Breakwater, with a fresh easterly wind.

Of the bitter feelings experienced by most of us when every sail was trimmed, and the land sinking fast from our view, I will say nothing: yet there were enlivening hopes, and all were glad to be freed from the tiresome uncertainty of the past month, all were anxious to enter upon a voyage which, though

likely to be very long, promised much that would interest, and excite, and perhaps reward.

To the executive officers of a ship it is always a most satisfactory feeling, independent of other thoughts, to be fairly at sea, and away from the scenes of irregularity which so often take place in ports. Those scenes, however, are now much less offensive, and the sailor is far less heedless than he was formerly, if we may take Fielding's description as authority. That humorous sensible author says, in one of the most entertaining accounts of a voyage ever written, "To say the truth, from what I observed in the behaviour of the sailors in this voyage, and comparing it with what I have formerly seen of them, at sea, and on shore, I am convinced that on land there is nothing more idle and dissolute; but, in their own element, there are no persons, near the level of their degree, who live in the constant practice of half so many good qualities."

Never, I believe, did a vessel leave England better provided, or fitted for the service she was destined to perform, and for the health and comfort of her crew, than the Beagle. If we did want any thing which could have been carried, it was our own fault; for all that was asked for, from the Dockyard, Victualling Department, Navy Board, or Admiralty, was granted.

To mention the names of those to whom my shipmates and myself felt most grateful for attention to requests, and for a kind foresight of our future wants, may be unnecessary, some may think improper; yet, at the risk of offending, I must try to express the gratitude that I, and those who sailed with me in the Beagle, owe to Sir James Graham, Sir Thomas Hardy, Captain Beaufort, Commissioner (now Admiral) Ross, Sir Robert Seppings, Sir James Gordon, the late Sir Manley Dixon, and Sir William Burnett: less I cannot say, more might be displeasing.

The wind increased, and drove us onwards into the Atlantic as fast as a heavily laden small vessel, with her 'scuppers' in the water, could be forced. We steered as southerly a course as was safe, in hopes of keeping the east wind longer, and the

result proved that we were right; for although the Beagle had a fair wind all the way to the Canary Islands, vessels which sailed from England only one day after her, and steered more westerly, lost the east wind very soon, and were retarded by another succession of strong and contrary gales, similar to those which had detained us a whole month.

Individual misconduct, arising out of harbour irregularities, obliged me to have recourse to harsh measures before we had been two days at sea; but every naval officer knows the absolute necessity of a certain degree of what inexperienced persons might think unnecessary coercion, when a ship is recently commissioned. Hating, abhorring corporal punishment, I am nevertheless fully aware that there are too many coarse natures which cannot be restrained without it, (to the degree required on board a ship,) not to have a thorough conviction that it could only be dispensed with, by sacrificing a great deal of discipline and consequent efficiency. "Certainty of punishment, without severity," was a maxim of the humane and wise Beccaria; which, with our own adage about a timely 'stitch,' is extremely applicable to the conduct of affairs on board a ship, where so much often depends upon immediate decision, upon instant and implicit obedience.

We crossed the Bay of Biscay without a gale; though the heavy rolling of a vessel so deep in the water, running before a strong wind, was almost as disagreeable as the effects of one would have been. After witnessing high seas and storms in various parts of the world, I can call to mind only two or three that exceeded what I have myself experienced, or what I have heard described, as having been sometimes encountered in this famed bay.

Why should the sea be higher, or more dangerous, in the bay of Biscay, than it is in the middle of the Atlantic, or elsewhere?—Is it really so?—are questions often asked.

I believe that there is a shorter, higher, and consequently worse sea, in and near the Bay of Biscay, than is often found in other places, and attribute it to the effect of immense Atlantic waves, rolling into a deep bight, or bay, where

they close upon each other and receive vibratory undulations from each shore; augmented perhaps by the peculiar formation of the bottom of that bay, the variation in depth, and the effects of currents, which, when running over uneven ground, or against the wind, alone cause a heavy swell; a striking exemplification of which may be seen on the bank of Lagullas, near the Cape of Good Hope.

Though so deep in the water, our little vessel's movements were uncommonly easy, and all our best timekeepers being hung in particularly good jimbals, I had no fear of their rates being altered, except by the effect of a change of temperature. This was a point about which I was especially anxious, as so much would depend upon the going of our chronometers, and I did not then think that the motions of a ship affected those instruments so little: as I have since proved to be the case by trying them frequently in boats, or small craft of only a few tons burthen. In her previous voyage the Beagle was as easy a sea-boat as could be desired; but, having raised her upper deck, altered her stowage and trim, loaded her more heavily, and sheathed her with two-inch plank, preparatory to this second expedition, I had abundant cause to feel anxious until the practical effects of such material changes were ascertained.

A little alteration was required near the compasses, for owing to some ill-placed iron-work they did not quite agree; but, after this change was made, we were gratified by finding four first-rate compasses, three fixed for steering, and one for bearings, agree precisely. Another source of satisfaction, connected with the compasses, was the knowledge that they were not affected, unless in a very trifling degree, by local attraction: for while lying in Barn-pool we swung the vessel in order to ascertain its quantity, but were agreeably surprised to find that none could be detected amounting even to one degree. This was attributed to her having only brass guns; and to some very large iron davits for the quarter boats, which were placed rather closely abaft and above the compasses, and perhaps counteracted the effect of iron in the hold, which was so much more distant.

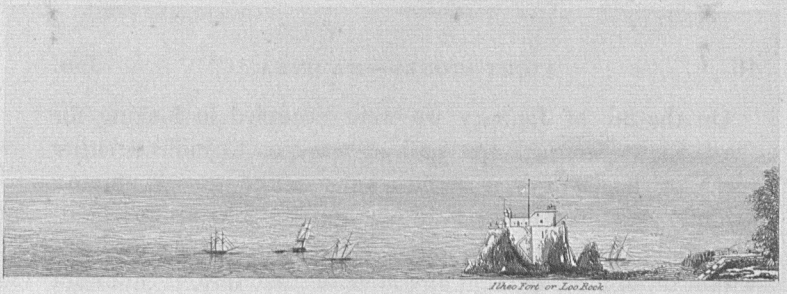
On the 3d of January we were occupied in looking for the "Eight Stones;" but nothing was seen to indicate either rocks, or shoals, or even shallow water. The sun was shining brightly on a deep blue sea, of one uniform colour: no soundings could be obtained; and had there been a shoal or rock within seven miles of us at any hour of that day, it could not have been passed unnoticed. So many vessels have searched, in vain, for this alleged group of rocks, that their existence can now hardly be thought possible.

At day-light, on the 4th, the rocky high islet of Porto Santo was seen looming through haze and clouds which hung around it. We steered between Porto Santo and the Desertas, intending to anchor in Funchal Roads; but the wind drew round to south-west, with such strong squalls, that I abandoned my intention, and at once steered for Teneriffe. The roadstead I have just mentioned is well known to be unsafe in south-west gales; and there can be no doubt that the most prudent plan is to keep at sea while they last: but I have been told by old traders to Madeira, that ships sometimes remain at anchor, about half a mile from the Loo rock, and ride out south-west gales without difficulty: the 'under-tow' being so considerable that their cables are little strained.

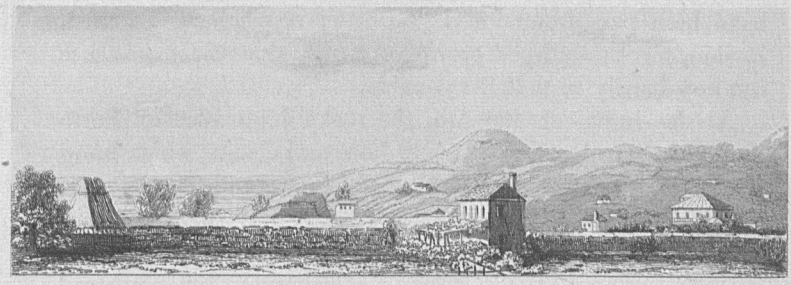
In fine weather, and it is fine at Madeira nine months in the year, the view of this steep and lofty island,* covered with bright verdure, and enlivened by numerous scattered houses, as white as snow, is very striking to a stranger who arrives from the low, and tame-looking shores of the south coast of England.

Seamen are often deceived, when about to anchor in Funchal Roads, in consequence of the sudden transition which they have probably made from a low shelving coast to an abrupt and high mountain-side: for the bottom of the anchorage slopes away as suddenly as the heights overlooking it, and the anchor must indeed be let go upon the side of a mountain. Hence ships seldom go close enough, unless guided by a person who knows the place; and many a chain cable ran out to the clinch, when chains were first used, owing to an incorrect estimate of

* About five thousand feet high.



Pico Ferro or Loo Rock



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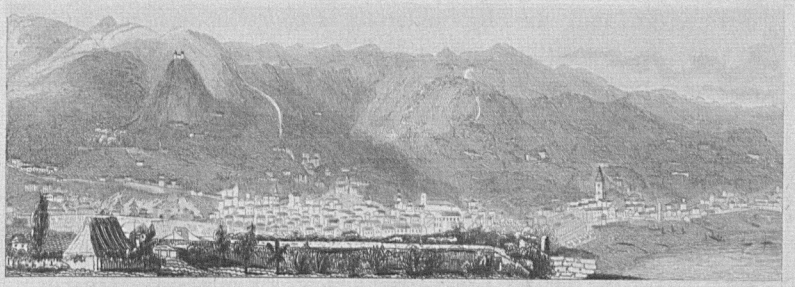


J. & S.
R. M. Hamond.

S. Bull.

PANORAMIC VIEW OF MADEIRA.

Published by Henry Colburn, Great Marlborough Street. 1836.

the vessel's distance from the shore, and not taking time to sound accurately.

Closing the land quickly after passing some time at sea—approaching high cliffs, or hilly shores, after being, for a time, accustomed to low coasts—or nearing a flat shore, after the eye has been used to precipices and mountains—almost always is a cause of error in estimating distance, however experienced a seaman may be.

While passing at a few leagues from the land, a violent squall came from the west, which was near doing damage: after one puff there was a short calm, with heavy rain, and then a sudden blast struck the ship so violently that we were obliged to take in all sail and run before it during the few minutes it lasted. This squall was one of very many which have reminded me of the old doggrel lines—

> When rain comes before the wind,
> Halyards, sheets, and braces mind:
> But if wind comes before rain,
> Set and trim your sails again.

At daylight the next morning we saw the Salvages, and at sunset thought we could distinguish the Peak of Teneriffe.

Early on the 6th we saw part of the island, and soon afterwards the upper clouds dispersed, and we enjoyed a magnificent view of the monarch of the Atlantic: the snow-covered peak glittering in the rays of the morning sun. Yet as our ideas are very dependent upon comparison, I suppose that persons who have seen the Himalaya Mountains, or the Andes, in all their grandeur, would not dwell much upon the view of Teneriffe, had it not become classical by its historical associations, and by the descriptions of Humboldt and many distinguished travellers.

Although some geographers adopted the Peak of Teneriffe as a zero point from which to reckon longitude, I am free to say, that a less satisfactory one could hardly have been selected; because there are no means of connecting the position of the peak with that of the observer, whether on the shore of the

island, or on board a ship in the offing, except by a trigonometrical process, always open to errors. Indeed the summit of the peak is not visible from the east, on account of intervening land, until the observer is at some distance from the shore. Hence all meridian distances measured from Teneriffe must depend upon the degree of accuracy with which the position of the actual starting-point, with respect to the Peak, was determined.

How many errors have been caused in ascertaining the longitudes of distant places, by a mistake in the longitude of the position from which a ship, or an observer, actually departed! How many discrepancies between the measurements of different nations would vanish, if the precise points from which each observer set out were known; and if the positions of those points, with respect to one another, were accurately verified!

About noon we approached the sun-burned, uninviting town of Santa Cruz. Lying upon a level, arid space, at the foot of hills, that rise slowly to a considerable height, so as to shut out the more elevated part of the island; hardly a tree to be seen, and no appearance of cultivation; guarded by a rocky shore, on which there is always a disagreeable—often a dangerous surf; it offers indeed little to tempt delay. But notwithstanding this unpromising exterior, and a port so exposed that Spanish ships of war were ordered by their Government to moor there with four anchors, there is much to be found in the higher and interior parts of Teneriffe which amply repays the labour of ascending to and exploring those regions. In one of the churches in Santa Cruz is still hanging the remains of a flag, taken from the English, or left behind, when Nelson lost his arm.

Our anchor had just touched the ground, when a boat from the Health Office approached nearly along-side, conveying the British vice-consul and some quarantine officers, who told us, after hearing whence we came, that it would be impossible to grant permission for any person to land; and that until we should have performed a strict quarantine of twelve days' duration, no personal communication could be expected. This

regulation was adopted on account of the reports which had reached them respecting the cholera in England.

Observations on shore being indispensable for our purpose, and finding, after some discussion, that there was no chance of attaining our object in a manner that would at all compensate for the delay caused by anchoring and performing quarantine, we weighed without further loss of time, and made sail for the Cape Verd Islands.

This was a great disappointment to Mr. Darwin, who had cherished a hope of visiting the Peak. To see it—to anchor and be on the point of landing, yet be obliged to turn away without the slightest prospect of beholding Teneriffe again—was indeed to him a real calamity.

During the whole of the 7th, the Peak was visible; but on the following day no land was in sight, and we made rapid progress. A very long swell from the north-west, which we felt until the 10th, was probably caused by a gale in the northern Atlantic; and, judging from its size and velocity, I should think that it could not have subsided before traversing many, perhaps ten more, degrees of latitude; which would be to about 10° north. It is interesting to notice how far the undulatory movement of water reaches: in this case it extended through at least ten degrees of latitude where the wind was from different quarters, and probably much farther.

An unusual appearance was observed on the 12th. A cloud like a dense fog-bank approached; and as it drew near, the lower and darker part became arched, and rose rapidly, while under it was a white glare, which looked very suspicious. Sail was immediately reduced—we expected a violent squall; but the cloud dispersed suddenly, and only a common fresh breeze came from the foreboding quarter. Neither the sympiesometer nor the barometer had altered at all; but the cloud was so threatening that I put no trust in their indications, not being then so firm a believer in their prophetic movements as I am at present. Nevertheless, I would by no means advocate the neglect of any precaution suggested by appearances of the

weather, although no change should be foretold by the glasses. A mistake may be made by the observer, or a variation in the height of the column may have passed unheeded; while it is seldom that a practised eye can be deceived by the visible signs of an approaching squall or gale of wind.

Undoubtedly the worst wind, next to a hurricane, which a vessel can encounter, is a violent 'white squall,' so called because it is accompanied by no cloud or peculiar appearance in the sky, and because of its tearing up the surface of the sea, and sweeping it along so as to make a wide sheet of foam. By squalls of this description, frequent in the West-Indies, and occasionally felt in other parts of the world, no notice will be given much above the horizon; but by consulting a good barometer or sympiesometer, and frequently watching the surface of the sea itself, even a white squall may be guarded against in sufficient time.

Squalls accompanied by clouds are so common, and at sea every one is so much accustomed to look out for them, that I may cause a smile by these notices; yet as there is often much doubt in a young officer's mind, whether an approaching cloud will be accompanied by wind or rain, or by both, and many persons are unable to distinguish, by the mere appearance of a cloud, what is likely to come with or from it, I will venture to mention that when they look hard, or hard-edged (like Indian ink rubbed upon an oily plate), they indicate wind, and perhaps rain; but before the rain falls, those clouds will assume a softer appearance. When they are undefined, and look soft, rain will follow, but probably not much wind.

Dark clouds, hard mixed with soft, and inky fragments in rapid motion beneath them, accompanied perhaps by lightning and distant thunder, are the fore-runners of a heavy squall. Soft, shapeless clouds, in which it is impossible to point out a definite edge, usually bring rain, but not wind: and, generally speaking, the more distinctly defined the edges of clouds are, the more wind they foretell. A little attention

to these simple observations, so familar to persons who have been some time at sea, may save young officers unnecessary anxiety in one case, and prompt them to shorten sail at a proper time in the other.*

In again trying for soundings with three hundred fathoms of line, near the Island of St. Jago, we became fully convinced of the utility of a reel, which Captain Beaufort had advised me to procure, and of which Captain Vidal had spoken to him in very favourable terms. Two men were able to take in the deep sea line, by this machine, without interfering with any part of the deck, except the place near the stern, where the reel was firmly secured. Throughout our voyage this simple contrivance answered its object extremely well, and saved the crew a great deal of harassing work.

15th. In consequence of a thick haze, very prevalent about the Cape Verd Islands, land was not distinctly seen until we were within three miles of it, and we then found ourselves rather too far westward, owing to a current setting towards the west, at the rate of two knots an hour; this was close to the north point of St. Jago. Next day we anchored in Port Praya.

The wind being always from the north or east during this season of the year (from December to June), a ship can moor as close to the weather shore as may be convenient; but during July, August, September and October, no vessel should deem the bay secure, or anchor near the shore, because southerly gales sometimes blow with much strength, and the rollers, or heavy swell sent in by them, are dangerous to ships which have bad ground tackle, or are lying near the land. As I have myself experienced the force of these gales in the vicinity of the Cape Verd Islands, and witnessed the sea raised by them, I can confidently warn those who are inclined to be incredulous about a gale of wind being found in fifteen degrees of north latitude, beyond the limits of the hurricane regions.

* In the Appendix are a few remarks on clouds.

Strong gusts come over the land into the bay during the fine season, when the breeze is fresh; therefore a ship entering, with intent to anchor, ought to have a reef in her top-sails, and be ready to clew up the top-gallant sails at a moment's warning.

The vicinity of Port Praya offers little that is agreeable to the eye of an ordinary visitor, though interesting enough to a geologist. A desolate and hilly country, sun-burned and stony, with but few trees even in the vallies, and those only the withering, spectre-like trunks of old palms, surrounds the harbour. The distant and higher parts of the island, however, present a striking outline; and in the interior there is more to be seen, as the following extract from a few notes made by Mr. Rowlett will show.

"We procured some indifferent horses and rode to Ribeira Grande, the remains of an old town, about nine miles west of Port Praya, which was formerly the residence of the Portuguese governor of the Cape Verd Islands; but in consequence of the anchorage becoming blocked up,* the seat of government was shifted to the small straggling town, or rather village, which stands upon a height overlooking the port of Praya. We passed through the fertile and beautiful vallies of Achao and San Martin, and enjoyed drinking some of the finest water we had ever tasted. On a commanding height stood the ruins of a very large fortress, and within the limits of the old town were remains of a cathedral, a bishop's palace, and a college; besides a modern church, in tolerable repair, an inhabited convent, and a hospital supported by charity. In the convent we saw some good paintings from scriptural subjects; and there were some curious old tombs, on one of which, said to be that of a bishop, was the date 1571, and on another we thought the almost obliterated figures were 1497.

"No person who has only visited the port of Praya can form the slightest idea of the beauty of the interior country; it exceeded any thing I had seen, either in Brazil or in the West Indies.

* Perhaps by an earthquake?

"Fruit was abundant; there were oranges, grapes, plantains, bananas, sour-sops, mammee apples, pomegranates, guavas, quinces, sapodillas, papaw apples, pines, citrons, medlars, figs, and occasionally apples."

Notwithstanding its unfavourable exterior, its small and dirty town, and its black or brown population, I am inclined to think Port Praya of more consequence to shipping than is usually supposed. Water may be procured by rafting the casks, placing a pump in the well, and hiring a few of the natives to do the more laborious work of filling and rolling. The local authorities are attentive and obliging: it is indeed their interest to be so, because much of their trade, and even many of the necessaries of life, depend upon the visits of shipping. Fowls, turkeys, and pigs, are very plentiful, but it is better to procure them by barter than with money. Clothes, new or old, are eagerly sought for, and their full value may be obtained in the produce of the island.

The population is said to be about thirty thousand, a few of whom are Portuguese by birth, and many are descended from Portuguese parents, but the greater number are negroes.

I could hear no decided account of any earthquake having happened; but being so near Fogo, now an active volcano, one may suppose that St. Jago is not exempted from an occasional shock.

The exports of the Cape Verd Islands are small quantities of sugar, cotton, and coffee. Hides of small bullocks, sheep and goat-skins, are likewise exported; and horses, mules, and asses, of an inferior description, are sometimes sent to the West-Indies. The Archilla weed, so much used in dyeing, is however the staple commodity, and, under proper management, might be made highly profitable. At the time of our visit, the yearly revenue arising out of the government monopoly of this article amounted to fifty thousand dollars; and in some years it has been as much as three hundred thousand dollars. This weed grows like a kind of moss upon the cliffs, and is collected by men who climb up or are let down by ropes, like the samphire gatherers.

The natural dye is blue, approaching to purple; but by using metallic and other solutions, it may be turned to purple, crimson, or scarlet.

Money having been slowly remitted of late years from the mother-country, a great part of the archilla has been applied to the payment of the authorities, the clergy, and the troops (such as they are). A story is told of the last governor having caused a sham mutiny, in order that he might have a good reason for selling the archilla gathered that year, and with the produce paying the troops—and himself. He was brought out with a rope round his neck into the street, and there obliged to promise that he would sell the archilla, then in the government storehouse, to the best bidder.

A kind of castor-oil plant is found, from which a small quantity of oil is obtained, and a sort of soap. Yams are very scarce, being grown only at one part of the island. Mandioca is common, but it degenerates rapidly, and will not produce even a second crop. Vegetables of various kinds are abundant in their seasons.

From August to October is the rainy and sickly season. In September, a south-west gale is usually experienced; but from five to ten hours before its commencement, a dark bank of clouds is seen in the southern horizon, which is a sure forerunner of the gale. Should a vessel be at anchor in the port at such a time, she ought to weigh and put to sea, until the storm has ceased and the swell subsided. In the month of September preceding our visit, an American merchant-brig and a Portuguese slaver were at anchor in Port Praya. A bank of clouds was seen during the day in the S.W., and the American went to sea; but the slaver remained at anchor. A storm arose at night, drove the slave-vessel ashore, and dashed her to pieces in less than half an hour, yet did the American no damage whatever, and the next day she anchored again in the port.

In a valley near the town is a very remarkable tree, of the Baobab kind, supposed to be more than a thousand years old; but I am not aware of the grounds upon which this

assertion is made. Wild guinea-fowls are found in flocks, and there are wild-cats in the unfrequented parts of the island; but if induced to take a gun in pursuit of the guinea-fowls, I would advise a stranger not to overheat himself, or sleep on shore at night; for fatal fevers have been contracted by Europeans, who were unguarded as to their health, while passing a few days in this hot climate, after being for some time accustomed to the cold weather of a high northern latitude.

Except during the rainy season, the wind is always north-easterly, and then the sky is clear and the sun very powerful; but a dry haze hangs over the island in a peculiar manner, and a quantity of fine dust, quite an impalpable powder, frequently settles on every exposed surface, even on the sails and rigging of a vessel, when passing near the islands.

On the 8th of February our instruments were re-embarked, and, after swinging the ship to ascertain the amount of local attraction, we weighed anchor and sailed. By the compass fixed upon a stanchion in front of the poop, not twenty minutes difference of bearing could be detected, in any position of the vessel: the object observed being the highest point of a sharp peak, distant eleven miles.

On the 10th we spoke the Lyra packet, going from England to Rio de Janeiro, and received a box from her, containing six of Massey's sounding-leads, those excellent contrivances which we frequently found so useful. These machines, as formerly made, did not answer for a much greater depth than one hundred fathoms; because their hollow cylinder yielded to the pressure of the water: but Mr. Massey has since remedied that defect in their construction.

On the 13th a very confused swell seemed to presage a change of weather. Hitherto the wind had been steady from the north-east, and the sky clear; but on this day large soft clouds, light variable breezes, rain, and sometimes a short calm, showed us that we had passed the limits of the north-east trade wind. 14th. Similar weather, with a good deal of rain, but still breeze enough to keep us moving on our course.

On the 15th, the wind was steady from east south-east,

and the sky free from heavy threatening clouds. We had then entered the south-east trade wind, without having had two hours calm.

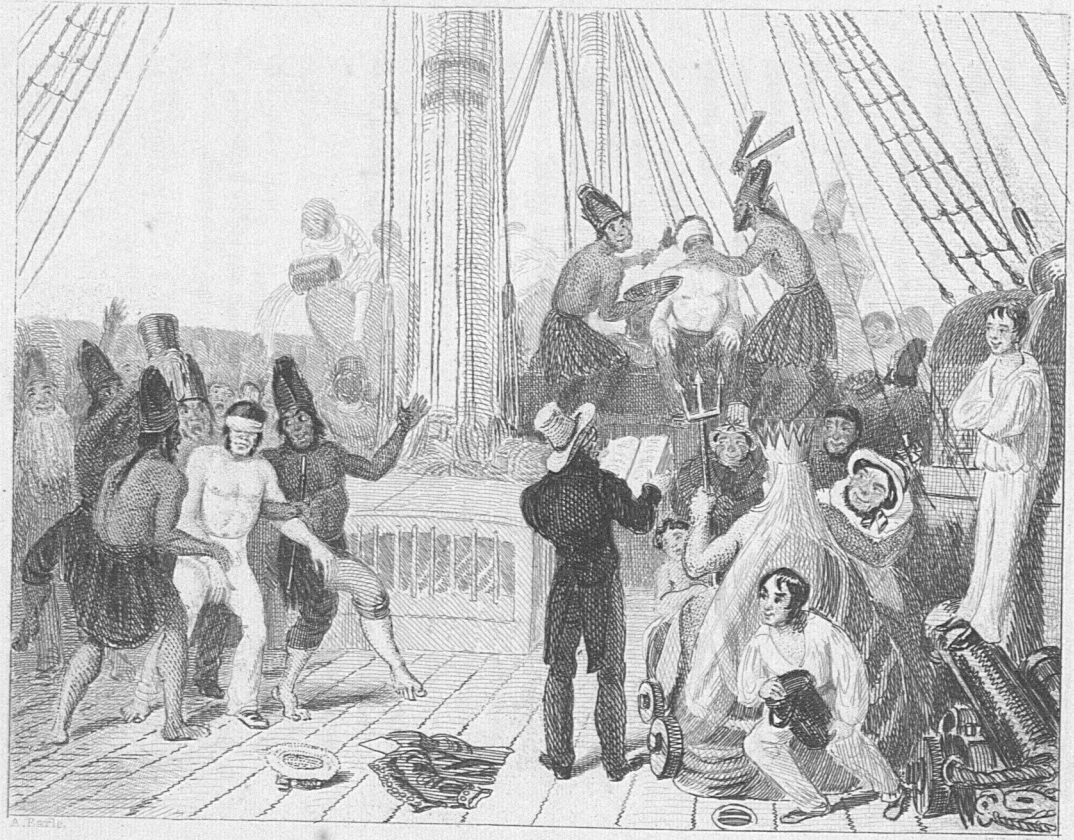
St. Paul Rocks, or Peñedo de San Pedro, were seen on the horizon at sunset of the 15th. They appeared extremely small, being about eight miles distant; and had we not been looking out for them, I doubt whether they would have attracted attention. Excepting "Las Hormigas," on the coast of Peru, I never saw such mere rocks at so great a distance from any land.

At daylight next morning, two boats were sent to land upon, and examine them; while the Beagle sailed round this "sunk mountain top," sounding, and taking angles. Good observations were made during the day, as the sky was clear, and the water smooth.

When our party had effected a landing through the surf, and had a moment's leisure to look about them, they were astonished at the multitudes of birds which covered the rocks, and absolutely darkened the sky. Mr. Darwin afterwards said, that till then he had never believed the stories of men knocking down birds with sticks; but there they might be kicked, before they would move out of the way.

The first impulse of our invaders of this bird-covered rock, was to lay about them like schoolboys; even the geological hammer at last became a missile. "Lend me the hammer?" asked one. "No, no," replied the owner, "you'll break the handle;" but hardly had he said so, when, overcome by the novelty of the scene, and the example of those around him, away went the hammer, with all the force of his own right-arm.

While our party were scrambling over the rock, a determined struggle was going on in the water, between the boats' crews and sharks. Numbers of fine fish, like the groupars (or garoupas) of the Bermuda Islands, bit eagerly at baited hooks put overboard by the men; but as soon as a fish was caught, a rush of voracious sharks was made at him, and notwithstanding blows of oars and boat hooks, the ravenous monsters could not be deterred from seizing and taking away more than half the fish that were hooked.



A. Earle. T. Landseer.

CROSSING THE LINE.

Published by Henry, Colburn, Great Marlborough Street, 1838.

At short intervals the men beat the water with their oars all round the boats, in order to drive away the sharks; and for a few minutes afterwards the groupars swarmed about the baited hooks, and were caught as fast as the lines could be hauled up—then another rush of sharks drove them away—those just caught were snatched off the hooks; and again the men were obliged to beat the water. When the boats returned they were deeply laden with birds and fish, both welcome to those who had been living on salt provisions.

From the highest point of the rock,* no discoloured water, nor any breaking of the sea, could be discerned, apart from the place itself; and from the soundings taken in the boats, as well as on board the ship, I conclude that it is unconnected with any shoal, being merely the summit of a steep-sided mountain rising from the bottom of the ocean.

There was a slight current setting to the westward, not amounting to a mile an hour.

At sunset that day we were out of sight of St. Paul (or St. Peter), and soon after dark were hailed by the gruff voice of a pseudo-Neptune. A few credulous novices ran upon the forecastle to see Neptune and his car, and were received with the watery honours which it is customary to bestow, on such occasions.

Next morning we crossed the Equator, and the usual ceremonies were performed.

> Deep was the bath, to wash away all ill;
> Notched was the razor—of bitter taste the pill.
> Most ruffianly the barber looked—his comb was trebly nailed—
> And water, dashed from every side, the neophyte assailed.

The disagreeable practice alluded to has been permitted in most ships, because sanctioned by time; and though many condemn it as an absurd and dangerous piece of folly, it has also many advocates. Perhaps it is one of those amusements, of which the omission might be regretted. Its effects on the minds of those engaged in preparing for its mummeries, who enjoy it

* Sixty-four feet above the sea.

at the time, and talk of it long afterwards, cannot easily be judged of without being an eye-witness.

During the early ages of navigation, before the invention of the compass, somewhat similar, though really ceremonious rites were observed in Spanish, Portuguese, and Italian vessels, when they passed the more remarkable promontories then known. A modern voyager, Kotzebue, notices this subject in a manner which appears to me so sensible, that I shall quote his words without affecting to add another remark.

"On the 11th of October we crossed the Equator, at twenty-five degrees west longitude, reckoning from Greenwich. Having saluted the southern hemisphere by the firing of guns, our crew proceeded to enact the usual ceremonies. A sailor, who took pride in having frequently passed the line, directed the performance with much solemnity and decorum. He appeared as Neptune, attired in a manner that was meant to be terribly imposing, accompanied by his consort, seated on a gun-carriage instead of a shell, drawn by negroes, as substitutes for tritons. In the evening the sailors represented, amidst general applause, a comedy of their own composition.

"These sports, while they serve to keep up the spirits of the men, and make them forget the difficulties they have to go through, produce also the most beneficial influence upon their health; a cheerful man being much more capable of resisting a fit of sickness than a melancholy one. It is the duty of commanders to use every innocent means of maintaining this temper in their crews; for, in long voyages, when they are several months together wandering on an element not destined by nature for the residence of man, without enjoying even occasionally the recreations of the land, the mind naturally tends to melancholy, which of itself lays the foundation of many diseases, and sometimes even of insanity. Diversion is often the best medicine, and used as a preservative, seldom fails of its effect."—(Kotzebue's Voyage, 1823-26.)

Before sunset on the 19th we saw the island of Fernando Noronha, with its singular peak towering aloft, and at midnight anchored in the roadstead.

Next morning I landed with difficulty for observations, the surf being so high that any common boat would have been swamped. By taking great care, our broad and well-built whale-boats landed the instruments and a small party, and re-embarked them afterwards, without accident.

We landed in a small bay under the (so called) citadel, but there is a safer and in every way preferable landing-place about a mile to the northward. My object being chiefly to take sights of the sun, for time, and compare the chronometers used on shore as soon as possible with those on board, I preferred landing as near as I could to the place where the lamented Captain Foster observed:—but it was difficult to ascertain the house in which his pendulum observations were made. Not even the governor could tell me, for he had arrived since Captain Foster's departure; and most of the inhabitants of the island had changed their dwellings frequently, being all exiles from Brazil.

The governor was a major in the Brazilian service, born at Pernambuco, and under his command were two hundred black troops, and about eight hundred human beings, only thirty of whom were women, and a very few children.

We obtained some fire-wood from one of the islets northward of the principal island; but it was full of centipedes and other noxious insects, from which it was not easy to free it even by charring and washing. Water we did not try to get, because of the heavy surf, but there is no scarcity of it on the island. Neither live-stock nor vegetables could be procured from the apathetic inhabitants.

This place is rather picturesque; and the lofty barren peak, already mentioned, is conspicuous from every point of view. Near the summit is a station from which a look-out is kept, not only over all the island, but over many leagues of the surrounding sea; so that neither ship nor boat can approach or depart, during daylight, without being noticed.

No boats are allowed to be kept on the island, and no intercourse is held with shipping without permission and the strictest inspection.

We sailed from Fernando Noronha the same evening, passed

round the north-east extremity of the island, and steered for Bahia de Todos Santos. Having remained only one day at anchor, in consequence of information that no better landing could be expected for many days; and wishing to ascertain the rates of the chronometers, as well as to procure a supply of water, I decided to go to Bahia, as the nearest port convenient for both purposes. From the 23d to the 27th we found a current setting us southward, between twenty and thirty miles each day. This was quite unexpected by me, for I thought that we should have been set westward. At daylight on the 28th we made the land about Bahia, and before noon were at anchor in the port.

As we sailed in rapidly from the monotonous sea, and passed close along the steep but luxuriantly wooded north shore, we were much struck by the pleasing view. After the light-house was passed, those by whom the scene was unexpected were agreeably surprised by a mass of wood, clinging to a steep bank, which rose abruptly from the dark-blue sea, showing every tint of green, enlivened by bright sunshine, and contrasted by deep shadow: and the general charm was heightened by turretted churches and convents, whose white walls appeared above the waving palm trees; by numerous shipping at anchor or under sail; by the delicate airy sails of innumerable canoes; and by the city itself, rising like an amphitheatre from the water-side to the crest of the heights.

We found ourselves in the middle of the rainy season, and although favoured by a fine day at arriving, cloudy weather and frequent rain succeeded it, and during the short stay we made, much embarrassed our observations.

Bahia has declined ever since its separation from Portugal: unsettled, weak governments, occupied too constantly by party strife to be able to attend to the real improvement of their country, have successively misruled it. Revolutions, and risings of the negro population, interrupting trade, have repeatedly harassed that rich and beautiful country, and are still impending.

Were property secure, and industry encouraged, the trade from Bahia might be very extensive, particularly in sugar and

cotton: but who will embark much capital upon so insecure a foundation as is there offered?

The immense extent and increase of the slave population is an evil long foreseen and now severely felt. Humanely as the Brazilians in general treat their slaves, no one can suppose that any benevolence will eradicate feelings excited by the situation of those human beings. Hitherto the obstacles to combinations and general revolt among the negroes, have been ignorance, mutual distrust, and the fact of their being natives of various countries, speaking different languages, and in many cases hostile to each other, to a degree that hardly their hatred of white men can cause them to conquer, even for their immediate advantage.

The slave trade has already entailed some of its lamentable consequences upon the Brazilians, in demoralizing them by extreme indolence, and its sure accompaniment, gross sensuality; but there are in store afflictions hitherto unfelt, occasioned by the growing hordes of enemies who are yearly causing more perplexity and dread in the territories of Brazil.

Could the Brazilians see clearly their own position, unanimously condemn and prevent the selfish conduct of individuals, emancipate the slaves now in their country, and decidedly prevent the introduction of more, Brazil would commence a career of prosperity, and her population would increase in an unlimited degree. In that immense and most fertile country, distress cannot be caused by numerous inhabitants; food is abundant, and the slight clothing required in so warm a climate is easily procured.

The chief, if not the only cause of the slave trade in Brazil, is want of population—want of an industrious population, able as well as willing to clear away primeval forests, and render the soil fit for culture—able to work in the open fields under a hot sun, to cultivate the sugar cane, cotton plants, mandioca, and other productions of tropical climates.

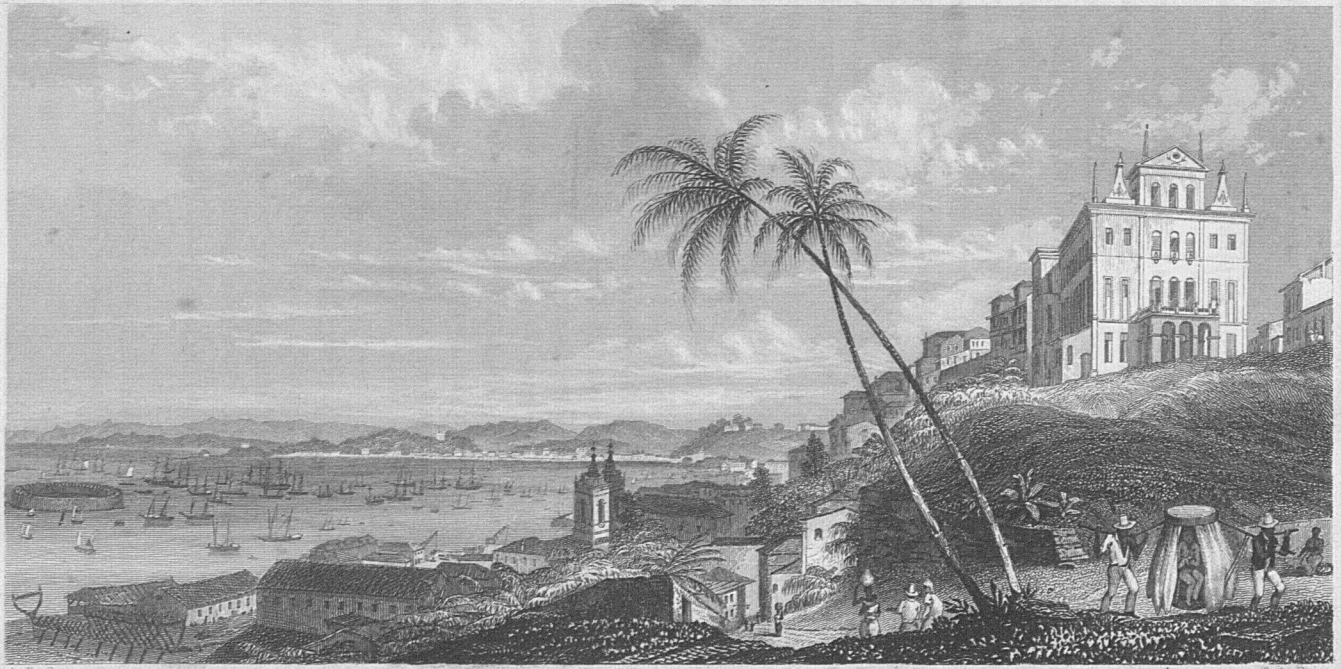
While this extensive and most powerful cause exists, selfish, unprincipled owners of immense territories in Brazil, and elsewhere, will not refrain from importing hundreds, even thou-

sands of unhappy wretches, who, once landed, become the helpless instruments of immense gain to their owners: neither can any reasonable number of shipping efficiently blockade the coasts of two great continents.

If I am right in these assertions, it appears that there is no method by which the slave trade can be totally suppressed, except by destroying the cause of so abominable a traffic: and that, to this end, a native population should be encouraged in hot climates, who, being gradually inured to work on their native soil, for remuneration from their employers, and a prospect of future comfort for themselves and their offspring, would totally supersede the demand for constrained labour. Of course, the only way by which such a result could be obtained—I should say, perhaps, the first step towards so satisfactory a result, would be, that the government of a slave-importing country should declare that trade piratical: and proclaim every human being free; bound to no man, free to do any thing not contrary to religion, or law, from the moment he or she embarked on board a vessel belonging to that country, or placed a foot upon its soil; which might then indeed be termed, in common with our happy land, a sacred soil. By such a plan as this, individuals would suffer for a time, but the mass of society would be gainers incalculably.

Well-known authors have already said so much of Bahia, its spacious harbour, and delightful environs, that it would be impertinent in the writer of a mere narrative to add his hasty remarks to the calmly considered information which their works contain. But I will venture to notice that however pleased a stranger to Bahia may be at the sensations conveyed through his eyes, previous to landing, he will be miserably disappointed when he finds himself in the dirty, narrow, crowded, and hot 'lower town;' and that the sooner he gets into a sedan* chair, and desires the almost naked bearers to make the best of their way to the 'upper town,' where he will enjoy

* An arm-chair, with a high back, a foot-board, and curtains to draw round, hung to a pole which rests on the shoulders of two men.



A. Earle. H. A. Prior.

SAN SALVADOR, BAHIA.

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fresh air, a pleasing view, and freedom from annoyances, the less his organs will be offended, and his temper tried.

We sailed from Bahia on the 18th. The bank which projects from the light-house point had been minutely examined by us, during the Beagle's stay in port; on one day, indeed, she went out and anchored at the outer end of the shoal, in order to determine its extent, and assist the boats in sounding; therefore I did not hesitate to stand across it; but there is not water enough over the shallower parts for any ship drawing more than fourteen feet, especially if there is a swell. The shoalest spot is near the outer end; ships of any size may pass between the inner extremity and the point of land adjacent to it.

There are rocks and dangerous shallows southward of the port, which it is extremely necessary to guard against in approaching it from sea, because the current generally sets towards the south, and ships have got ashore on those shoals in consequence. The land northward of Bahia should be made, and some white sandy patches, looking like linen hung out to dry, should be seen before a ship steers more southerly.

After losing sight of the land, our course was shaped to the south-east, towards the eastern limit of the great bank of soundings which extends so far to seaward of the Abrolhos islets. Having reached the parallel of the islands, and being to the eastward of the easternmost soundings laid down in any chart, without finding any ground with three hundred fathoms of line, I began to steer westward—sounding continually, and keeping a sharp look-out at the mast-head. At two in the afternoon of the 26th, we had no bottom, with three hundred fathoms of line; and at the next cast, about an hour afterwards, found only thirty fathoms, without there being the slightest change in the colour of the water, or in its temperature, or any other indication of so sudden a change in the depth. We hauled to the wind directly, worked to the eastward in order to ascertain the precise limit of the bank, and lost soundings as suddenly as we had previously struck them. A grapnel was then put overboard, with two hundred fathoms of line, and we

again steered westward, till a heavy pull upon the line, and a sudden jerk, showed that we had hooked the bank.

The ship was hove-to, and the necessary observations made on the spot. The grapnel, when hauled up, was found to be straightened, a proof, in addition to that afforded by the lead, that the bottom was rocky. Our soundings at this time were thirty-eight fathoms, and thence to the Abrolhos islets we carried a line of soundings, no where exceeding that depth, but extremely irregular, between thirty-six and four fathoms.

As far as we had time to examine, the chart of these islands, by the Baron Roussin, appeared to be satisfactory; but the soundings are so very irregular in the vicinity of the Abrolhos, that little dependence could be placed on the lead. More than once we had four or five fathoms under one side of the vessel, and from fifteen to twenty under the other. These sudden and startling changes, called by the French, 'Sauts de sonde,' are very unpleasant and perplexing.

The tide, or rather current, which we found when lying at anchor near the islets, set continually to the southward, varying in strength from half a mile to a mile and a half an hour; but we had only three days' experience.

I had imagined, from what I had heard, that the rock of which these islets were chiefly composed was coral; but was surprized to find only coralline growing upon gneiss or sandstone.

While sounding near the Abrolhos we made a great number of experiments with Massey's lead, in order to verify its qualities; and found it agree remarkably well with the common lead, while in less than forty fathoms, but differ from it frequently when the depth of water exceeded seventy fathoms; and wholly fail when used in upwards of one hundred and twenty fathoms. The failure, in great depths, was in consequence of the small hollow cylinder, to which the vanes were attached, bursting, or rather, being compressed by the weight of water. Some more remarks upon this instrument will be found in the Appendix.

We anchored near the islets, at dusk, on the 28th, after being in frequent anxiety, owing to sudden changes in the

depth of water; and next morning, moved to a better berth at the west side, very near them. They are rather low, but covered with grass, and there is a little scattered brushwood. The highest point rises to about a hundred feet above the sea. Their geological formation, Mr. Darwin told me, is of gneiss and sandstone, in horizontal strata. When our boats landed, immense flights of birds rose simultaneously, and darkened the air. It was the breeding and moulting season; nests full of eggs, or young unfledged birds, absolutely covered the ground, and in a very short time our boats were laden with their contents.

A large black bird, with a pouch like that of a pelican, but of a bright red colour, was very remarkable, as it hovered, or darted among the bright verdure, and at a distance looked handsome; but when seen close, it at once descended to the level of a carrion-eating cormorant or buzzard.

Turtle are to be found at times: we observed the shell and skeleton of an extremely large one lying on a sandy spot at the north side of the northern islet. Some very fine fish, of the cod kind, were caught; one was so large, that, until hauled on board, it was supposed to be a shark. The anchorage is good, and easy of access: all swell is stopped by the shallow places, and by the islets themselves. There is no fresh water.

If a general reader should honour these pages by his perusal, and find such details about wood, water, fish, birds, &c., at places about which few know, and still fewer care—extremely tiresome, he will of course pass them over; but, in my own exculpation, I must beg to be permitted to remind him that the Beagle was employed by Government, to obtain practical information likely to be useful to shipping; and that I might neglect my duty by omitting to mention such matters, when speaking of places which are seldom visited, and hitherto but slightly known.

By those employed in the coasting trade, the Abrolhos are said to be particularly subject to squalls. If this be true, what is the reason? Have the extensive shallows in their

vicinity any connection with the fact? Thinking myself that they have, I would beg the reader to bear this idea in mind, when, at another part of this narrative, the squalls so frequent in the dangerous archipelago of the low islands are mentioned.*

March 30th. We sailed and sounded in various directions, but such irregular depths I never found elsewhere. Sudden jumps, from thirty to ten, sometimes even to four fathoms, in successive casts of the hand-lead, gave us frequent alarm; but by keeping a boat a-head, and two leads going briskly, we avoided danger, and giving up exploring, regained before dark the safe channel which runs north and south between the Abrolhos and the main land, and steered to pass near Cape San Tomè, or St. Thomas. Next day we were off that cape, but saw none of the breakers which have been so frequently reported to lie at a dangerous distance from the neighbouring shore; although we looked out for them, and steered so as to pass the places where I was informed they would be seen.

On the 3d of April, we passed Cape Frio. I wished to visit the cove in which the Lightning and Algerine lay, while recovering the treasure sunk in the unfortunate Thetis, but circumstances were unfavourable.

* The Bermuda Islands ("still vexed Bermoothes") may also be thought of, as being similarly circumstanced.

CHAPTER IV.

Loss of the Thetis—Causes of her wreck—Approach to Rio de Janeiro—Owen Glendower—Disturbance in Rio Harbour—Observations—Chronometers—Return to Bahia—Deaths—Macacu—Malaria—Return to Rio de Janeiro—Meridian Distances—Regatta—Fuegians—Lightning—Leave Rio—Equipment—Santa Martha—Weather—Santa Catharina—Santos—River Plata—Pamperoes—Gales off Buenos Ayres—Monte Video—Point Piedras—Cape San Antonio—River Plata—Currents—Tides—Barometer—Absence of trees—Cattle.

Among the shipwrecks which have taken place during late years, perhaps none excited so much astonishment, or caused so much trouble and discussion, as the loss of that fine frigate the Thetis.

Had any seaman been asked, on what frequented shore there was least probability of a wreck, I almost think he would have answered on that of Cape Frio. Yet, against the high cliffs of that bold and well-known coast did she run 'stem on,' going nine knots. One may conceive the shock and general consternation as she crashed against the rocky cliff, and all her masts fell inboard.

As some who turn over these pages may not have read the proceedings of the Court-martial held after the return of her officers to England, I will insert a short account, derived chiefly from those of old friends and shipmates, who were on board her at the awful time of her wreck.

The Thetis sailed from Rio de Janeiro on the 4th of December 1830, and worked to the southward all day, against a southerly wind and thick foggy weather. At 1h. 30m. A.M. on the 5th, she saw Raza Island for the last time, bearing N.W. by W., and distant eight or nine miles. The weather was still hazy, indeed at times very thick, and the wind south-east. She stood off on the larboard tack until seven A.M., and then the wind having increased, and a cross sea getting up, she wore to the eastward. Soon afterwards the wind drew to SS.E., and the ship was kept by the wind on the

starboard tack until 1h. 30m. P.M., when it was considered that Cape Frio bore about N. 40° E., distant thirty-eight miles. The position at noon, by dead reckoning, gave the Cape bearing N. 43. E., distant forty-one miles; all the calculations giving results between that and N. 51. E., fifty-three miles; but by dead reckoning only, as neither sun, moon, or stars had been seen. At 1h. 30m. the wind being scant, the ship was steered E. by N., and at two, a cross sea checking her way through the water, the course was altered to E.N. E. At two, when the course was thus changed, she had run nineteen miles since noon, and at four, twenty more miles had been made on the E.N.E. course; at which time, four P.M. (under the idea that she was almost abreast of Cape Frio, supposed to be then distant about twenty-four miles), seeing a large ship, 'courses down,' in-shore of her, steering west or W. by N., with all sail set; and the weather clearing, for an interval, without any land being seen; it was concluded that the Thetis was still further from the shore than had been estimated, and her course was altered to N.E. by E. At five, the crew was mustered at quarters, after which the reefs were mended, and the fore top-gallant sail, jibs, spanker, and reefed fore top-mast studding-sail were set. From four o'clock to six she ran, by log, twenty-one miles; after six the weather became very thick and rainy: and when the look-out men were relieved at eight o'clock, it was so dark, and rained so fast, that nothing could be distinguished half a ship's length distant. Soon after eight one of the look-out men, named Robinson, said to another man on the forecastle,* "Look how fast that squall is coming" (this was the cliff looming indistinctly through the rain and darkness), and next moment, "Land a-head," "Hard a-port," rung in the ears of the startled crew, and were echoed terribly by the crashing bowsprit, and thundering fall of the ponderous masts.

The hull did not then strike the rocks, having answered the helm so fast as to be turning off shore when the bowsprit

* Borsworthick. Both these men afterwards sailed with me in the Beagle.

broke; but the lee yard-arm irons (boom-irons) actually struck fire from the rocky precipice as they grated harshly against it, the boom ends snapping off like icicles.

All three masts fell aft and inward, strewing the deck with killed and wounded men. An immense black barrier impended horribly, against which heavy breakers were dashing with an ominous sound; but the ship's hull was still uninjured. Sentries were placed over the spirit-room; a sail was hoisted upon the stump of the main-mast; the winches were manned; guns fired; rockets sent up, and blue-lights burned; the quarter-boats were cleared away to be ready for lowering; and an anchor was let go; but the water was so deep, that before she brought up, her stern drifted upon a more shelving part of the rock. Several men then tried to land; but, in jumping ashore, many slipped, and were drowned in the surf, or crushed against the rocks. The stern and lee quarter boats were dashed to pieces, as the surf hove the ship against the cliff, and no boat was then available; for the others were either stove, or so covered with wreck, that they could not be used. Finding that the anchor, which had been let go, did no good, but seemed to keep her tailing upon the rocks, the cable was slipped, after which her head fell off to the westward. It was then found that the water was gaining, and the winches were worked. Successive waves threw her starboard quarter upon the rocks; and the effects of repeatedly striking were soon but too apparent, as the water burst open the spirit-room hatches.

At this moment a small opening appeared, into which the ship providentially drove. It was at first thought that this was the opening into Cape Frio Harbour; but it proved to be only a very small cove, or indentation of the rocky cliffs. While drifting close along the rocks into this cove, a hawser was passed ashore, by which afterwards several persons landed. The ship struck heavily in the cove, gave some tremendous yawns, and sunk. As she then lay upon the rocky bottom, each succeeding wave broke over and just covered her. By a violent surge, the rock to which the hawser above-mentioned had been made fast, was torn away; and, for a short time, all

hope of further communication with the land was suspended. Every effort that could be made to convey a rope to the shore was attempted in vain, until Mr. Geach, the boatswain, went out on the stump of the bowsprit, and by the help of two belaying-pins, succeeded in throwing the end of a small rope to the rocks, by which a large one was immediately hauled ashore, and then kept as much stretched as the strength of the men who had landed would allow. On this larger rope each man was slung, in his turn, and hauled by the small one through the surf to a rough craggy rock. Mr. Geach and John Langley, the captain of the forecastle, were among the last to leave the ship, having almost exhausted themselves in slinging their shipmates.

As day-light broke, the last man was hauled ashore. Many were terribly bruised and lacerated by the fall of the masts, or during these struggles for life, and twenty-five persons perished. Some of the officers made their way to a small village near Cape Frio, and obtained horses, and a guide who conducted them to Rio de Janeiro, where the melancholy news was communicated to the commander-in-chief. The captain, the other officers, and the crew, remained near the place of the wreck, waiting for assistance.

An adequate cause for so great an error in the reckoning of only nineteen hours as that which occasioned the loss of this fine ship and twenty-five souls, besides the personal property of those on board, and a large freight of treasure, is not difficult to find, even without supposing the compasses to have been in error, or affected by local attraction, which, by the way, would in this case have operated in the ship's favour.

The vicinity of Cape Frio, one of the most salient promontories on the coast of Brazil, cannot be supposed exempt from currents; set in motion either by temporary causes, such as strong or lasting winds; or by the varying pressure of the atmosphere upon different portions of the ocean:—or from tidal streams, more or less strong.

Presuming that the Thetis was carried out of her supposed position, by the former cause, about twenty-four miles; surely rather more than a mile an hour is no surprising current during nineteen hours. But if a stream of tide also affected her, in that time she would have had one whole tide either in her favour or against her.

There was no reason to suspect the existence of much current near Cape Frio, when the Thetis was lost, except on such general grounds as those just mentioned, because no pilot, as far as I know, was aware of such a fact. With strong southerly winds ships of large size do not often leave Rio de Janeiro—coasting vessels never—therefore few persons could have experienced its effect when sailing from the port; and when approaching Rio in similar weather, vessels sail before a fair wind, steer by sight of the land, and take little notice of the log: besides which, they then employ but three or four hours in passing through that space of sea where the Thetis was detained nineteen.

In all probability, such a current as that which drove the Thetis on the rocks is only to be found during southerly winds, and in the summer season of that climate, when the general set of the current is along the coast, towards the south and west.

If a man of war is accidentally lost, a degree of astonishment is expressed at the unexpected fate of a fine ship, well found, well manned, and well officered; and blame is imputed to some one: but before admitting a hastily-formed opinion as fact, much inquiry is necessary. As in the case of the Thetis, an English man-of-war may incur risk in consequence of a praiseworthy zeal to avoid delaying in port, as a merchant-ship would probably be obliged to do, from her being unable to beat out against an adverse wind, and, like that frigate, may be the first to prove the existence of an unsuspected danger.

Those who never run any risk; who sail only when the wind is fair; who heave to when approaching land, though perhaps a day's sail distant; and who even delay the performance of urgent duties until they can be done easily and quite safely; are,

doubtless, extremely prudent persons:—but rather unlike those officers whose names will never be forgotten while England has a navy.

Of the measures taken for recovering the treasure sunk in the Thetis, much has appeared in print; therefore I will not add a word to that subject of controversy.

Weather such as that which caused the loss of the Thetis, is only at times met with off Cape Frio; a clear sky, with a hot sun, and but little wind, is more usual; and as my first approach to Rio de Janeiro, on board H.M.S. Owen Glendower, in 1819, made much impression upon me, I will endeavour to describe it's circumstances.

High blue mountains were seen in the west, just after the sun had set, and with a fair wind we approached the land rapidly. The sea was quite smooth, but a freshening breeze upon our quarter carried us on, nearly thirteen knots an hour. Though dark as any cloudy tropical night, when neither moon nor star relieves the intense blackness—astern of us was a long and perfectly straight line of sparkling light, caused by the ship's rapid way through the water; and around the bows, as far forward as the bowsprit end, was dazzling foam, by whose light I read a page of common print. Sheet lightning played incessantly near the western horizon: and sometimes the whole surface of the sea seemed to be illuminated. As the moon rose, and the breeze decreased, the contrasts of light and darkness, of swift change of place and apparent tranquillity, lost their effect. Next morning we had a dead calm: high land towered over the fog-banks, which were slowly drawn upwards and dispersed by the heat of a powerful sun; and the sea was smooth as a lake. Numbers of that beautiful fish, the dorado, often called a dolphin, were caught; and the vivid, various colours displayed, as they lay upon our deck, exceeded description. Well I remember too the trouble we middies had with the sun at noon on that day; not with the sun above our heads, but with its image reflected by our quadrants. As he was almost vertical over us, we were dispersed round the ship, each thinking he had brought the reflected image down

to the proper point of the horizon, until, startled by hearing 'twelve o'clock,' reported by the master, we found too late, and much to our annoyance, that it would have been wiser to have looked at the compass before observing the altitude.

Soon after mid-day black curling ripples stole along the hitherto glassy surface; sail was made, the sea-breeze freshened, and we steered towards the entrance of that magnificent harbour, Rio de Janeiro.

Often as it has been visited and described, I cannot expect any one to require another sketch, but will merely remark that I know no port equal to it in situation, security, capacity, convenience, and abundant supply of every necessary, as well as in picturesque beauty. A day or two after the Owen Glendower anchored, a party of her midshipmen were allowed to take a boat and enjoy a day's excursion in the beautiful harbour, or rather gulf. We landed on an island, which seemed to me like an immense hot-bed, so luxuriant and aromatic were the shrubs, and so exotical the appearance of every tree and flower. Years since elapsed have not in the least diminished my recollection of the novelty and charm of that first view of tropical vegetation.

To return to the Beagle. On the 3d we were near Raza Island, but detained by calms. The light-house lately erected there showed a bright revolving, or rather intermitting light. On the following day, when the sea-breeze set in, we steered for the harbour. The sun shone brightly, and there were enough passing clouds to throw frequent shadows over the wooded heights and across vallies, where, at other times, the brightest tints of varied green were conspicuous: yet I did not think the place half so beautiful as formerly. The charm of novelty being gone, and having anticipated too much, were perhaps the causes; and it is possible that so much wood has been cleared away in late years, as to have diminished sensibly the rich and picturesque appearance which it certainly once possessed.

As we shortened sail under the stern of our flag-ship, I was surprised by finding Sir Thomas Baker, the Commander-in-

chief, giving directions for the positions to be taken forthwith by the ships of his squadron then present, and orders for the boats to be prepared for landing marines. This was in consequence of one of those disturbances almost usual in South America, especially in Brazil. Some outrages had been committed in the town, and a mutiny had broken out among the troops. Under old and established governments, revolt and mutiny are events which so seldom occur that their shock is not only felt at the time, but transmits vibrations through succeeding ages. In these unsettled states, however, they recur so frequently, that even on the spot they cause little sensation, and excepting by those personally concerned, are scarcely remembered afterwards.

Few strangers visit the metropolis of Brazil without being disappointed, if not disgusted. Numbers of almost naked negroes, hastening along narrow streets—offensive sights and smells, an uncivil and ill-looking native population — indispose one to be pleased, even with novelty; but impressions such as these soon wear off. In the environs of the city are many good houses, in beautiful situations; and while enjoying delightful rides amidst the richest and most varied scenery, or resting in the shade of a veranda, refreshed by the sea-breeze, and overlooking a prospect hardly to be surpassed in the world, the annoyances and the nuisances of the town are forgotten.

With respect to astronomical observations, I was extremely unfortunate at Rio de Janeiro, except in those simple ones for time and latitude, which depend upon sextants and artificial horizons. Being the rainy season, but few nights were favourable for observing the transits of stars with the moon, and those few were too near the full moon to be available. But had the weather been otherwise, I doubt whether I should have obtained satisfactory results, because the transit instrument employed was of an inferior construction, and still more, because I was unaccustomed to its use. So much time was employed, to the prejudice of other duties, in adjusting and re-adjusting this imperfect instrument, and ineffectually watching for intervals of clear sky, that I resolved to set up the transit

no more, until I had an interval of leisure, and a prospect of some cloudless nights.

Having so many good chronometers on board; being practised in observations such as they require; and placing great confidence in their results; I felt inclined to give attention and time to them rather than to perplex myself, and cause much delay in moving from place to place, by attempting series of observations which would give occupation to an astronomer, and could not be undertaken by me, while actively engaged in coast-survey, without interfering with other duties.

In the Appendix it may be seen how far results obtained by the chronometers agree with those of a higher class, especially with the recent ones of Captain Beechey, to whose determinations, resulting from moon-culminating observations, I conclude that a high value will be attached, because he is a well-practised and able observer.

As I found that a difference, exceeding four miles of longitude, existed between the meridian distance from Bahia to Rio, determined by the French expedition under Baron Roussin, and that measured by the Beagle; yet was unable to detect any mistake or oversight on my part; I resolved to return to Bahia, and ascertain whether the Beagle's measurement was incorrect. Such a step was not warranted by my instructions; but I trusted to the Hydrographer for appreciating my motives, and explaining them to the Lords of the Admiralty. In a letter to Captain Beaufort, I said, "I have not the least doubt of our measurement from Bahia; but do not think that any other person would rely on this one measure only, differing widely, as it does, from that of a high authority—the Baron Roussin. By repeating it, if it should be verified, more weight will be given to other measures made by the same instruments and observers."

We sailed with the ebb-tide and sea-breeze, cleared the port before the land-wind rose, and when it sprung up steered along the coast towards Cape Frio. Most persons prefer sailing from Rio early in the morning, with the land-wind; but to any well-manned vessel, there is no difficulty whatever in working

out of the port during a fresh sea-breeze, unless the flood-tide should be running in strongly.

On this passage one of our seamen died of a fever, contracted when absent from the Beagle with several of her officers, on an excursion to the interior part of the extensive harbour of Rio de Janeiro. One of the ship's boys, who was in the same party, lay dangerously ill, and young Musters seemed destined to be another victim to this deadly fever.

It was while the interior of the Beagle was being painted, and no duty going on except at the little observatory on Villegagnon Island, that those officers who could be spared made this excursion to various parts of the harbour. Among other places they were in the river Macacu, and passed a night there. No effect was visible at the time; the party returned in apparent health, and in high spirits; but two days had not elapsed when the seaman, named Morgan, complained of headach and fever.

The boy Jones and Mr. Musters were taken ill, soon afterwards, in a similar manner; but no serious consequences were then apprehended, and it was thought that a change of air would restore them to health. Vain idea! they gradually became worse; the boy died the day after our arrival in Bahia; and, on the 19th of May, my poor little friend Charles Musters, who had been entrusted by his father to my care, and was a favourite with every one, ended his short career.

My chief object in now mentioning these melancholy facts is to warn the few who are not more experienced than I was at that time, how very dangerous the vicinity of rivers may be in hot climates. Upon making more inquiry respecting those streams which run into the great basin of Rio de Janeiro, I found that the Macacu was notorious among the natives as being often the site of pestilential malaria, fatal even to themselves. How the rest of our party escaped, I know not; for they were eleven or twelve in number, and occupied a day and night in the river. When they left the ship it was not intended that they should go up any river; the object of their excursion being to visit some of the beautiful islets which stud the harbour. None of us were aware, however, that there was so

dangerous a place as the fatal Macacu within reach. I questioned every one of the party, especially the second lieutenant and master, as to what the three who perished had done different from the rest; and discovered that it was believed they had bathed during the heat of the day, against positive orders, and unseen by their companions; and that Morgan had slept in the open air, outside the tent, the night they passed on the bank of the Macacu.

As far as I am aware, the risk, in cases such as these, is chiefly encountered by sleeping on shore, exposed to the air on or near the low banks of rivers, in woody or marshy places subject to great solar heat. Those who sleep in boats, or under tents, suffer less than persons sleeping on shore and exposed; but they are not always exempt, as the murderous mortalities on the coast of Africa prove. Whether the cause of disease is a vapour, or gas, formed at night in such situations, or only a check to perspiration when the body is peculiarly affected by the heat of the climate, are questions not easy to answer, if I may judge from the difficulty I have found in obtaining any satisfactory information on the subject. One or two remarks may be made here, perhaps.—The danger appears to be incurred while sleeping; or when over-heated; not while awake and moderately cool; therefore we may infer that a check to the perspiration which takes place at those times is to be guarded against, rather than the breathing of any peculiar gas, or air, rising from the rivers or hanging over the land, which might have as much effect upon a person awake, as upon a sleeper. Also, to prevent being chilled by night damp, and cold, as well as to purify the air, if vapour or gas should indeed be the cause of fever, it is advisable to keep a large fire burning while the sun is below the horizon. But the subject of malaria has been so fully discussed by medical men, that even this short digression is unnecessary.

To return to the narrative. Mr. Bynoe consulted with the best medical advisers at Bahia, and afterwards at Rio de Janeiro, and he and I had the melancholy satisfaction of knowing that the best had been done for his patients.

The affectionate kindness of Mr. Bynoe on this, and indeed every occasion where his skill and attention were required, will never be forgotten by any of his shipmates.

In our passage from Rio de Janeiro to Bahia, we passed between the Abrolhos Islands and the main land, having a fresh southerly wind, and cloudy weather, with frequent rain. Of course there was some anxiety until we saw the islands, and it was necessary to keep the lead constantly going; but we got into no difficulty, and, assisted by Massey's log, as well as Massey's lead, we made a short passage, without an hour's delay or scant wind. This was favourable for the chronometer measurement, and I was deeply gratified by finding, soon after our arrival, that the measure from Rio to Bahia confirmed that previously made, even to a second of time.

On the 23d of May, we sailed the second time from Bahia, and steered to pass as near as possible to the eastern side of the Abrolhos; but, owing to unfavourable winds, could not approach nearer to them than in fourteen fathoms water.

When examining many of the cases of preserved meat* with which the Admiralty had ordered us to be provided, we found that several had burst and caused a most disagreeable smell. This was not the fault of the tin cases, but an unavoidable accident consequent upon their being stowed where salt water had occasional access, and corroded the tin. In so small and so crammed a hold as ours, it was not easy to make stowage for every thing that ought to be kept dry, particularly with a hatch-deck, while rolling about in the Bay of Biscay; but being warned by this first appearance of decay, our internal arrangement was partly changed, and some of the hatches on the lower deck temporarily caulked down.

Delayed by southerly winds and a long heavy swell from the southward, we made rather a tedious passage back to Rio, and did not anchor until the night of the 3d of June.

Next day (4th) the usual sets of equal altitudes were observed; and after the chronometer rates were ascertained, I

* Prepared by Kilner and Moorsom.

had the satisfaction of finding that this third meridian distance agreed exactly with the first and second. Upon further examination, it was seen that the Abrolhos Islands were laid down correctly in the French chart, with respect to Bahia; but that the meridian distance between those islands and Rio de Janeiro differed more than four miles from that resulting from three measures made by our twenty chronometers.

A few weeks afterwards all the data and results of these measurements were given to the French Commander-in-chief on the station, who promised to forward them to the Baron Roussin; but I have heard nothing of their having been received. Even those who are disposed to place little reliance on the performance of chronometers, and who doubt the accuracy of distances measured by the transport of time, might be interested by a glance at the particulars of these meridian distances, which are given in the Appendix. They much increased my own confidence in that simple method of ascertaining differences of longitude, and tended to determine my dependence upon a connected chain of meridian distances, in preference to any other mode of finding the precise longitude.

While watering, and rating the chronometers, a few comparatively leisure days afforded a seasonable opportunity for trying the qualities of boats, and exciting fair emulation among their crews. With the Commander-in-chief's permission, and the encouragement of the officers of his squadron, then in the port, some good boat-races were arranged; and knowing how much might afterwards depend upon the qualities of the Beagle's boats, it was very gratifying to find them excellent. Four of the set were built by Mr. Johns, the well-known boat-builder in Plymouth Dock-yard, and the other two by Mr. May, our carpenter. Captain Talbot, of the Warspite, and Captain Waldegrave, of the Seringapatam, tried their best boats and best men on two successive days, to the encouragement of the boats' crews and boat-sailers of the squadron, and much to the surprise of the Brazilians, who had never witnessed any thing like a regatta.

From our first arrival at Rio de Janeiro, until we were

ready to leave, finally, in July, little Fuegia was staying on shore, at the house of an Englishwoman, near Botafogo bay; and it is worth noticing, that while there, she was supposed by strangers to be one of the aboriginal natives of Brazil: and that I went with York and Jemmy to see a person (who had been many years resident in the interior of Brazil) who remarked, directly he saw them, "they are extremely like the Brazilian aborigines!"

At this time of year (July) the climate of Rio is comparatively cool and pleasant. Cloudy skies, southerly winds, and rain, are frequent; but there is less thunder and lightning than in summer, when not only thunder-storms occur often, but every night there is a continual flashing or reflection of lightning over the distant Organ mountains.

Many ships and buildings have been struck, during late years, still there are but a very few protected by lightning conductors. I was a lieutenant on board the Thetis, when her foremast was shattered by lightning, in Rio Harbour, and shall not easily forget the sensation. Some of the officers were sitting in the gun-room, one very dark evening, while the heavens were absolutely black, and the air hot and close, to an oppressive degree, but not a drop of rain falling, when a rattling crash shook the ship. Some thought several guns had been fired together—others, that an explosion of powder had taken place; but one said—"The ship is struck by lightning!" and that was the case. The top-gallant masts were not aloft; but the fore-topmast was shivered into a mere collection of splinters; the hoops on the foremast were burst, and the interior, as well as outside of the mast, irreparably injured. From the foremast the electric fluid seemed to have escaped by some conductor, without doing further damage; yet it filled the fore part of the ship with a sulphureous smell, and the men who were there thought something full of gunpowder was blown up.

No person received injury: the foremast was taken out afterwards, and replaced by another, purchased from the Brazilian government at a great expense, and made by the carpen-

ters of the Thetis. I should say that the electric fluid shook rather than shattered the fore-topmast, for it did not fall, but resembled a bundle of long splinters, almost like reeds. It twisted round the head of the foremast, instead of descending by the shortest line, went into the centre of the spar, and then out again to the hoops, every one of which, above the deck, was burst asunder. The Thetis was to have sailed in a few days, but was detained by this accident almost two months. She had no conductor in use.

Only two or three flashes of lightning were seen afterwards; they were accompanied by loud peals of thunder, and then heavy rain poured down. Just before the rain began, St. Elmo's fire was seen at each yard-arm, and at the mast-head. Those who have not seen this light, always a favourite with sailors, because they say it only appears when the worst part of the storm is over, may excuse my saying that it resembles the light of a piece of phosphorus—not being so bright, or so small, as that of a glow-worm, nor yet so large as the flame of a small candle. I was curious enough to go out to a yard-arm and put my hand on a luminous spot; but, of course, could feel nothing, and when I moved my hand the spot reappeared. About the same time of the year in which this happened, the Heron corvette was struck by lightning, and damaged, while lying at anchor off Buenos Ayres, in the river Plata, a locality extremely subject to vivid lightning, yet different in every respect from that of Rio de Janeiro: one being a flat, open country, near a fresh water river, and in latitude 34°; the other a mountainous and woody region, near the sea, and within the tropic of Capricorn.

On the 5th of July we sailed from Rio de Janeiro, honoured by a salute, not of guns, but of hearty cheers from H.M.S. Warspite. Strict etiquette might have been offended at such a compliment to a little ten-gun brig, or, indeed, to any vessel unless she were going out to meet an enemy, or were returning into port victorious: but although not about to encounter a foe, our lonely vessel was going to undertake a task laborious, and often dangerous, to the zealous execution

of which the encouragement of our brother-seamen was no trifling inducement.

While in harbour, a few alterations had been made in the disposition of our guns and stores, as well as some slight changes in the sails and rigging; and as the Beagle's equipment afterwards remained unaltered, I will here briefly describe it. She was rigged as a bark; her masts were strongly supported by squarer cross-trees and tops, and by larger rigging than usual in vessels of her tonnage.* Chains were used where found to answer, and in no place was a block or a sheave allowed which did not admit the proper rope or chain freely. There were large trysails between the masts, made of stout canvas, with several reefs, and very useful we found them. On the forecastle was a six-pound boat-carronade: before the chestree were two brass six-pound guns: close to the bulwark on each side of the waist were the 'booms;' and amidships two boats, on the diagonal principle, one stowed inside the other, and as close to the deck as possible; being secured by iron cranks, or supports. Abaft the main-mast were four brass guns, two nine-pound, and two six-pound: the skylights were large; there was no capstan; over the wheel the poop-deck projected, and under it were cabins, extremely small, certainly, though filled in inverse proportion to their size. Below the upper deck her accommodations were similar to, though rather better than those of vessels of her class. Over the quarter-deck, upon skids, two whale-boats, eight-and-twenty feet long, were carried; upon each quarter was a whale-boat twenty-five feet in length, and astern was a dinghy.

A few leagues southward of the port is a good situation for enjoying a general view of the picturesque mountains in its vicinity. When near the shore one only sees those of an inferior order; and it is not until an offing is gained that the bold and varied outlines of the distant Organ Mountains,† the sharp

* Two hundred and forty-two tons.

† So called because they have a number of pinnacles, somewhat like the pipes of an organ.

peak of the Corcovado, and the singular heights over Tijuca, can be seen at once. Whimsical allusion has been made to the first Lord Hood in the name by which one of these heights is called by English sailors; and in their general outline is a fancied resemblance to a huge giant lying on his back.

Off Santa Martha, a sort of Cape Spartivento, near which one rarely passes without having a change of wind, if not a storm, we were detained by strong southerly gales, which raised a high sea. This extreme movement and delay I regretted much at the time, on account of the chronometers; but the sequel shewed that such motion did not affect them materially, and that alterations of their rates were caused chiefly, if not entirely, by changes of temperature.

Gales in the latitude of Santa Martha generally commence with north-westerly winds, thick cloudy weather, rain, and lightning. When at their height, the barometer begins to rise (having previously fallen considerably), soon after which the wind flies round, by the west, to south-west, and from that quarter usually blows very hard for several hours. But these, which are the ordinary gales, blow from, or along the land, and do not often raise such a sea as is sometimes found off this coast during a south-east storm.

After a tiresome continuance of south-west winds, I became anxious to make Santa Catharina, but before we could reach it the wind changed, and enabled us to steer along the coast towards the south. Having mentioned Santa Catharina, I may as well add a few words to the many lavished in its praise by voyagers of all nations; for it is, excepting Rio de Janeiro, and perhaps Bahia, the best trading port on the east coast of South America; and, considering its situation, capabilities, and productions, is a place in which seamen must always have an interest. It enjoys the advantages of a temperate climate; an extensive and accessible harbour; a most fertile country, abounding in the necessaries of life; and a mercantile position of much importance. The people are more inclined to exert themselves than those in northern Brazil; a difference arising partly, no doubt, from effect of climate;

but chiefly from their having descended from active and enterprising, though lawless settlers, who were ejected from other places; and from a few respectable colonists induced to emigrate from the Azores. Before I quit the neighbourhood of frequented ports on this coast, one possessing peculiar interest, Santos, ought to be mentioned; to remind seamen that they may there also obtain any refreshments, and secure their ships in a sheltered creek, quite easy of access. For several leagues round Santos there is an extensive flat, covered with thick woods, but intersected by rivers and salt water inlets, whose banks are lined with thickets of mangrove trees. Inland a mountain range abruptly rises to the height of two or three thousand feet, every where clothed with almost impenetrable forests. The climate is, however, unhealthy in December, January, and February; and during the whole year there is a great deal of rain.

Returning to the coast southward of Santa Catharina, I may mention that Cape Santa Martha, and the shores extending northward of it, are high and woody, like the greater part of the coast of Brazil; but that on the south side of the promontory there is a complete change of character: lofty ranges of mountains sinking into low treeless shores, whose outline is as tame and unvarying as that of the former is bold and picturesque.

While sailing along the level uninteresting coast just mentioned, with a fresh breeze off the land, we found it bitterly cold, though the thermometer never was below 40°. Faht: so much does our perception of heat or cold depend upon comparison. Some of our exaggerated opinions as to the coldness of the southern hemisphere may have arisen from the circumstances under which voyagers usually visit high southern latitudes, immediately after enduring the heat of the tropics, and without staying long enough to ascertain the real average temperature during a whole year.

On the 22d of July we were near the river Plata, and as the weather, after sunset, became very dark, with thunder and lightning, though with but little wind, we anchored in the

vicinity of Cape Sta Maria to avoid being drifted about by irregular currents. For upwards of an hour St. Elmo fires were seen at each mast-head, and at some of the yard-arms: the mast-head vane also, fixed horizontally, and framed with copper, had an illuminated border round it. Heavy rain, much thunder, and a fresh southerly wind followed; but as we were prepared for bad weather, and the sea did not rise much, we maintained our position till daylight next morning, notwithstanding an officer of the watch startling me by reporting that we must be very near the land, because he heard bullocks bellowing.*

On the 23d we entered the great estuary of this shallow though wide river, a hundred and twenty miles across at this part, yet averaging less than ten fathoms in depth; and above fifty miles wide between Monte Video and the opposite point, called Piedras, where the average depth is not more than three fathoms. Very great care is required by vessels navigating the Plata, because of its exceedingly dangerous shoals, its strong and irregular currents, and the sudden tempests to which it is subject. The shoals and currents may be guarded against by a very careful attention to the lead, and a ground-log; but the fury of a violent pampero† must be endured. The land on each side of the Plata is so low, and those extraordinary plains called pampas, hundreds of miles in extent, are so perfectly free from a single obstacle which might offer any check to the storm, that a pampero sweeps over land and water with the weight of a rushing hurricane. Captain King has already described one, by which the Beagle suffered severely, in 1829;‡ but having, to my sorrow, been more immediately concerned, I will endeavour to give a brief account of that disastrous affair, as a warning to others.

On the 30th of January 1829, the Beagle was standing in,

* These noises must have been the discordant 'braying' of the bird called by seamen 'jack-ass penguin.'

† So called because it appears to come from the vast plains called 'pampas.'

‡ Vol. i. pp. 189, 190, 191.

from sea, towards the harbour of Maldonado. Before mid-day the breeze was fresh from N.N.W., but after noon it became moderate, and there was a gloominess, and a close sultry feeling, which seemed to presage thunder and rain. I should mention that during three preceding nights banks of clouds had been noticed near the south-west horizon, over which there was a frequent reflection of very distant lightning.

The barometer had been falling since the 25th, slowly, but steadily, and on the 30th, at noon, it was at 29.4, and the thermometer 78°. I, and those with me, thought little about the fall of the mercury, and still less about the threatening aspect of the south-west horizon. "Heavy rain," I thought, "at night, will not signify when we are moored in Maldonado:" and there was then every prospect of our reaching that port before night.

Having been often in the river Plata, and once for eight months successively, I had acquired a familiarity with the place, and a disregard for pamperoes, which was not surprising in a young man who had witnessed many, but certainly, as it happened, not one of so serious a nature as to cause any particular impression on his mind. I had not then learned never to despise an enemy.

At about three o'clock the wind was light, and veering about from north-west to north-east. There was a heavy bank of clouds in the south-west, and occasionally lightning was visible even in daylight. Myriads of insects, such as butterflies, dragon-flies, and moths, came off from the land; driven, as it appeared, by gusts of heated wind. At four the breeze freshened up from N.N.W., and obliged us to take in all light sails. Maldonado Tower then bore west, and Lobos Island (centre) S.W.b.S. The weather became more unsettled and threatening, though still we had no expectation of any material change before night: but soon after five it became so dark towards the south-west, and the lightning increased so much, that we shortened sail to the reefed topsails and foresail; still hoping to reach our destination before the pampero began. Shortly before six the upper clouds in the south-west quarter

assumed a singularly hard, and rolled or tufted appearance, like great bales of black cotton, and altered their forms so rapidly, that I ordered sail to be shortened, and the topsails to be furled, leaving set only a small new foresail. The water was smooth, and, not being deep, there was none of that agitated swell usually noticed before a storm in the great ocean.

Gusts of hot wind came off the nearest land, at intervals of about a minute. The fore-topsail was just furled, and the men down from aloft, the main-topsail in the gaskets, but the men still on the yard, when a furious blast from the north-west struck the ship. The helm was put up, and she paid off fast; yet the wind changed still more quickly, and blew so heavily from south-west, that the foresail split to ribands, and the ship was thrown almost on her beam-ends, and no longer answered her helm. The main-topsail was instantly blown loose out of the men's hands, whose lives were in imminent danger; the fore-topsail blew adrift out of the gaskets; the mainsail blew away out of the gear; the lee hammock-netting was under water; and the vessel apparently capsizing, when topmasts and jib-boom went, close to the caps, and she righted considerably. Both anchors were cut away (for the land was under our lee), and a cable veered upon each, which brought her head to wind, and upright. The heaviest rush of wind had then passed, but it was still blowing a hard gale, and the Beagle was pitching her forecastle into the short high waves which had risen. As the depth of water was small, and the ground tenacious clay, both anchors held firmly, and our utmost exertions were immediately directed towards clearing the wreck, and saving the remains of our broken spars and tattered sails. Had we suffered in no other way, I should have felt joy at having escaped so well, instead of the deep regret occasioned by the loss of two seamen, whose lives, it seemed, might have been spared to this day had I anchored and struck topmasts, instead of keeping under sail in hopes of entering Maldonado before the pampero began.

When the main-topsail blew away from the men, who strug-

gled hard to keep it fast, they could scarcely hold on, or get off the yard, and one young man fell from the lee yard-arm into the sea. Poor fellow, he swam well, but in vain: the ship was unmanageable, almost overset, the weather quarter boat stove, and the lee one under water: a grating was thrown to him, and the life-buoy let go, but he was seen no more. Another man was supposed to have been carried overboard with the main-topmast, as he was last seen on the cap.

The starboard quarter boat was stove by the force of the wind; and the other was washed away: and so loud was the sound of the tempest, that I did not hear the masts break, though standing, or rather holding, by the mizen rigging. Never before or since that time have I witnessed such strength, or, I may say, weight of wind: thunder, lightning, hail, and rain, came with it, but they were hardly noticed in the presence of so formidable an accompaniment.

After seven the clouds had almost all passed away; the wind settled into a steady south-west gale, with a clear sky; the barometer rose to 29.8, and the thermometer fell to 46°. Lobos Island was set S.E., bearing distant two miles.

In this pampero the masts of a vessel, at anchor off Monte Video, were carried away; and the upper cabin bulkhead of a Brazilian corvette was blown in while lying at anchor, head to wind, with her masts struck. But Maldonado seemed to feel its utmost violence; and there it certainly commenced like a whirlwind. A small boat, belonging to a poor man who carried fruit and vegetables to ships in the bay, was hauled ashore, just above high-water mark, and fastened, by a strong rope, to a large stone. After the storm it was found far from the beach, shattered to pieces, but still fast to the stone, which it had dragged along. Not many days after our disaster, while lying in Maldonado bay, repairing damages, another pampero assailed the Beagle; but though it did her no injury, it blew the boat, stove by its predecessor, away from the place on shore where she was being repaired, and left no trace of her behind.

Singular fluctuations occur in the river Plata before and after these pamperoes.* For some days previously the river rises, and it is always higher than usual when the south-west wind begins: but, after a few hours, the water falls rapidly, and vessels are left aground: indeed instances have been known of the upper parts of the river, near Buenos Ayres, being so much emptied by strong south-westerly, or westerly winds, that men have rode several miles into its bed, to places where ships usually anchor. I have myself known the water fall, in the outer road, off Buenos Ayres, from six to two fathoms, in less than twelve hours, in a place where the usual depth was four fathoms. Such a change as this would not be thought remarkable where tides usually rise several fathoms; but in the river Plata, where there is very little, if any, tide, where the width of the channel is so great in proportion to its depth, and the confining boundaries are so low, and in many places easily overflowed, a variation of four fathoms cannot take place without causing great difficulties and destruction. In this particular instance,† a heavy gale from the eastward dammed up the river for some days; and then changing, by the south, to the westward, emptied it again proportionably. Small craft were left literally scattered about the low country bordering on the river near Buenos Ayres, and many vessels never floated again. By that gale, which blew directly up the river, and raised a heavy sea, every vessel was driven ashore from the inner road of Buenos Ayres, except a schooner. Fourteen English merchant vessels lay high and dry upon the shore next day, most of them totally lost. The Owen Glendower, bearing the broad pendant of Sir Thomas Hardy, the Icarus brig, and two or three merchant vessels, anchored in the outer road, weathered it out with topmasts struck; but all drove considerably, except the frigate, and she brought both anchors ahead, backed by

* Although generally considered by strangers to refer solely to a squall, or storm, the term pampero is applied by the natives of the country to every south-westerly wind, whether moderate or a hurricane.

† In the year 1820.

stream anchors with half a cable on each, and riding with a whole cable on each bower, in four fathoms water, over very soft tenacious ground. Part of her forecastle netting was washed away by the sea, though she was an excellent roadster, and at that time drawing a foot less water than usual. She also lost a boat in a manner so likely to be of future occurrence, that I will yet digress, in hopes of being useful, by relating the incident.

Her barge, ably managed by an experienced seaman,* had tried to beat off from the town to the ship, during the commencement of the gale, but could get no farther than the leewardmost merchantman in the outer road. Astern of that vessel she was made fast by a strong hawser, and there rode out the gale admirably until the current began to set out of the river: when the boat was carried against the vessel, and knocked to pieces before any thing could be done to save her, as the sea was running high, and the wind still blowing a gale. The Druid frigate, when lying there,† would have lost a boat in the same way, had it not been one of those excellent diagonal boats, built by Mr. Johns; for it was taken, by the strong weather current, under the ship's bottom, and kept striking there long enough to have broken any ordinary boat into a thousand pieces; but nevertheless she appeared again with only her gunwales injured, the bottom being still perfectly sound.

The Plata has been called by the Spaniards 'El Infierno de los marineros;' sufficient stress has not however been laid on the redeeming qualities which it possesses in having anchoring ground every where, and in soundings, whose nature tells whether you are approaching danger; as on and near the banks the bottom is hard; while in the deeper water it is very soft.

I have remarked that before a continuance of southerly winds the water rises considerably in this river; and I may

* The first who took a steam-vessel to the West-Indies.

† In 1832.

add, that the reverse takes place under opposite circumstances. Some persons attribute this change of level to the horizontal action of wind; but I am inclined to think it occasioned chiefly by vertical pressure of the atmosphere, increased, doubtless, during strong winds by their driving force.

Before a pampero, the barometer continues to fall during several days, and invariably the water then rises. The gale commences, the barometer ceases falling and begins to rise, and very soon afterwards the level of the river is found to be sinking. For many following days the glass remains high, but the water continues to fall, and, generally speaking, the river is low while the mercury is steady and above the average height, which I should consider to be 29·9 inches. In the Plata I never saw the barometer higher than 30·3, nor lower than 29·4.* I will not delay here to speak of corresponding elevations or depressions of the ocean at other parts of the South American coast, and attempt to trace out the effects of gales in high latitudes, the space through which those winds extend, and whether they reach or affect places in a low or even middle latitude; but leaving such inquiries for another place, take a few more glances at the vicinity of the Plata, and then continue the narrative.

Having already noticed the width and average shallowness of this immense river, and the lowness of its adjacent shores, I need only add, that on the northern side there is a sprinkling of hills, of a granitic structure, scattered amidst extensive plains, while on the south, or right bank, there is neither a hill, a rock, or even a stone.† So low is the land between Point Piedras and Cape San Antonio, that around the great bay, called Sanborombon, it is extremely difficult to say where the water ends, or the coast line begins. Each difference, of

* In estimating weather, or force of wind, by the height of the mercurial column, due regard should be had to the goodness of the instrument, as some barometers, used in ships, differ from others even tenths of an inch.

† Which has not been carried there by man, or by running water.

even a foot, in the height of the water, makes a change of cables' lengths, if not of miles, in the position of the limiting line between water and land. In consequence it is very dangerous for ships to approach that shore; and, although the bottom is in many places soft, often extremely deep mud, there are other spaces in which hard lumps of tosca* are found, almost as injurious to a ship's bottom as actual rock. I am not aware that there is any granite on the south side of the river Plata, near the shore; and although the name 'Piedras' would incline one to suppose there are rocks or stones near it, I could only find tosca. But towards the northern shore rocks are found, and the dangerous shoal called 'Banco Yngles,' is said to have a granitic foundation. The ridge, of which the English Bank is the north-west extremity, extends eastward, inclining to the south, considerably beyond a line drawn from Cape Santa Maria to Cape San Antonio, and less than ten fathoms water may be found upon it out of sight of land. Northward of the ridge the depth of water varies from ten to thirty fathoms over a very soft bottom of bluish mud; and to the southward of it there are from twelve to three fathoms (diminishing as you approach San Antonio) over a softish bottom of brown or yellow muddy sand.† When it is considered that three very large rivers, besides a host of smaller streams, enter the ocean by the estuary whose more remarkable features we are noticing, that two of those rivers are flooded periodically by tropical rains,‡ and that very heavy gales assist in emptying or filling the shallow wide gulf, in which floods of fresh water contend against the volume of a powerful ocean; not only will frequent

* Tosca is a kind of hardened earth, rather than soft stone, about the consistence of slightly baked clay: it is of a dark brown colour, and varies in hardness from that which is almost stony, to the texture of a sound old cheese.

† Near Cape San Antonio and Point Tuyu there is very soft mud.

‡ The Paraguay rises so far northward, that (excepting a portage of three miles) a canoe may go from Monte Video to the mouth of the Amazon.

variations in depth be expected, as a natural consequence, but also strong and varying currents. Little or no tide has been hitherto noticed with any degree of accuracy in the estuary of the Plata; but this anomaly may be more apparent than real: for where the depth of water is so fluctuating, and the currents are so variable, it is difficult to distinguish the precise effects of tides, except by a series of observations far longer than has yet been made.

To say much of Maldonado village, the town of Monte Video, or the city of Buenos Ayres, would be to repeat an 'oft-told tale.' The views attached to this volume will give a tolerably clear idea of a few striking peculiarities which are immediately noticed by the eye of a stranger; and of the inhabitants themselves I will only venture to say, upon my slight acquaintance with them, that although prejudiced by their erroneous ideas of freedom, and deficient in high principles, they are courteous and agreeable as mere acquaintances, kind to strangers, and extremely hospitable.

It is well known that there are very few trees* on either bank of the Plata near its mouth, or on those immense plains, called pampas, excepting here and there an 'ombu,'† or some which have been planted near houses; or a few copses of small trees (mostly peach) planted for fuel: but I have not heard any sufficient reason given for this scarcity of wood, in a country covered with a great depth of alluvial soil, and adjoining districts in which trees are abundant. The only second causes for such a peculiarity, which I can imagine, are the following: the nature of the soil, which may be unsuited to most trees, although very productive of grass and gigantic thistles: the furious storms which sweep along the level expanse, and would demolish tender, unprotected young trees: the general want of water, which in some years is so great as to become a severe drought: and the numerous herds of wild cattle which range

* The exceptions are so few, that one might almost say there are no trees which have not been planted.

† A kind of elder.

over the plains, and eat up every leaf which retains any moisture during the dry heats of summer. Before there were herds of cattle, guanacoes ranged over the country, in great numbers, as they now do to the southward of the river Negro, where I have seen them grazing in large companies, like flocks of sheep. During the droughts above-mentioned vast numbers of cattle die for want of water, and perhaps this may be the principal reason why so few trees grow there naturally; but it cannot be the only one, because they grow where planted, and partially sheltered, though not watered.

Most people are aware of the scale upon which the cattle farms of the 'Banda Oriental' and 'Republica Argentina' were carried on: but the civil wars which have succeeded the steady government of Spain have broken up and ruined many of the largest establishments, where from one hundred to two hundred thousand head of cattle were owned by one man—where the annual increase was about thirty per cent—and where the animals were, generally speaking, slaughtered for their hides alone. What must be the natural fertility of a country, which, without the slightest assistance from man, can nourish such enormous multitudes of cattle, besides immense droves of horses and flocks of sheep, and yet, except near its few towns, appear almost destitute of inhabitants.

To return to our little vessel—entering the Plata in 1832. Unfavourable winds, and currents setting out of the river, delayed our progress, and obliged us to anchor frequently. We arrived at Monte Video on the 26th, and lost no time in making observations for our chronometers, and preparing for surveying the coasts southward of Cape San Antonio: but as I found that it would be advisable to visit Buenos Ayres, in order to communicate with the Government, and obtain information, we sailed from Monte Video on the 31st, and two days afterwards anchored off Buenos Ayres. There, however, we did not remain an hour; for the misconduct of a Buenos Ayrean officer on board a vessel under their colours, and a vexatious regulation with respect to quarantine, decided my

returning forthwith to Monte Video; and commissioning a capable person to procure for me copies of some original charts, which I thought would be exceedingly useful, and which could only be obtained from the remains of hydrographical information, collected by Spain, but kept in the archives of Buenos Ayres. The Beagle anchored again off Monte Video, on the 3d of August, and as soon as the circumstances which occasioned her return were made known to Captain G. W. Hamilton, commanding the Druid frigate, that ship sailed for Buenos Ayres.

Scarcely had the Druid disappeared beneath the horizon, when the chief of the Monte Video police and the captain of the port came on board the Beagle to request assistance in preserving order in the town, and in preventing the aggressions of some mutinous negro soldiers. I was also requested by the Consul-general to afford the British residents any protection in my power; and understanding that their lives, as well as property, were endangered by the turbulent mutineers, who were more than a match for the few well-disposed soldiers left in the town, I landed with fifty well-armed men, and remained on shore, garrisoning the principal fort, and thus holding the mutineers in check, until more troops were brought in from the neighbouring country, by whom they were surrounded and reduced to subordination. The Beagle's crew were not on shore more than twenty-four hours, and were not called upon to act in any way; but I was told by the principal persons whose lives and property were threatened, that the presence of those seamen certainly prevented bloodshed.

Some days after this little interruption to our usual avocations, we sailed across the river to Point Piedras, anchored there for some hours to determine its position, then went to Cape San Antonio, and from that point (rather than cape) began our survey of the outer coast. To relate many details of so slow and monotonous an occupation as examining any shore, of which the more interesting features have long been known, could answer no good purpose, and would be very tiresome to

a general reader; therefore I shall hasten from one place to another, dwelling only, in my way, upon the few incidents, or reflections, which may have interest enough to warrant their being noticed in this abridged narrative, or are absolutely necessary for carrying on the thread of the story.

CHAPTER V.

Eastern Pampa Coast—Point Medanos—Mar-chiquito—Ranges of Hills—Direction of Inlets, Shoals, and Rivers—Cape Corrientes—Tosca Coast—Blanco Bay—Mount Hermoso—Port Belgrano—Mr. Harris—Ventana Mountain—View—Argentina—Commandant—Major—Situation—Toriano—Indians—Fossils—Animals—Fish—Climate—Pumice—Ashes—Conway—Deliberations—Consequent Decision—Responsibility incurred—Paz—Liebre—Gale—Hunger—Fossils at Hermoso—Fossils at Point Alta—Express sent to Buenos Ayres—Suspicions and absurd alarm—Rodriguez.

Aug. 22. From Cape San Antonio (which, though so called, is only a low point) to rather more than half-way towards Cape Corrientes, the sea-coast is sandy and low. Behind the beach are sand-hills, and farther inshore are thickets affording shelter to numbers of jaguars. In sailing along, even with both leads going, we were, for a few minutes, in imminent danger of grounding upon a bank, or ledge, which extends six miles E.S.E. from Point Medanos. The water shoaled so suddenly, and so irregularly, that I could not tell which way to steer; and as we had been running directly before the wind, it was impossible to retreat by the safest track (that which we had made in approaching): however, by persevering in pushing eastward, away from the land, steering one way or another as the water deepened, we at last got clear. We then stood out to gain an offing, rounded the bank, and hauled close inshore again nearly opposite to a large salt lagoon, called Mar-chiquito, which approaches the sea so closely as to have occasioned an idea that, by cutting through the narrow strip of land which separates them, a fine port might be formed.

Some persons assert that there is always a communication between the lagoon and the sea; that cattle cannot pass along the isthmus on account of that opening; and that a boat might swim from one to the other. If this is the case, we were much deceived on board the Beagle; for when she passed so near the spot that the lagoon was overlooked by the officers at her mast-

heads, nothing like an opening could be detected, though the beach was scrutinized with good glasses, as well from the deck as by those who looked down upon it from aloft as we sailed by. I suspect that there has been some confusion of ideas respecting the little river San Pablo, and a supposed entrance to the lagoon: but, be this as it may, very great difficulty would be found in attempting to form a large and permanent communication at a spot so exposed to heavy south-east gales.

At Port Valdez (in latitude 42° S.) the entrance is sometimes completely blocked up by shingle and sand, during and after a strong south-east gale; and I think it probable that such an effect would be caused here, at times, whether there were a natural or an artificial opening; and as there is no great rise and fall of tide, I much doubt whether the opening would be again cleared, as at Port Valdez, by the mere ebb and flow of water.

In the vicinity of Mar-chiquito, the country (campo) is very fertile, and well watered. Sheltered to the south by a range of down-like hills, whence numerous small brooks originate, it gives abundant pasturage to many thousands of cattle, and is considered by the Buenos Ayreans to be the finest district of their territory. This range of hills extends in a west north-west direction for more than fifty leagues, and varies in name at different places. That part next to Cape Corrientes is called Sierra Vuūlcan;* twenty leagues inland is the ridge named Tandil, and at the western extreme is a height called Cayru. Between Tandil and Cayru there are many hills known by particular names, but they are all part of the range above-mentioned; and it is a remarkable fact, that not only this range, that nearer to Buenos Ayres called Cerrillada, and that of which the Sierra Ventana forms a part, extend nearly in an east-south-east and west-north-west direction; but that most of the ranges of high land, most of the rivers, and the greater number of inlets, between the Plata and Cape Horn, have a similar direction, not varying from it above one point, or at most two points of the compass. After we became aware

* An Indian word, which means 'opening,' or 'having openings.'

of this peculiarity, it was far easier to avoid shoals, as they all lay in a similar direction.

On a round-topped hill, near Mar-chiquito, we saw an immense herd of cattle, collected together in one dark-coloured mass, which covered many acres of ground. A few men, on horseback, were watching them, who, seeing us anchor, drove the whole multitude away at a gallop, and in a few minutes not one was left behind. Probably they suspected us of marauding inclinations.

Cape Corrientes is a bold, cliffy promontory; off which, notwithstanding the name, I could not distinguish any remarkable current. It is said to be hazardous for a boat to go alongshore, near the high cliffs of that cape, because there are rocks under water which sometimes cause sudden and extremely dangerous 'blind breakers.' More than one boat's crew has been lost there, in pursuit of seals, which are numerous among the rocks and caves at the foot of those cliffs. Hence to Bahia Blanco is a long and dreary line of coast, without an opening fit to receive the smallest sailing vessel, without a remarkable feature, and without a river whose mouth is not fordable. Even the plan of it, on paper, has such a regular figure, that an eye accustomed to charts may doubt its accuracy; so rarely does the outline of an exposed sea-coast extend so far without a break. A heavy swell always sets upon it; there is no safe anchorage near the shore; and, as if to complete its uninviting qualities, in the interior, but verging on this shore, is a desert tract, avoided even by the Indians, and called, in their language, Huecuvu-mapu (country of the Devil). In exploring this exposed coast, southerly winds sometimes obliged us to struggle for an offing; and we lost several anchors in consequence of letting them go upon ground which we thought was hard sand lying over clay, but which turned out to be tosca, slightly covered with sand, and full of holes. The lead indicated a sandy, though hard bottom; but we found it every where so perforated and so tough, that, drop an anchor where we might, it was sure to hook a rock-like lump of tosca, which sometimes was torn away, but at others broke the anchor.

Finding this to be the case, I had a stout hawser 'bent' to the 'crown' of the anchor, and after shortening in cable, tripped the anchor by the hawser, and then weighed it, uninjured, without much difficulty.

Along this extent of sea-coast, half way between the currents in the vicinity of the Plata, and those occasioned by strong tides near Blanco Bay and the river Negro, we found no current. Whether there was a rise of tide it was not easy to ascertain by the lead-line, when at anchor, from the bottom being so uneven; and to land was impossible, on account of a furious surf.

Several kinds of fish were caught at our temporary anchorages, and noticed carefully by Mr. Darwin. Anchorage is not a word I should use in this case (where the anchor was only let go for a short time while the ship's position could be fixed with accuracy, and our triangulation carried on in a satisfactory manner), as it might deceive a stranger to the coast: stopping-place would be better.

While examining the positions nearest to Blanco Bay, we had occasional alarms—such as the wind shifting and blowing strong directly towards the land; our soundings shoaling suddenly to three, or less than three fathoms; or thick weather coming on while a boat was away sounding;—but these are every-day events in a surveying vessel actively employed.

Near Blanco Bay we found the water greatly discoloured, and the soundings were not such as to tempt us onwards; however, it was necessary to proceed. We steered towards a little hill, which I fancied must be Mount Hermoso,* and soon after sun-set, on the 5th, anchored in what we afterwards found to be the roadstead near that hillock, at the head of Blanco Bay, close to the entrance of Port Belgrano, but divided from it by a bank.

As the bad apologies for charts of this place, which we possessed at our first visit, left us as much at a loss as if we had

* Mount Hermoso is but 140 feet above the sea; yet, on this low coast, it is somewhat remarkable, as being the only peaked hill close to the water; and having under it a low cliffy point, the only one thereabouts.

none, I set out with the boats next morning to seek for a passage into Port Belgrano.*

Our boats were soon stopped by shoal water, and I found, to my vexation, that the Beagle was anchored at the head of an inlet, between the shore and a large bank extending far towards the south-east, and that before going farther west she must retreat eastward, and look for another passage. This was an unexpected dilemma; but our prospect was improved by the appearance of a small schooner running towards us, from Port Belgrano, with a Buenos Ayrean (or Argentine) flag flying.

Very soon she came near enough for our boat to reach her, and an Englishman came on board, who offered to pilot the Beagle to a safe anchorage within the port. This was Mr. Harris, owner of the little schooner in which he sailed, (a resident at Del Carmen, on the river Negro, and trading thence along the coast), with whom we had much satisfactory intercourse during the next twelvemonth.

By his advice we weighed anchor, stood across the great north bank, in very little more water than we drew, until we got into a channel where there was water enough for any ship, and a soft muddy bottom: there we hauled up west-north-west,† by his direction, and with a fresh wind sailed rapidly into the extensive and excellent, though then little known harbour, called Port Belgrano; and at dusk anchored near the wells under Anchorstock Hill (or Point Johnson).

To give an idea of the general appearance, or almost disappearance, of the very low land around this spacious port, I will mention, that when the Beagle had crossed the north bank, and hauled up in the fair way, Mount Hermoso was nearly beneath the horizon; some bushes on the flat land southward

* Often erroneously called Bahia Blanco; a name originally given to the outer bay, in compliment to General Blanco.

† So constantly did Mr. Harris give this course, on subsequent occasions, that it became quite a joke; but it is nevertheless a strong corroboration of what I stated respecting the general direction of the inlets, and ridges, or ranges of hills.

of us (Zuraita Island) could be just distinguished; and ahead in the north-west quarter, no land could be made out, except the distant Ventana mountain, which we saw for the first time on that day.

In consequence of this extent of water being intersected by banks, and having so few marks, it is very difficult of access; and no place can offer less that is agreeable to the eye, especially when the tide is out, and much of the banks shows above water. A more disagreeable place to survey, or one that would occupy more time, we were not likely to find, I thought, as I looked around from the mast-head; but upon questioning Mr. Harris, I learned that a succession of similar inlets indented a half-drowned coast, extending hence almost to the Negro; and that, although the dangers were numerous, tides strong, banks muddy, and the shores every where low, the intervening ports were so safe, and so likely to be useful, that it was absolutely necessary to examine them.

Sept. 7. Messrs. Darwin, Rowlett, and Harris set out with me to visit the Buenos Ayrean settlement, called Argentina. Mr. Harris undertook to be our guide, but after two hours' sailing and pulling we found ourselves near the head of a creek, between two soft mud banks, where we could neither row nor turn the boat. We could not land because the mud was too soft to bear our weight, so there we staid till the tide flowed. About two hours after this stoppage there was water enough for us to cross a large bank, and gain the right channel, from which we had deviated, and then, with a flowing tide, we made rapid progress, until the 'Guardia' was announced to us. This was a small hut near the water side, but to reach it we had to wind along a tortuous canal, between banks of soft mud: and when we arrived at the landing-place seven hours had been passed among rushy mud banks, surrounded by which we were often prevented from seeing any solid land. The water was every where salt, the tide running strongly, and the boat often aground.

Waiting to meet us was an assemblage of grotesque figures, which I shall not easily forget—a painter would have been

charmed with them. A dark visaged Quixotic character, partly in uniform, mounted on a large lean horse, and attended by several wild looking, but gaily dressed gauchos,* was nearest to us. Behind him, a little on one side, were a few irregular soldiers, variously armed, and no two dressed alike, but well mounted, and desperate-looking fellows; while on the other side, a group of almost naked Indian prisoners sat devouring the remains of a half roasted horse; and as they scowled at us savagely, still holding the large bones they had been gnawing, with their rough hair and scanty substitutes for clothing blown about by the wind, I thought I had never beheld a more singular group.

The tall man in uniform was the Commandant of the settlement, or fortress, called Argentina: he and his soldiers had arrived to welcome us, supposing that we were bringing supplies from Buenos Ayres for the needy colony. The Indian prisoners had been brought to work, and assist in carrying the supplies which were expected. Finding that we were neither Buenos Ayreans, nor traders from any other place, it was supposed that we must be spies sent to reconnoitre the place previous to a hostile attack. Neither the explanations nor assertions of Mr. Harris had any weight, for as he was our countryman, they naturally concluded he was in league with us; yet, as the commandant had some idea that we might, by possibility, be what we maintained we were, he disregarded the whispers and suggestions of his people, and offered to carry us to the settlement for a night's lodging.

Leaving the boat's crew to bivouac, as usual, I accepted a horse offered to me, and took the purser up behind; Mr. Darwin and Harris being also mounted behind two gaucho soldiers, away we went across a flat plain to the settlement. Mr. Darwin was carried off before the rest of the party, to be cross-questioned by an old major, who seemed to be considered the wisest man of the detachment, and he, poor old soul,

* Countrymen, employed in keeping and killing cattle, breeding and training horses, hunting, war, &c.

thought we were very suspicious characters, especially Mr. Darwin, whose objects seemed most mysterious.

In consequence, we were watched, though otherwise most hospitably treated; and when I proposed to return, next morning, to the boat, trifling excuses were made about the want of horses and fear of Indians arriving, by which I saw that the commandant wished to detain us, but was unwilling to do so forcibly; telling him, therefore, I should walk back, and setting out to do so, I elicited an order for horses, maugre the fears and advice of his major, who gave him all sorts of warnings about us. However, he sent an escort with us, and a troop of gaucho soldiers were that very morning posted upon the rising grounds nearest to the Beagle, to keep a watch on our movements.

We afterwards heard, that the old major's suspicions had been very much increased by Harris's explanation of Mr. Darwin's occupation. 'Un naturalista' was a term unheard of by any person in the settlement, and being unluckily explained by Harris as meaning 'a man that knows every thing,' any further attempt to quiet anxiety was useless.

As this small settlement has seldom been visited by strangers, I will describe its primitive state. In the midst of a level country, watered by several brooks, and much of it thickly covered with a kind of trefoil, stands a mud-walled erection, dignified with the sounding appellation of 'La fortaleza protectora Argentina.' It is a polygon, 282 yards in diameter, having about twenty-four sides, and surrounded by a narrow ditch. In some places the walls are almost twenty feet high, but in others I was reminded of the brothers' quarrel at the building of ancient Rome, for there is a mere ditch, over which a man could jump. It is, however, said by the gauchos, that a ditch six feet wide will stop a mounted Indian, and that their houses require no further defence from attacks of the aborigines. How, or why it is that such excellent horsemen do not teach their horses to leap, I cannot understand.

Within, and outside the fort, were huts (ranchos) and a few

small houses:—more were not required for the inhabitants, who, including the garrison, only amounted to four hundred souls. Some half-dozen brass guns were in a serviceable condition; and two or three other pieces occupied old carriages, but did not seem to be trustworthy.

The fort was commenced in April 1828, by a French engineer, named Parchappe. The first commandant was Estomba: his successor, Morel, was killed, with ninety followers, by a party of Indians under Chenil, in 1829. Valle and Rojas succeeded, and the latter was followed by Rodriguez. Placed in the first instance as an advanced post, at which to watch and check the Indians, rather than as a colony likely to increase rapidly, Argentina has scarcely made any progress since its establishment, though it is the beginning of what may hereafter be a considerable place. Situated favourably for communicating with Concepcion—by way of the pass through the Cordillera, near Tucapel—it is also the only port, between 25° S. and Cape Horn, capable of receiving in security any number of the largest ships.

There is pasture for cattle near the streams which descend from the 'Sierra Ventana:' large salinas (spaces covered with salt) lie within an easy distance of the settlement: of brushwood for fuel there is plenty, though there are no large trees: and report says that there are valuable minerals, including coal and iron,* in the Ventana† mountain.

The most serious objection to the locality, as an agricultural, or even as a mere grazing district, is the want of rain. Two or three years sometimes pass without more than a slight shower; and during summer the heat is great. In winter, there are sharp frosts, sometimes snow; but neither ice nor snow ever lasts through the day.

Good fresh water may be generally obtained, independent of the few running streams, by digging wells between four and

* I believe there is no good foundation for this report. Mr. Darwin's opinion is against the supposition.

† The name 'Ventana' was given because of an opening, at the south side, resembling a window.

ten feet deep: and in this way we found no difficulty in obtaining an ample supply.

Three months before our visit to Argentina, a number of Indians had been surprised and taken prisoners by Rodriguez; and among them was the famous old cacique, Toriano, whose mere name was a terror to the frontier settlers. The commandant attacked their 'tolderia' (encampment) just before sunrise—when the young men were absent on an expedition—and made prisoners of the old men, women, and children. Toriano was shot in cold blood; with another cacique, and several Indians of inferior note: and his head was afterwards cut off, and preserved for some time at the fort, in order to convince his adherents of his death. Toriano was a noble Araucanian, upwards of seventy years old when surprised asleep and taken prisoner by his merciless enemies. So high was his acknowledged character as a warrior, that his followers supposed him invincible; and until convinced by the melancholy spectacle seen by their spies, they would not believe him gone.

Perhaps it is not generally known, that many of the most desperate incursions upon the Buenos Ayrean colonists have been made by flying troops, or hordes of Indians, whose headquarters are in the Cordillera of the Andes, or even on the west coast, between Concepcion and Valdivia. Mounted upon excellent horses, and acquainted with every mile of the country, they think lightly of a predatory or hostile excursion against a place many hundred miles distant.

We returned to the Beagle without another delay among the mud-banks, and found the rising grounds (heights they could not be called), nearest the ship, occupied by the troop of gaucho soldiers. As they did not interfere with us, our surveying operations were begun, and carried on as usual. Mr. Darwin, and those who could be spared from duties afloat, roamed about the country; and a brisk trade was opened with the soldiers for ostriches and their eggs, for deer, cavies, and armadilloes.

My friend's attention was soon attracted to some low cliffs near Point Alta, where he found some of those huge fossil

bones, described in his work; and notwithstanding our smiles at the cargoes of apparent rubbish which he frequently brought on board, he and his servant used their pick-axes in earnest, and brought away what have since proved to be most interesting and valuable remains of extinct animals.

The soldiers appointed to watch our movements soon relaxed so far as to spend nearly all their time in hunting animals for us. Besides those already mentioned, they one day brought a fine living puma, in hopes I should offer a good price, and embark it alive; but having no wish for so troublesome a companion in our crowded little vessel, I only bargained for its skin. The soldiers made a hearty meal of the flesh, and asserted that it was good, though inferior to that of a horse, which I had seen them eating a day or two previously.

Four kinds of armadilloes were described to us by these men, of which we saw but two: the quiriquincha, with nine bands; the mataca-bola, which rolls up into a ball; the peludo, which is large and hairy; and the molito, of which I heard only the name. Mr. Rowlett saw a black fox, and he was told that there are wolves in the neighbourhood. Two small burrowing animals are also found: the zorillo, or skunk; and the tucu-tucu. While speaking of animals, I should say that the commandant (Rodriguez) told me, that he had once seen, in Paraguay, a 'gran bestia,' not many months old, but which then stood about four feet high. It was very fierce, and secured by a chain. Its shape resembled that of a hog, but it had talons on its feet instead of hoofs; the snout was like a hog's, but much longer. When half-grown, he was told that it would be capable of seizing and carrying away a horse or a bullock. I concluded that he must have seen a tapir or anta; yet as he persisted in asserting that the animal he saw was a beast of prey,* and that it was extremely rare,* I here repeat what he said. (See extract from Falkner.—Appendix—No. 11.)

Abundance—I may well say shoals of fish were caught by our men, whenever we hauled the nets at a proper time (the beginning of the flood-tide); and as they were chiefly un-

* Neither of which remarks apply to the Anta.

known to naturalists, Mr. Earle made careful drawings of them, and Mr. Darwin preserved many in spirits. We procured plenty of good fresh water from wells near the beach, and small wood for fuel in their immediate neighbourhood. The climate is delightful, and healthy to the utmost degree, notwithstanding such extensive flats, half-covered with water, and so many large mud-banks. Perhaps the tides, which rise from eight to twelve feet, and run two or three knots an hour, tend to purify the air; indeed, as the whole inlet is of salt water, there may be no cause for such effects as would be expected in similar situations near fresh water.

In our rambles over the country, near Port Belgrano, we every where found small pieces of pumice-stone; and till Mr. Darwin examined the Ventana, supposed they had been thrown thence: he has, however, ascertained that it is not volcanic; and, I believe, concludes that these fragments came from the Cordillera of the Andes.—(See Vol. III. by Mr. Darwin.)

Falkner, in whose accounts of what he himself saw I have full faith, has a curious passage illustrative of this supposition; and it is not impossible—nor even, I think, improbable—that some of the pumice we saw fell at the time mentioned in the following extract:—" Being in the Vuūlcan, below Cape St. Anthony, I was witness to a vast cloud of ashes being carried by the winds, and darkening the whole sky. It spread over great part of the jurisdiction of Buenos Ayres, passed the river of Plata, and scattered its contents on both sides of the river, insomuch that the grass was covered with ashes. This was caused by the eruption of a volcano near Mendoza, the winds carrying the light ashes to the incredible distance of three hundred leagues or more."—Falkner, p. 51.

As an indisputable, and very recent instance of the distance to which volcanic substances are sometimes carried, I might mention the fact of H.M.S. Conway having passed through quantities of pumice-stone and ashes, in latitude 7° north, and longitude 105° west, being more than seven hundred miles from the nearest land, and eleven hundred from the volcano near Realejo, whence it is supposed that they proceeded; but as it is

possible that those substances might have been thrown out of a volcano in the Galapagos Islands, and drifted on the surface of the sea by currents, which near there run from twenty to eighty miles in twenty-four hours, towards the north-west, one cannot, with certainty, rely upon that fact as evidence of a distance to which pumice has been carried by wind.

Captain Eden informed me, that the Conway was surrounded by ashes and pumice-stone for a day and a half (on the 5th and 6th of May 1835), and that they were supposed to have been ejected from a volcano near Realejo, at the time of the great earthquake; and an eruption which darkened the air during three days.

The aborigines of these regions attach considerable importance to the Ventana,* chiefly on account of its use as a landmark; for, rising abruptly to the height of 3,340 feet in a flat country, where there is not another hill of consequence, it is of no small use to them in their wanderings. I was told by Mr. Darwin, that he found it to be chiefly of quartz formation; but I need not risk causing a mistake, by repeating here the information which he gave me, when it is given fully in his own words in the accompanying volume.

After a few days' examination of Port Belgrano, and making inquiries of Harris, as well as those persons at Argentina who knew something of the neighbouring waters and shores, I was convinced that the Beagle alone could not explore them, so far as to make her survey of any real use, unless she were to sacrifice a great deal more time than would be admissible, considering the other objects of her expedition. What then was to be done? Open boats could not explore the seaward limits of those numerous shoals which lie between Blanco Bay and the river Negro, because there are dangerous 'races,'† and often heavy seas. The Beagle herself, no doubt, could do so, and her boats might explore the inlets; but, the time that such a proceeding would occupy was

* The Puel Indians called the Ventana Casu-hati (high hill); and the Molu-che, Vuta-calel (great bulk.)—Falkner, p. 74.

† Tide-races, or ripples.

alarming to contemplate. I might run along the outer line of danger in the Beagle, and connect it with the soundings in the offing; but how could an English ship surveying a frequented coast overlook six large ports,* only because their examination required time, and was dangerous? At last, after much anxious deliberation, I decided to hire two small schooners —or rather decked boats, schooner-rigged—from Mr. Harris, and employ them in assisting the Beagle and her boats. Mr. Harris was to be in the larger, as pilot to Lieutenant Wickham—and his friend Mr. Roberts, also settled at Del Carmen, on the river Negro, was to be Mr. Stokes's pilot in the smaller vessel. These small craft, of fifteen and nine tons respectively, guided by their owners, who had for years frequented this complication of banks, harbours, and tides, seemed to me capable of fulfilling the desired object—under command of such steady and able heads as the officers mentioned—with this great advantage; that, while the Beagle might be procuring supplies at Monte Video, going with the Fuegians on her first trip to the southward, and visiting the Falkland islands, the survey of all those intricacies between Blanco Bay and San Blas might be carried on steadily during the finest time of year. One serious difficulty, that of my not being authorized to hire or purchase assistance on account of the Government, I did not then dwell upon, for I was anxious and eager, and, it has proved, too sanguine. I made an agreement with Mr. Harris,† on my own individual responsibility, for such payment as seemed to be fair compensation for his stipulated services, and I did hope that if the results of these arrangements should turn out well, I should stand excused for having presumed to act so freely, and should be reimbursed for the sum laid out, which I could so ill spare. However, I foresaw and was willing to run the risk, and now console myself for this, and other subsequent mortifications, by the reflection that the service entrusted to me did not suffer.

* Blanco Bay and Port Belgrano, False Bay, Green Bay, Brightman Inlet, Union Bay, and San Blas Bay.

† See Appendix.

The formal agreement with Mr. Harris being duly signed, I despatched him forthwith to the river Negro, in search of his vessels, and sent the purser with him to ascertain the state of things at Del Carmen, especially with a view to future supplies.

They went in a small coasting vessel, belonging to another Englishman (H. Elsegood), settled at Del Carmen; for the schooner, from which Mr. Harris came to us near to Mount Hermoso, did not delay, but continued her course towards the river Negro.

Our boats were constantly employed while these arrangements were pending, and directly they were finished, the Beagle got under sail to examine the entrance and outer parts of the port. For several days she was thus engaged, anchoring always at night. In a week the schooners arrived, bringing our purser and their owners. The Paz, of about fifteen tons burthen, was as ugly and ill-built a craft as I ever saw, covered with dirt, and soaked with rancid oil. The Liebre, of about nine tons burthen, was a frigate's barge,* raised and decked—oily like the other; but as both had done their owners good service in procuring seal and sea-elephant oil, I saw no reason to doubt our being able to make them answer our purpose. Yet the prospect for those who had so handsomely volunteered to go in any thing, with or without a deck, could not be otherwise than extremely unpleasant; for they did not then foresee how soon a thorough cleansing and complete outfit would be given to both vessels, and how different they would afterwards appear.

Lieutenant Wickham, with the sailmaker, armourer, cooper, and a small party, were immediately established under tents, on the banks of a small creek (Arroyo Pareja). The little schooners were hauled ashore for examination and a thorough refit; and then, having left them the stores and other necessaries which they would require, I went with the Beagle towards Blanco Bay; completed the examination of a narrow though deep channel, by which any ship may

* She had been the barge of the Brazilian frigate Piranga.

enter Port Belgrano, passed round the great north bank, and again anchored under Mount Hermoso. While some officers and men were on shore there, building a sea-mark on the mount, and otherwise employed for the survey, a gale of wind came on from S.E., which soon sent so heavy a sea into the road-stead near the mount, that the Beagle was obliged to strike topmasts and veer a long scope of cable upon two anchors, besides having another under foot. Unluckily, our party on shore had only one day's provisions, so while the gale lasted their situation was sufficiently disagreeable; the keen air and hard exercise sharpening their appetites, while they had nothing to eat after the first day; and having no guns, they had no prospect of procuring anything. Mr. Darwin was also on shore, having been searching for fossils, and he found this trial of hunger quite long enough to satisfy even his love of adventure. Directly it was possible to put a boat on the water, one was sent, with provisions secured in a cask which was thrown overboard at the back of the surf, and soon drifted ashore to the famishing party. This gale lasted several days, and proved to us not only how heavy a sea is thrown into this bight (rincon, Sp.), by a south-east gale; but also, that the holding-ground is sufficiently good to enable a ship to withstand its effects.

One of our party on shore (who is not likely to forget building a mark on Mount Hermoso) discovered many curious fossils in some low cliffs under the mount; and judging from what Mr. Darwin then found, future collectors may reap a rich harvest there, as well as at Point Alta.

We next returned to the Wells, and while some assisted the outfit of Lieutenant Wickham's little vessels, others explored the upper parts of the port, quite to its end, and Mr. Darwin took advantage of the opportunity to make some of those interesting excursions which he describes in his volume. At this time there were no soldiers to watch us, neither was there any longer a suspicion of our character; for it appeared that an express had been sent off to Buenos Ayres, at our first arrival, giving an exaggerated and rather ludicrous account of

our officers, instruments and guns—to which an answer had been immediately returned, desiring the commandant to afford us every facility in his power, and checking the old major rather sharply for his officious and unnecessary caution. Had we not been hastily treated in the roads of Buenos Ayres, when I went there to communicate with the Government, and obtain information, I should doubtless have carried with me orders, or a letter, to this commandant, which would have prevented a moment's suspicion: but, as it happened, no real delay was occasioned, and no person was much disturbed except the major, who fancied that our brass guns were disguised field-pieces, our instruments lately invented engines of extraordinary power, our numerous boats intended expressly for disembarking troops; and an assertion of mine, that any number of line-of-battle ships might enter the port, a sure indication that the Beagle was sent to find a passage for large ships: which would soon appear, and take possession of the country. Such was the substance of his communication to the Government at Buenos Ayres, and as he acted as secretary—(Rodriguez being a man of action rather than words)—he had free scope for his disturbed imagination. I shall not easily forget his countenance, when I first told him—thinking he would be glad to hear it—that there was a deep channel leading from Blanco Bay to the Guardia near Argentina, and that a line-of-battle ship could approach within gunshot of the place where I first met the commandant. He certainly thought himself almost taken prisoner; and I really believe that if he had been commanding officer, we should have been sent in chains to Buenos Ayres, or perhaps still worse treated. Fortunately, Rodriguez the commandant, being a brave man, and a gentleman, contemplated no such measures.

CHAPTER VI.

Beagle sails with Paz and Liebre—Part company—Beagle visits Buenos Ayres—Nautical remarks on the Plata—Sail from Monte Video for San Blas—Lieut. Wickham and tenders—Butterflies—Sail for Tierra del Fuego—White-water—Icebergs—Rocks—Cape San Sebastian—Oens-men—Cape San Diego—Good Success Bay—Natives—Guanacoes—Cape Horn—St. Martin Cove—Gales—Heavy Seas—Nassau Bay—Goree Road—Prepare to land Matthews and the Fuegians.

18th October. No person who had only seen the Paz and Liebre in their former wretched condition, would easily have recognised them after being refitted, and having indeed almost a new equipment. Spars altered, and improved rigging, well-cut sails, fresh paint,* and thorough cleanliness, had transformed the dirty sealing craft into smart little cock-boats: and as they sailed out of Port Belgrano with the Beagle, their appearance and behaviour were by no means discouraging.

At dusk, Lieutenant Wickham and his small party of venturous associates separated from us, and steered into False Bay.† The Beagle anchored for the night, and next day pursued her route towards Monte Video, where she arrived on the 26th.

Desirous of communicating with the Government at Buenos Ayres, and measuring the difference of meridians between that city and Monte Video, we weighed anchor on the 31st, proceeded up the river, and remained in the outer roadstead, off Buenos Ayres, until the 10th of November. We then employed three days in verifying the positions of some banks,‡ as laid down in Heywood's and other charts, and returned to Monte Video on the 14th.

* Or rather red-ochre, coal-tar, and white-wash.

† See orders to Lieut. Wickham, in the Appendix.

‡ Ortiz, Chico, and Ensenada.

It is not prudent for any vessel drawing more than ten feet water to remain under sail in this part of the river, while it is dark, unless a good pilot is on board; and even the best practical experience is not always a sure guide, so uncertain and fluctuating are the currents and depths of water. There are a few simple precautions, useful in such circumstances, of which I may be excused for reminding young sailors. A ground-log ought to be hove frequently, and compared with a common log; there should be a leadsman in each chains, one, at least, of whom should sound constantly: the deep-sea lead* ought to be used now and then, even in shallow water, as a check upon the hand-lead: from the vessel's draught of water to two fathoms more than that depth, the hand-line should be marked to feet, by alternate marks of dark-coloured hair and small line: strong lanterns should be suspended under the chain-wales, near the water, but close to the ship's side; while a careful person ought to superintend the leadsman, and occasionally take a line into his own hand, so that by 'plumbing' the bottom himself he may ascertain how far reliance is to be placed upon the leadsman's opinion.

In the Plata, as well as in many other pilot-waters, to feel the ground thus is often more useful than knowing the precise depth of water, or even the colour, or nature, of the bottom.

27th Nov. Our arrangements and observations being satisfactorily completed, a sufficient quantity of provision on board to last eight months, at full allowance, and an extra supply of iron and coals for the forge, in case of any serious accident, the Beagle sailed from Monte Video; and, after filling water near Cape Jesu Maria,† hastened to look after her little assistants, left near Bahia Blanco.

In this trip we benefitted by the assistance of Mr. Robert N. Hamond, an early and much esteemed friend of mine, who was lent to the Beagle from H.M.S. Druid, of which he was then a mate.

* Massey's is preferable.

† Above Monte Video, on the north shore.

December 3d. Soon after daylight we saw the very low islands, just to the northward of San Blas. I wished to have made Point Rubia, but was set twenty miles northward, during the night, by the flood tide. We stood directly towards the shore, but when eight miles from it found a wide breadth of discoloured water, and the depth shoaled suddenly from ten to three fathoms in a few casts of the lead. Hauling off, we steered southward, with the ebb tide. There was no ripple on the banks, but the water was quite yellow, and at the time we altered our course, in consequence of such shallow water, the nearest land was, at least, eight miles distant.

While tracing the outer edge of this bank we descried our cock-boats coming out to meet us, and soon afterwards Mr. Wickham came on board. He gave us gratifying news with little drawback; but had he been half-roasted his own appearance could hardly have been more changed. Notwithstanding the protection of a huge beard, every part of his face was so scorched and blistered by the sun that he could hardly speak, much less join in the irresistible laugh at his own expense. His companions were similarly sun-burned, though not to such a degree. They had been much occupied in sounding extensive banks and harbours, under a hot sun, and while a fresh wind kept them constantly wet with spray. But this inconvenience was trifling; one of more importance was excessive sea-sickness, in consequence of the short and violent movements of such small craft under sail among the tide-races and eddies so numerous on that coast.

In other respects all had prospered so well, that I determined to give Mr. Wickham fresh orders,* enlarging considerably his share of surveying operations. He was desired to continue exploring the coast, even as far as Port Desire, until the Beagle's return from her visit to Tierra del Fuego and the Falkland Islands.

As the weather promised well, an anchor was dropped where we were, outside the banks, but the schooners sought shelter in the harbour of San Blas. Next day they came out and anchored

* See Appendix.

close to us, in order to receive stores and various supplies which we had brought for them from Buenos Ayres and Monte Video. I was a little uneasy when I saw that the pilot of the Liebre, Mr. Roberts, was one of the largest of men, and that his little vessel looked, by comparison, no bigger than a coffin; but Mr. Wickham allayed my doubts by assuring me that his moveable weight answered admirably in trimming the craft; and that, when she got a-ground, Mr. Roberts stepped overboard, and heaved her afloat. "Certainly," said Mr. Wickham, "he did harm on one day, by going up to look-out, and breaking the mast."

In the afternoon of this day (4th) we weighed anchor and parted company from the Paz and Liebre. They returned to San Blas, and the Beagle steered southward. Secure and capacious as is the port just mentioned, it is one of the most difficult and dangerous to enter on this coast. The best, indeed only approach to it, is called by those sealers and sea-elephant fishers who have hitherto frequented it,—'Hell-gate.'

At about four the weather was very hot, the sky cloudless, and varying flaws of wind drove quantities of gossamer, and numbers of insects off from the land. The horizon was strangely distorted by refraction, and I anticipated some violent change. Suddenly myriads of white butterflies surrounded the ship, in such multitudes, that the men exclaimed, "it is snowing butterflies." They were driven before a gust from the north-west, which soon increased to a double-reefed topsail breeze, and were as numerous as flakes of snow in the thickest shower. The space they occupied could not have been less than two hundred yards in height, a mile in width, and several miles in length.

Our next object was to visit Tierra del Fuego, examine some portions of that country—yet unexplored—and restore the Fuegians to their native places; but in our passage, strong southerly winds, severe squalls, and cold weather, though it was near midsummer in that hemisphere, caused delay and discomfort, as they must always in a small and deeply-laden vessel, where little can be done except in fine weather.

We passed through a space of sea,* many miles in extent, where the water was of a very much lighter colour than usual; not of a light-green or muddy hue, such as one sees near land, but of a milky white tint. Being in soundings, one naturally attributed such a change of colour to some peculiarity in the ground; but I have since thought differently, and am now inclined to believe that the light-coloured water came from a distance, in one of those great, though slow-moving currents, which sweep past the Falkland Islands, and thence northwards: but to what cause its unusual whiteness is to be attributed, I know not. The dissolution of a huge iceberg, or of many icebergs, might alter the colour, and certainly would change the temperature of a considerable body of water; but in this case, a thermometer immersed in the sea did not indicate a degree lower than that of the previous or following day. During the three days, our soundings varied only from fifty to sixty fathoms. The lead certainly brought up fine grey sand while the water was light-coloured, and dark sand at other times; but I can hardly think that so decided a change—different from any I noticed elsewhere—could have been caused in fifty fathoms water by so small an alteration in the quality of the bottom.

Icebergs have been seen in latitude 40° S., and near the longitude of 50° W.; perhaps they are sometimes carried nearer the coast, in which case they would ground, and melt away.

I suspect that some of the rocks, so often, yet so fruitlessly, sought for—and instead of which many persons have supposed dead whales, wrecks, or large trees, were seen—may have been icebergs, against and upon which sea-weed, drift-wood, or other substances, may have lodged temporarily, causing a rock-like appearance. In this way, perhaps, arose the report of a rock said to have been seen by Lieutenant Burdwood; of the Aigle and Ariel rocks—and even of those islets sought for ineffectually by Weddell, a few degrees eastward of the Falkland Islands.†

* Lat. 46° S. Long. 63° W.

† On this subject there are a few more remarks, under the head—Currents of the ocean,—in the last chapter but one.

In the first volume some notice was taken of the supposed Ariel Rocks, and I will avail myself of this opportunity to say that at various times the Beagle passed over and near their asserted position; and that she likewise searched for the reported Aigle shoal or rock, without ever finding the slightest indication of either.

On the 15th, we saw the land off Tierra del Fuego, near Cape San Sebastian, and next day closed the shore about Cape Sunday, ran along it past Cape Peñas, and anchored off Santa Inez. A group of Indians was collected near Cape Peñas, who watched our motions attentively. They were too far off for us to make out more than that they were tall men, on foot, nearly naked, and accompanied by several large dogs. To those who had never seen man in his savage state—one of the most painfully interesting sights to his civilized brother—even this distant glimpse of the aborigines was deeply engaging; but York Minster and Jemmy Button asked me to fire at them, saying that they were "Oens-men—very bad men."

Our Fuegian companions seemed to be much elated at the certainty of being so near their own country; and the boy was never tired of telling us how excellent his land was—how glad his friends would be to see him—and how well they would treat us in return for our kindness to him.

We remained but a few hours at anchor under Cape Santa Inez, for so heavy a swell set in, directly towards the shore, caused probably by a northerly gale at a distance, that our situation was dangerous as well as disagreeable. Our only chance of saving the anchor and chain was by weighing immediately; yet if we did so, there would be a risk of drifting ashore: however, we did weigh, and drifted some distance, rolling our nettings in; but a breeze sprung up, freshened rapidly, and soon carried us out of danger. This happened at three in the morning, so my hopes of observations and angles were frustrated, and I had no choice but to run for the strait of Le Maire.

At noon, very high breakers were reported by the mast-head man, off Cape San Diego; at that time the flood-tide was set-

ting strongly against a northerly wind and high swell; but when the tide was slack, at one, the breakers disappeared; and when we passed close to the cape, at two, the water was comparatively smooth.

There is a ledge extending from Cape San Diego, over which the flood-tide, coming from the southward, sometimes breaks with such violence, that a small vessel might be swamped by the 'bore' which it occasions.

As we sailed into Good Success Bay, a Fuegian yell echoed among the woody heights, and shout after shout succeeded from a party of natives, posted on a projecting woody eminence, at the north head of the bay, who were seen waving skins, and beckoning to us with extreme eagerness. Finding that we did not notice them, they lighted a fire, which instantly sent up a volume of thick white smoke. I have often been astonished at the rapidity with which the Fuegians produce this effect (meant by them as a signal) in their wet climate, where I have been, at times, more than two hours attempting to kindle a fire.

Scarcely was our ship secured, when the wind shifted to south-west, and blew strongly, bringing much rain with it; and we had indeed reason to rejoice at having attained so secure an anchorage. During the night, heavy squalls (williwaws) disturbed our rest very often, but did no injury, the water being quite smooth.

18th. Mr. Darwin, Mr. Hamond and others, went with me to the natives who had so vociferously greeted our arrival; and deeply indeed was I interested by witnessing the effect caused in their minds by this first meeting with man in such a totally savage state.

There were five or six stout men, half-clothed in guanaco-skins, almost like the Patagonians in aspect and stature, being near six feet high, and confident in demeanour. They scarcely bore resemblance to the Fuegians, except in colour and class of features. I can never forget Mr. Hamond's earnest expression, "What a pity such fine fellows should be left in such a barbarous state!" It told me that a desire to benefit these igno-

rant, though by no means contemptible human beings, was a natural emotion, and not the effect of individual caprice or erroneous enthusiasm; and that his feelings were exactly in unison with those I had experienced on former occasions, which had led to my undertaking the heavy charge of those Fuegians whom I brought to England.

Disagreeable, indeed painful, as is even the mental contemplation of a savage, and unwilling as we may be to consider ourselves even remotely descended from human beings in such a state, the reflection that Cæsar found the Britons painted and clothed in skins, like these Fuegians, cannot fail to augment an interest excited by their childish ignorance of matters familiar to civilized man, and by their healthy, independent state of existence. One of these men was just six feet high, and stout in proportion; the others were rather shorter: their legs were straight and well formed, not cramped and misshapen, like those of the natives who go about in canoes; and their bodies were rounded and smooth. They expressed satisfaction or good-will by rubbing or patting their own, and then our bodies; and were highly pleased by the antics of a man belonging to the boat's crew, who danced well and was a good mimic. One of the Fuegians was so like York Minster, that he might well have passed for his brother. He asked eagerly for "cuchillo." About his eyes were circles of white paint, and his upper lip was daubed with red ochre and oil. Another man was rubbed over with black. They were (apparently) very good-humoured, talked and played with the younger ones of our party, danced, stood up back to back with our tallest men to compare heights, and began to try their strength in wrestling—but this I stopped. It was amusing and interesting to see their meeting with York and Jemmy, who would not acknowledge them as countrymen, but laughed at and mocked them. It was evident that both of our Fuegians understood much of the language in which the others talked; but they would not try to interpret, alleging that they did not know enough. York betrayed this by bursting into an immoderate fit of laughter at something the oldest man told him, which

he could not resist telling us was, that the old man said he was dirty, and ought to pull out his beard. Now, if their language differed much from that of York Minster, or was indeed other than a dialect of the same original, it is not probable that York could have understood the old man's meaning so readily when he spoke quietly, without signs.

Richard Matthews was with us, but did not appear to be at all discouraged by a close inspection of these natives. He remarked to me, that "they were no worse than he had supposed them to be."

20th. Soon after day-light this morning, some very large guanacoes were seen near the top of Banks Hill.* They walked slowly and heavily, and their tails hung down to their hocks. To me their size seemed double that of the guanacoes about Port Desire. Mr. Darwin and a party set off to ascend the heights, anxious to get a shot at the guanacoes and obtain an extended view, besides making observations. They reached the summit, and saw several large animals, whose long woolly coats and tails added to their real bulk, and gave them an appearance quite distinct from that of the Patagonian animal; but they could not succeed in shooting one.

21st. Sailed from Good Success Bay. On the 22d we saw Cape Horn, and being favoured with northerly winds, passed close to the southward of it before three o'clock. The wind then shifted to north-west, and began to blow strong. Squalls came over the heights of Hermite Island, and a very violent one, with thick weather, decided my standing out to sea for the night under close-reefed topsails. The weather continued bad and very cold during that night and next day.

On the morning of the 24th, being off Cape Spencer, with threatening weather, a high sea, the barometer low, and great heavy-looking white clouds rising in the south-west, indicative of a gale from that quarter, I determined to seek for an anchorage, and stood into (the so-called†) St. Francis Bay. In

* So named in remembrance of Sir Joseph Banks's excursion.

† In the first volume doubts are expressed (in a note to page 199) respecting the place named by D'Arquistade, St. Francis Bay; or rather, I said,

passing Cape Spencer we were assailed by such a furious hail-squall, that for many minutes it was quite impossible to look to windward, or even to see what was a-head of us. We could not venture to wear round, or even heave to, for fear of getting so far to leeward as to lose our chance of obtaining an anchorage; however, we stood on at hazard, and the squall passed away soon enough to admit of our anchoring in seventeen-fathoms water, quite close to a steep promontory at the south side of St. Martin Cove.

After being for some time accustomed to the low barren shores and shallow harbours of the Pampa and Patagonian coasts, our position almost under this black precipice was singularly striking. The decided contrast of abrupt, high, and woody mountains, rising from deep water, had been much remarked in Good Success Bay; but here it was so great that I could hardly persuade myself that the ship was in security —sufficiently far from the cliff.*

25th. Notwithstanding violent squalls, and cold damp weather, we kept our Christmas merrily; certainly, not the less so, in consequence of feeling that we were in a secure position, instead of being exposed to the effects of a high sea and heavy gale.

I said, that "I do not think the bay adjacent to Cape Horn is that which was named by D'Arquistade, 'St. Francis,' and, if my supposition is correct, Port Maxwell is not the place which was called 'St. Bernard's Cove.'"

If the modern chart be compared with that issued by the Admiralty a few years ago, published by Faden in 1818, it will be seen that the particular plan of St. Francis Bay, given in Faden's chart, agrees much better with the west side of Nassau Bay than with any other place; and that the "remarkable island, like a castle," noticed in the plan, is evidently "Packsaddle Island," of the modern chart. The rough sketch of land towards the north and east, as far as Cape Horn, on that plan, I take to be the random outline of land seen at a distance by the person who drew the plan, and the name "Cape Horn," affixed to the southernmost land then in sight; which must have been Cape Spencer. But it is now too late to remedy the mistake, which is indeed of no consequence.

* As the shores of Tierra del Fuego are so much spoken of in other places, I say no more of them here.

At sun-set, there was a reddish appearance all over the sky —clouds shot over the summits of the mountains in ragged detached masses—and there was a lurid haze around, which showed a coming storm as surely as a fall of the barometer. The gale increased, and at midnight such furious squalls came down from the heights, that the water was swept up, and clouds of foam were driven along the sea. Although we were close to a weather shore, with our top-gallant masts down and yards braced sharp up, we hardly thought ourselves in security with three anchors down and plenty of chain cable out.*

Dec. 31. Tired and impatient at the delay caused by bad weather, we put to sea again the first day there was a hope of not being driven eastward; and during a fortnight we tried hard to work our way towards Christmas Sound. My purpose was to land York Minster and Fuegia Basket among their own people, near March Harbour, and return eastward through the Beagle Channel, landing Jemmy Button also with his tribe, the Tekeenica. Part of Whale-boat Sound and the western arms of the Beagle Channel were to be surveyed: and by this scheme I proposed to combine both objects.

Jan. 2d. We were rather too near the Diego Ramirez Islands, during a fresh gale of wind, with much sea; but by carrying a heavy press of sail, our good little ship weathered them cleverly, going from seven and a half to eight knots an hour, under close-reefed topsails and double-reefed courses—the top-gallant-masts being on deck.

On the 5th, the same islands were again under our lee—a sufficient evidence that we did not make westing. In fact, no sooner did we get a few reefs out, than we began taking them

* During such sudden, and at times tremendous squalls as these, it is absolutely necessary to have a long scope of cable out, although the vessel may be in smooth water, in order that the first fury of the blast may be over before the cable is strained tight; for otherwise, the chain or anchor might snap. When the violence of the squall is past, the weight of a chain cable sinking down, draws the ship a-head, so far as to admit of her recoiling again at the next williwaw; thus, a kind of elasticity may be given to a chain, in some degree equivalent to that always possessed by a hemp cable.

in again; and although every change of wind was turned to account, as far as possible, but little ground was gained.

On the 11th we saw that wild-looking height, called York Minster, 'looming' among driving clouds, and I flattered myself we should reach an anchorage; but after tearing through heavy seas, under all the sail we could carry, darkness and a succession of violent squalls, accompanied by hail and rain, obliged me to stand to seaward, after being within a mile of our port. All the next day we were lying-to in a heavy gale —wearing occasionally.

At three in the morning of the 13th, the vessel lurched so deeply, and the main-mast bent and quivered so much, that I reluctantly took in the main-topsail (small as it was when close-reefed), leaving set only the storm-trysails (close-reefed) and fore-staysail.* At ten, there was so continued and heavy a rush of wind, that even the diminutive trysails oppressed the vessel too much, and they were still farther reduced. Soon after one, the sea had risen to a great height, and I was anxiously watching the successive waves, when three huge rollers approached, whose size and steepness at once told me that our sea-boat, good as she was, would be sorely tried. Having steerage way, the vessel met and rose over the first unharmed, but, of course, her way was checked; the second deadened her way completely, throwing her off the wind; and the third great sea, taking her right a-beam, turned her so far over, that all the lee bulwark, from the cat-head to the stern davit, was two or three feet under water.

For a moment, our position was critical; but, like a cask, she rolled back again, though with some feet of water over the whole deck. Had another sea then struck her, the little ship might have been numbered among the many of her class which have disappeared: but the crisis was past—she shook the sea off her through the ports, and was none the worse—excepting

* I have always succeeded in carrying a close-reefed main-topsail (five reefs) in the Beagle, excepting on this and two other occasions; but were I again under similar circumstances, I think I should try to carry it—even then—for some time longer.

the loss of a lee-quarter boat, which, although carried three feet higher than in the former voyage (1826-1830), was dipped under water, and torn away.*

From that time the wind abated, and the sea became less high.† The main-topsail was again set, though with difficulty, and at four o'clock the fore-topsail and double-reefed foresail were helping us towards False Cape Horn, my intention being to anchor in Nassau Bay. When the quarter-boat was torn away, we were between the Ildefonsos and Diego Ramirez: the wind varying from W.S.W. to S.W.

This gale was severely felt on all parts of the coast, south of 48°, as I afterwards ascertained from sealing-vessels: and at the Falkland Islands, a French whaler, called Le Magellan, was driven from her anchors and totally wrecked in that land-locked and excellent port, Berkeley Sound.

Some persons are disposed to form a very premature opinion of the wind or weather to be met with in particular regions, judging only from what they may themselves have experienced. Happily, extreme cases are not often met with; but one cannot help regretting the haste with which some men (who have sailed round Cape Horn with royals set) incline to cavil at and doubt the description of Anson and other navigators, who were not only far less fortunate as to weather, but had to deal with crazy ships, inefficient crews, and unknown shores; besides hunger, thirst, and disease.

Before midnight we anchored under shelter of the land

* It was well that all our hatchways were thoroughly secured, and that nothing heavy could break a-drift. But little water found its way to the lower deck, though Mr. Darwin's collections, in the poop and forecastle cabins on deck, were much injured. Next to keeping a sharp look-out upon the sky, the water, and the barometer, we were always anxious to batten down our hatches in time—especially at night, during a gale, or in very squally weather.

† The roller which hove us almost on our beam ends, was the highest and most hollow that I have seen, excepting one in the Bay of Biscay, and one in the Southern Atlantic; yet so easy was our little vessel that nothing was injured besides the boat, the netting (washed away), and one chronometer.

near False Cape Horn; and next morning (14th) crossed Nassau Bay in search of a convenient harbour near the Beagle Channel. Having found so much difficulty in getting to the westward by the open sea, I decided to employ boats in the interior passages, and leave the Beagle at a secure anchorage.

Furious squalls prevented our effecting this purpose; and we anchored for the night in Windhond Bay.* The following day (15th) we again tried to get to the head or north-west corner of Nassau Bay, but ineffectually, for repeated squalls opposed us, and at last obliged me to bear up for Goree Road; one of the most spacious, accessible, and safe anchorages in these regions. Here, to my surprise, York Minster told me that he would rather live with Jemmy Button in the Tekeenica country than go to his own people. This was a complete change in his ideas, and I was very glad of it; because it might be far better that the three, York, Jemmy, and Fuegia, should settle together. I little thought how deep a scheme master York had in contemplation.

18th. Having moored the Beagle in security, and made arrangements for the occupation of those who were to remain on board, I set out with four boats (yawl and three whaleboats), carrying Matthews and the Fuegians, with all the stock of useful things which had been given to them in England.† A temporary deck having been put upon the yawl, she carried a large cargo, and was towed by the other boats when the wind was adverse. Matthews showed no sign of hesitation or reluctance; on the contrary, he was eager to begin the trial to which he had been so long looking forward. Messrs. Darwin, Bynoe, Hamond, Stewart, and Johnson, with twenty-four seamen and marines, completed the party.

My intention was to go round the north-east part of Navarin Island, along the eastern arm of the Beagle Channel, through Murray Narrow, to the spot which Jemmy called his country:

* So named by the Dutch in 1624, after one of their ships, the Windhond.

† By far the larger part of their property, including Matthews's outfit, was sent by Mr. Coates, Secretary of the Church Missionary Society.

there establish the Fuegians, with Matthews:—leave them for a time, while I continued my route westward to explore the western arms of the channel, and part of Whaleboat Sound: and at my return thence decide whether Matthews should be left among the natives for a longer period, or return with me to the Beagle.

But before I briefly relate this attempt to form a temporary settlement among the Fuegians, it may be advisable to give a general sketch of the aborigines who thinly people the southernmost regions of South America: including not only the various tribes of Fuegians (as far as we know them), but the Patagonians, and those natives of Western Patagonia who are supposed to be a remnant of the tribe called Chonos.

CHAPTER VII.

SOUTHERN ABORIGINES OF SOUTH AMERICA.

Of the tribes which scantily people Patagonia and Tierra del Fuego, far less is yet known than might generally be expected. Although frequently seen by white men, and often holding intercourse with them, probably no person even moderately educated, excepting Falkner, has staid among them long enough to become acquainted with, and describe their peculiarities.

His description of the aboriginal natives who, in his time (1740–80), roamed over the fertile 'Pampas' of Buenos Ayres, or the sterile plains of Patagonia; of the western mountaineers; and of those unconquerable tribes which repulsed the Peruvian Yncas, opposed Spanish conquerors, and are still independent, is so decidedly corroborated by Molina, by many Spanish authors, and by modern testimony, that in attempting to describe the Patagonians, I shall try to unite his account (bearing in mind the time elapsed, and consequent changes) to the information which has been obtained during late years.

Of the Fuegians, a few notices are to be found in narratives of various voyagers; but the imperfect description here given is principally derived from the natives who went to England in the Beagle; and from Mr. Low, who has seen more of them in their own country than any other person.

About the middle of the last century, the aboriginal inhabitants of that portion of South America which lies between the parallels of thirty and forty, formed two principal divisions, more or less separated by the only real barrier existing in that extent of country, the Cordillera of the Andes. Those who lived eastward of the Andes were called 'Puel-che,' signifying

east people; and those on the other side were known by the term 'Molu-che,' which signifies war people, or warriors: and these terms are still in habitual use.

Numerous subdivisions have perplexed all whose attention has been attracted to the aboriginal population of Southern America. Falkner's account is the least confused, in every way the most probable, and agrees the best with what is now found to be the condition of that portion of uncivilized man. For our present purpose, I believe, it will be sufficient to remark, that the Puel-che and Molu-che called the tribes who lived towards the south, 'Tehuel-het'* and 'Huilli-che,' both of which terms signify people of the south. The Huilli-che were again divided into Pichi Huilli-che and Vuta Huilli-che; 'pichi,' meaning little; and 'vuta,' great. Both the Tehuel-het and the Vuta Huilli-che lived to the southward of forty degrees of latitude. A branch or tribe of the Tehuel-het who lived farthest towards the south, on the eastern side, had no horses, and that tribe was called 'Yacana-kunny,'† (foot people). Westward of those people, separated from them by a ridge of mountains, was a tribe called Key-uhue, Key-yus, or Key-es; and northward, the Sehuau-kunny‡.

Falkner, in his account, rather confuses the habits of the Yacana-kunny with those of the Key-uhue, which is not to be wondered at, as he described those tribes solely from the accounts of others. The Key-uhue have neither 'bowls,' or balls (bolas), nor 'ostriches,' (see Falkner, p. 111), in their rugged tempestuous islands: neither do the Yacana-kunny 'live chiefly on fish.' The former live on fish, while the latter kill guanacoes, birds, and seals.

Between the Key-uhue and the Chonos tribe were the Poy-yus, or Pey-es, living on the sea-coast. The Chonos inhabited the Archipelago so called, and part of Chilóe.

These three last-mentioned tribes—Key-uhue, Poy-yus, and Chonos—were called 'Vuta Huilli-che.'

* Called by themselves 'Tehuel-kunny.'

† 'Che,' 'het,' and 'kunny,' signify people, in different dialects.

‡ The Sehuau-kunny are a part of the Tehuel-het.

Rather than occupy time in attempting to give an account of the past state of these ever-varying tribes,—whose numbers have been so much altered, and whose locations may be now changed,—I will endeavour to give some idea of the present condition, distribution, and probable numbers of the people called Patagonians; of the natives of Tierra del Fuego, or Fuegians, and of the western tribe called Chonos. By those who have frequented the Strait of Magalhaens or its vicinity, the latter are often called 'Canoe Indians;' and the Patagonians, 'Horse Indians.'

The Patagonians (Tehuel-het) travel on horseback over the country between the River Negro and the Strait of Magalhaens: from the Atlantic to the Cordillera of the Andes. They have no boats or canoes of any kind; and their disposition, habits, and language are very different from those of the Fuegians (Yacana-kunny, Key-uhue, and Poy-yus). Those who live in the north-eastern part of Tierra del Fuego have neither canoes nor horses. The natives of the southern and western islands, and of the shores of Otway and Skyring waters, also the people who live upon the western islands and coast of Patagonia, have canoes, but no horses.

The Patagonians are now divided into four parties, each of which has a separate though ill-defined territory. Each of these parties has a leader, or cacique; but they speak one language, and are evidently subdivisions of one tribe. When mutually convenient, they all assemble in one place: but if food becomes scarce, or quarrels happen, each party withdraws to its own territory. At such times one body will encroach upon the hunting grounds of another, and a battle is the consequence. About four hundred adults, and a rather large proportion of children, are in each of these parties: the number of women being to that of the men as three to one. Near the Strait of Magalhaens about fourteen hundred Patagonians have been lately seen encamped together for a short time; but usually there is only one horde, of about four hundred grown people, in that neighbourhood.

Less is known of the Yacana-kunny than of any other tribe,

or portion of a tribe. It may consist of about six hundred men and women, besides children.

Beyond a range of high mountains to the southward of the Yacana, is the tribe formerly called Key-uhue, now probably the Tekeenica. These are the smallest, and apparently the most wretched of the Fuegians. They inhabit the shores and neighbourhood of the Beagle Channel. The number of adults in this tribe may be about five hundred. (Note 1.)

To the westward, between the western part of the Beagle Channel and the Strait of Magalhaens, is a tribe now called Alikhoolip (which may be the Poy-yus), whose numbers amount perhaps to four hundred.

About the central parts of Magalhaens Strait is a small and very miserable horde, whose name I do not know. Their usual exclamation is 'Pecheray!' 'Pecheray!' whence Bougainville and others called them the Pecherais. For want of a more correct term I shall here use the same word. The number of adults among them is about two hundred.

Near Otway and Skyring waters is a tribe, or fraction of a tribe, whose name I could not learn; for the present I shall call them 'Huemul'—because they have many skins of a kind of roebuck, which is said to be the animal described by Molina as the 'Huemul' *. Their number may be one hundred, or thereabouts. I am inclined to think that these Huemul Indians are a branch of the Yacana people, whom Falkner describes as living on both sides of the Strait.

On the western coast of Patagonia, between the Strait of Magalhaens and the Chonos Archipelago, there is now but one tribe, in which there are not above four hundred grown people.

Each of the tribes here specified speaks a language differing from that of any other, though, as I believe, not radically different from the aboriginal Chilian. Some words are common to two or more tribes; as may be seen by reference to the fragment of a vocabulary in the Appendix; and differences must increase because neighbouring tribes are seldom at peace.

The numbers above stated are mere estimations. The diffi-

* See Note 2, at the end of this chapter.

culty of obtaining either language or information from the Fuegians can only be well appreciated by those who have had intercourse with them, or with the New Hollanders; whose mimickry of what one says is as perplexing as the same trick is when speaking to the Fuegians.

Allowing that the Tehuel-het or Patagonians amount to	1,600
Yacana	600
Tekeenica	500
Alikhoolip	400
Pecheray	200
Huemul	100, and
Chonos	400
the total will be	3,800,

which I do not think is five hundred in error: and I should say, in round numbers, that there are about four thousand adults south of the latitude of forty degrees, exclusive of Chilóe.

By Patagonia is meant that part of South America which lies between the River Negro and the Strait of Magalhaens.

Eastern Pátagonia is the portion of this district which lies eastward of the Cordillera; and Western Patagonia, the part lying between the summits of the Andes and the Pacific Ocean.

Tierra del Fuego takes in all the islands southward of the Strait of Magalhaens (including Staten Land), as far as the Diego Ramirez islets.

Before entering into a more detailed account of these aborigines, I will try to give a slight general idea of their personal appearance; of their horses and canoes; of their houses and country; in short, an outline sketch of that which is observed at the first glance of a stranger's eye. The minuter details, which will follow, may be tedious to many readers.

Magalhaens first gave the name of Patagones to the natives whom he saw at Port San Julian in 1520. They were of very large (gigantic) stature, and their feet, being wrapped in rough guanaco skin, by way of shoes, were remarked particularly. Probably their footsteps in the sand were noticed, and excited

some such exclamation as 'que patagones!' (what great feet!) patagon meaning a very large foot.—(See note 3.)

Tierra del Fuego was also named by Magalhaens, because many fires were seen, in the night, upon that land.

The aboriginal natives of Eastern Patagonia are a tall and extremely stout race of men. Their bodies are bulky, their heads and features large, yet their hands and feet are comparatively small. Their limbs are neither so muscular nor so large boned as their height and apparent bulk would induce one to suppose: they are also rounder and smoother than those of white men. Their colour is a rich reddish-brown, between that of rusty iron and clean copper, rather darker than copper, yet not so dark as good old mahogany.* But every shade of colour between that just mentioned and the lighter hue of a copper kettle, may be seen among individuals of various ages. Excepting among old or sickly people, I did not notice a tinge of yellow: some of the women are lighter coloured—about the tint of pale copper—but none are fair, according to our ideas.

Nothing is worn upon the head except their rough, lank, and coarse black hair, which is tied above the temples with a fillet of platted or twisted sinews. A large mantle, made of skins sewed together, loosely gathered about them, hanging from the shoulders to their ankles, adds so much to the bulkiness of their appearance, that one ought not to wonder at their having been called 'gigantic.' I am not aware that a Patagonian has appeared, during late years, exceeding in height six feet and some inches; but I see no reason to disbelieve Falkner's account of the Cacique Cangapol, whose height, he says, was seven feet and some inches. When Falkner stood on tiptoe he could not reach the top of Cangapol's head. It is rather curious, that Byron could only just touch the top of the tallest man's head

* The colour of these aborigines is extremely like that of the Devonshire breed of cattle. From the window of a room in which I am sitting, I see some oxen of that breed passing through the outskirts of a wood, and the partial glimpses caught of them remind me strongly of the South American red men.

whom he saw. Ever restless and wandering, as were the Tehuel-het, of which tribes that cacique was chief, might not Byron have measured Cangapol?* Who disbelieves that the Roman Emperor, Maximinus, by birth a Thracian, was more than eight feet in height? yet who, in consequence, expects all Thracians to be giants? At present, among two or three hundred natives of Patagonia, scarcely half-a-dozen men are seen whose height is under five feet nine or ten; and the women are tall in proportion.

I have nowhere met an assemblage of men and women whose average height and apparent bulk approached to that of the Patagonians. Tall and athletic as are many of the natives of Otaheite, and other islands in the Pacific Ocean, there are also many among them who are slight, and of low stature. The Patagonians seem high-shouldered—owing perhaps to the habit of folding their arms in their mantles across the chest, and thus increasing their apparent height and bulk, as the mantles hang loosely, and almost touch the ground. Until actually measured, I could not believe that they were not much taller than was found to be the fact.

But little hair shews itself on their faces or bodies. From the former it is studiously removed by two shells, or some kind of pincers. Although they do not augment the coarseness of their features by piercing either nose or lips, they disfigure themselves not a little by red,† black,‡ or white§ paint, with which they make grotesque ornaments, such as circles around their eyes, or great daubs across their faces. Upon particular occasions, all the upper part of their body, from the waist upwards, is strangely decorated (or disfigured) by paint, awkwardly laid on with very little design. On their feet and legs are boots made out of the skins of horses' legs. Wooden spurs, if they cannot get iron; sets of balls (bolas), and a long tapering lance of bamboo, pointed with iron, complete their equipment. These lances are seldom seen near the Strait of Magalhaens, but the natives are not always without them.

The women are dressed and booted like the men, with the

* Byron's voyage, 1765.—Falkner, 1740-80.

† Ochre. ‡ Charcoal and oil. § Felspathic earth and oil.

addition of a half petticoat, made of skins, if they cannot procure foreign coarse cloth. They clean their hair, and divide it into two tails, which are platted, and hang down, one on each side. Ornaments of beads, bits of brass, or silver, or any similar trifles, are much prized, and worn in necklaces, or as bracelets; sometimes also as ear-rings, or round their ankles. Mounted upon horses of an inferior size, averaging only about fourteen hands and a half in height, though rather well-bred, the Patagonians seem to be carried no better than the full-accoutred dragoons, who rode eighteen stone upon horses equal to twelve; yet those horses, so slight in comparison with their masters, carry them at full speed in chase of ostriches or guanacoes; and we all know what our dragoon horses have done under their heavily-weighted, but determined riders. With bridles of hide tied to the lower jaw, when there is not a Spanish bit, and a light saddle of wood, covered with some skins and placed upon others, a Patagonian rides hard when there is occasion—but frequently changes his horse. Many large dogs, of a rough, lurcher-like breed, assist them in hunting, and keep an excellent watch at night. (Note at end of Chapter VIII.)

The toldos (huts) of these wanderers are in shape not unlike gipsy tents. Poles are stuck in the ground, to which others are fastened, and skins of animals, sewed together, form the covering, so that an irregular tilt-shaped hut is thus made. Three sides and the top are covered; but the front, turned towards the east, is open. These toldos are about seven feet high, and ten or twelve feet square; they are lower at the back, or western side, than in front, by several feet. These are their ordinary dwellings; of other rather larger constructions a description will be given hereafter.

The country inhabited by these Patagonians is open and, generally speaking, rather level, but with occasional hills and some extensive ranges of level-topped heights (steppes). There are very few trees, and water is scarce. The eye wanders over an apparently boundless extent of parched, yellow-looking semi-desert, where rain* seldom falls, and the sky is almost

* Except during a few days in each year, or perhaps at intervals of two or three years, when it pours down in torrents.

C. Martens. T. Landseer.

PATAGONIANS.
(AT GREGORY BAY)

Published by Henry Colburn, Great Marlborough Street, 1838.

always clear. The heats of summer are very great; but in winter, though the days are not cold, the frosts at night are severe; and at all times of the year, in the day-time, strong winds sweep over the plains.

The Yacana-kunny, natives of the north-eastern part of Tierra del Fuego, resemble the Patagonians in colour, stature, and clothing.* They seem to be now much in the condition in which the Patagonians must have been before they had horses.† With their dogs, with bows and arrows, balls (bolas), slings, lances, and clubs, they kill guanacoes, ostriches, birds, and seals.

The north-eastern portion of Tierra del Fuego is a better country than Patagonia. The woody mountains of the south-western islands are succeeded, towards this north-east district, by hills of moderate height, partially wooded; northward of which are level expanses, almost free from wood, but covered with herbage adapted to the pasturage of cattle.

The climate is a mean between the extremes of wetness and drought, which are so much felt by the neighbouring regions; and when a settlement is made, at some future day, in that part of the world, San Sebastian Bay, in the Yacana country, called by Narborough, King Charles South Land, would be an advantageous position for its site.‡

The Tekeenica, natives of the south-eastern portion of Tierra del Fuego, are low in stature, ill-looking, and badly proportioned. Their colour is that of very old mahogany, or rather between dark copper, and bronze. The trunk of the body is large, in proportion to their cramped and rather crooked limbs. Their rough, coarse, and extremely dirty black hair half hides yet heightens a villanous expression of the worst description of savage features.

Passing so much time in low wigwams, or cramped in small

* Excepting boots.

† See Magalhaens' first interview. Burney, vol. i. p. 34.

‡ Falkner says (p. 93, speaking of this country), "It is evident that this place has the conveniences of wood, water, and soil; and, if there could be found a tolerable harbour, it would be much more convenient for a colony, and have a better command of the passage to the South Sea than Falkland's Islands."

canoes, injures the shape and size of their legs, and causes them to move about in a stooping manner, with the knees much bent; yet they are very nimble, and rather strong.

They suffer very little hair to grow, excepting on their heads. Even their eyebrows are almost eradicated—two muscle-shells serving for pincers. This aversion to the smaller tufts of hair does not extend to the thatch-like covering of their ugly heads, which is lank, covered with dirt, hanging about their ears, and almost over their faces. Just above their eyes it is jagged away by a broken shell, if they have not a piece of iron hoop for a knife, the pieces cut off being scrupulously burned. In height varying from four feet ten to five feet six, yet in the size of their bodies equalling men of six feet, of course they look clumsy and ill-proportioned; but their hands and feet are rather small with respect to the size of their bodies, though not so in proportion to their limbs and joints, which, excepting the knees, are small. Their knees are all strained, and their legs injured in shape, by the habit of squatting upon their heels. Awkward and difficult as such a posture appears to us, it is to them a position of easy rest.

Sometimes these satires upon mankind wear a part of the skin of a guanaco or a seal-skin upon their backs, and perhaps the skin of a penguin or a bit of hide hangs in front; but often there is nothing, either to hide their nakedness or to preserve warmth, excepting a scrap of hide, which is tied to the side or back of the body, by a string round the waist. Even this is only for a pocket, in which they may carry stones for their slings, and hide what they pick up or pilfer. A man always carries his sling around his neck or waist, wherever he goes.

Women wear rather more clothing, that is, they have nearly a whole skin of a guanaco, or seal, wrapped about them, and usually a diminutive apron. The upper part of the wrapper, above a string which is tied around the waist, serves to carry an infant. Neither men nor women have any substitute for shoes.

No ornaments are worn in the nose, ears, or lips, nor on the fingers; but of necklaces, and bracelets, such as they are, the women are very fond. With small shells, or pieces of the bones

of birds, strung upon lines made of sinews, these necklaces and bracelets are made, when nothing preferable is to be found; but beads, buttons, pieces of broken glass, or bits of fractured crockery-ware are most highly esteemed.

The hair of the women is longer, less coarse, and certainly cleaner than that of the men. It is combed with the jaw of a porpoise, but neither platted nor tied; and none is cut away, excepting from over their eyes. They are short, with bodies largely out of proportion to their height; their features, especially those of the old, are scarcely less disagreeable than the repulsive ones of the men. About four feet and some inches is the stature of these she-Fuegians—by courtesy called women. They never walk upright: a stooping posture, and awkward movement, is their natural gait. They may be fit mates for such uncouth men; but to civilized people their appearance is disgusting. Very few exceptions were noticed.

The colour of the women is similar to that of the men. As they are just as much exposed, and do harder work, this is a natural consequence: besides, while children, they run about quite naked, picking up shell-fish, carrying wood, or bringing water. In the colour of the older people there is a tinge of yellow, which is not noticed in the middle-aged or young.

Both sexes oil themselves, or rub their bodies with grease; and daub their faces and bodies with red, black, or white. A fillet is often worn round the head, which upon ordinary occasions is simply a string, made of sinews; but if going to war, or dressed for show, the fillet is ornamented with white down, white feathers, or pieces of cloth, if they have obtained any from shipping. Small lances, headed with wood; others, pointed with bone; bows, and arrows headed with obsidian, agate, or jasper; clubs; and slings; are the weapons used by the Tekeenica.

The smoke of wood fires, confined in small wigwams, hurts their eyes so much, that they are red and watery; the effects of their oiling, or greasing themselves, and then rubbing ochre, clay, or charcoal, over their bodies; of their often feeding upon the most offensive substances, sometimes in a

state of putridity; and of other vile habits, may readily be imagined.

As a Tekeenica is seldom out of sight of his canoe or a wigwam, a slight idea of these—his only constructions—should be given with this sketch.

The canoe is made of several large pieces of bark, sewed together; its shape is nearly that which would be taken by the strong bark of the trunk of a tree (twelve to twenty feet in length, and a foot, or two feet, in diameter), separated from the solid wood, in one piece. If this piece of bark were drawn together at the ends, and kept open by sticks in the middle, it would look rather like a Fuegian canoe.

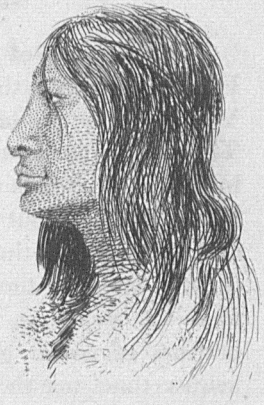
A Tekeenica wigwam is of a conical form, made of a number of large poles, or young trees, placed touching one another in a circle, with the small ends meeting. Sometimes, bunches of grass or pieces of bark are thrown upon the side which is exposed to the prevailing winds. No Fuegians, except the Tekeenica, make their huts in this manner.

The country of this people may be briefly described by saying that deep but narrow arms of the sea intersect high mountainous islands, many of whose summits are covered with snow, while the lee or eastern sides of their steep and rocky shores are more than partially covered with evergreen woods.

Between projecting rocky points are sandy or stony beaches, fronting very small spaces of level land, on which the huts of the natives are generally placed. Almost throughout the year, cloudy weather, rain, and much wind prevail; indeed, really fine days are very rare. Being so near the level of that great climate agent, the ocean, frost and snow are far less frequent than might be expected in a high latitude, among snow-covered mountains, of which the sight alone inclines one to shiver.

The men of the Alikhoolip tribe are the stoutest and hardiest, and the women the least ill-looking of the Fuegians. Though not very dissimilar, they are superior to the Tekeenica; but they are inferior to the Yacana, and far below the natives of Patagonia. Their canoes are rather better than those of the Tekeenica, made, however, in the same manner.

ZAPALLO MAN.



HUEMUL WOMAN.

HUEMUL BOY.

YAPOO MAN.

YACANA MAN.

PECHERAY MAN.

FUEGIANS.

Published by Henry Colburn, Great Marlborough Street, 1838.

The wigwams of the Alikhoolip, and indeed of all the Fuegians, except the Tekeenica (and perhaps some of the Yacana, whom we have not seen), are shaped like bee-hives. Their height is not above four or five feet above the ground; but an excavation is usually made within, which gives another foot, making about five feet and a-half of height, inside, and they are two, three, or four yards in diameter. Branches of trees stuck in the ground, bent together towards the top, form the structure, upon which skins, pieces of bark, and bunches of coarse grass are roughly fastened. Of course, neither these nor the Tekeenica wigwams are wind or water tight, neither does the smoke need a chimney.

The country and climate of the Alikhoolip are similar to the Tekeenica, though wetter, more windy, and more disagreeable. Both men and women are better covered with seal or otter skins than the Tekeenica and Pecheray tribes. When surprised, or sure that they would not be plundered, the women of this tribe were always seen wrapped in large otter or seal skins.

The natives of the central parts of Magalhaens Strait appear to be almost as miserable a race as the Tekeenica. As in nothing but language, and the construction of their wigwams, is there any difference which has yet been found out (though probably existing), I shall say no more of them in this place.

Their climate is nearly the same as that of the Alikhoolip; and the country is similar, though more wooded in many places, because more sheltered.

Those whom I have hitherto called Huemul, who live near the Otway and Skyring Waters, seem to be a mixed breed, rather resembling the Yacana, of which tribe they are probably a branch. In habits, as well as in appearance, they partake of some of the peculiarities of Patagonians as well as Fuegians. Their country is like the Yacana—Tierra del Fuego blending or sinking into Patagonia, sharing the qualities of each region, and therefore preferable to either. They have very few canoes; and no horses: but large dogs are used by them in hunting the huemul and guanaco.

The tribe mentioned in a following page, which was met by Mr. Low at the north side of Fitz-Roy Passage, must have been chiefly composed of slaves (zapallos). The Huemul tribe is not numerous, and having plenty of land, with abundance of food, would hardly quit their own territory to submit to a Patagonian Cacique. These natives are neither inclined to serve a master, nor to learn new habits: besides, being separated from the Horse Indians by a little channel, they could not easily be caught, and obliged to remain with the Patagonians, as some persons have supposed.

The Chonos, who live on the western shores and islands of Patagonia, are rather like the Alikhoolip, but not quite so stout or so daring. In general they are less savage than the Fuegians; and though their habits of life are similar, traces are visible of former intercourse with the Spaniards, which doubtless has tended to improve their character.

Prior to the Spanish conquest, the Chonos Indians inhabited Chilóe and the Chonos Archipelago; but that now they are all south of Cape Tres Montes, there is good reason to suppose, though certainly no positive proof. The canoes of these Chonos Indians are made of planks, sewed together; and they are rowed with oars. Generally there is a cross at one end of the canoe, or rather boat. Their wigwams are like those already mentioned of the bee-hive form.

The climate of Western Patagonia is so disagreeable that the country is almost uninhabitable. Clouds, wind, and rain are continual in their annoyance. Perhaps there are not ten days in the year on which rain does not fall; and not thirty on which the wind does not blow strongly; yet the air is mild, and the temperature surprisingly uniform throughout the year. The country is like the worst part of Tierra del Fuego—a range of mountains, half sunk in ocean; barren to seaward, impenetrably wooded towards the mainland, and always drenched with the waters of frequent rain, which are never dried up by evaporation before fresh showers fall.

Having thus endeavoured to give a slight general idea of the more obvious peculiarities of these, the most southern abori-

gines on the globe, I will enter into rather more detail, even at the risk of being prolix. As there is much similarity in the habits of all the tribes above-mentioned who use canoes, and we know little of the Yacana, I shall speak of the Horse Indians, generally, in the first place; and of the Canoe Indians, as one body, in the second.

NOTE 1.—There is so much difficulty in deciding upon the orthography of words whose sounds are variously given by individuals even of the same tribe, and which, caught by ears of varying acuteness, are written down according to the pronunciation of different languages, that one may trace some connexion between the names Key-es, Key-yus; Keyuhues, or Keyuhue; Kekenica, or Tekeenica, and Kenneka. This last term is taken from Van Noort. (Burney, vol ii. p. 215.) Perhaps the country there called 'Coin' may be that inhabited by Jemmy Button's Oens-men.

2. Molina's description of the Huemul is said by naturalists to be unsatisfactory and inconclusive; therefore, whether it is an animal hitherto unnoticed (except by him), or the 'kind of roebuck,' mentioned in page 132, remains to be decided. See Molina, vol. i. p. 364.

3. Pennant, in his 'Literary Life,' quotes Cavendish's as well as Brouwer's measurement of footsteps eighteen inches long! As Pennant was personally acquainted with Falkner, and collected much information respecting the Patagonians from other sources likewise, I have inserted a short extract from his work in the Appendix to this volume. The original book is now becoming scarce, and some of the notices contained in it are very interesting in connexion with this subject.

While I was revising my manuscript journal, Sir Woodbine Parish had the kindness to lend me 'Viedma's Diary,' with permission to make use of it: and, finding some interesting notices of the Patagonians which were quite new to me, I have added to the appendix of this volume a verbatim extract from Viedma, which I think will repay the curious reader, especially where their ideas of the transmigration of souls are mentioned.

CHAPTER VIII.

HORSE INDIANS OF PATAGONIA.

Head — Physiognomy — Stature — Wanderings — Clothing — Armour — Arms — Food — Chase — Property — Huts — Wizards — Marriage — Children — Health — Illness — Death — Burial — War — Horsemanship — Gambling — Caciques — Superstitions — Warfare — Morality — Disposition — Chups — Zapallos.

THE head of a Patagonian is rather broad, but not high; and, except in a few instances, the forehead is small and low. His hair hangs loosely: it is black, coarse, and very dirty. A fillet which is worn around the top of the head may be intended as an ornament, for it is certainly of no use. The brow is prominent: the eyes are rather small, black, and ever restless. Deficiency of eyebrow adds to the peculiar expression of their eyes; and a mixture of simplicity and shrewdness, daring and timidity, with that singular wild look which is never seen in civilized man, is very conspicuous in the Patagonians. Its immediate effect is to remind one of the necessity of being always on guard while within reach: yet of all savage nations, perhaps the Patagonians are least inclined to attack or deceive strangers.

In general, the women's stature, physiognomy, and dress, so much resemble those of the men, that, except by their hair, it is difficult for a stranger to distinguish them.

By nature they have but little hair on either face or body, and that little they try to eradicate. Their faces are roundish, and the width or projection of the cheek-bones makes them look unusually wide. The nose is a little depressed, narrow between the eyes, but broad and fleshy about the nostrils, which are rather large. The mouth is large and coarsely formed, with thick lips. Their teeth are often very good, though rather large; and those in front have the peculiarity, which will be discussed when speaking of the Fuegians, of being flattened, solid, and shewing an inner substance. The chin is

usually broad and prominent: all the features, indeed, are large, excepting the eyes. The expression of their countenances is open and honest (compared with other savages), and their intrepid, contented look is rather prepossessing. The unhesitating manner in which, unarmed, they trust themselves among strangers whom they never before saw, or venture on board ship, even under sail in the offing (if they can obtain a passage in the boat), and go voluntarily from place to place with their white acquaintances, is very remarkable.

Of the stature and bulk of these Indians I have already spoken. It appears to me that those who now live on the northern side of Magalhaens' Strait are descendants of the Patagonians whose size excited so much surprise and discussion; and that, occasionally, individuals have exceeded the common height. Speaking of Cangapol, whose chief resort was the vicinity of the river Negro, though he and his tribe were restless wanderers, Falkner says—"This chief, who was called by the Spaniards the 'Cacique bravo,' was very tall and well proportioned. He must have been seven feet and some inches in height, because, on tiptoe, I could not reach to the top of his head. I was very well acquainted with him, and went some journeys in his company. I do not recollect ever to have seen an Indian that was above an inch or two taller than Cangapol. His brother, Sausimian, was but about six feet high. The Patagonians are a large-bodied people; but I never heard of that gigantic race which others have mentioned, though I have seen persons of all the different tribes of southern Indians." In another place he says, "there is not a part of all this extremity of the continent that some of these wandering nations do not travel over frequently." Of their wanderings, many persons besides myself and those with me can bear witness. Patagonians, who were personally known by officers of the Beagle, were seen by them at the Spanish (now the Buenos Ayrean) settlement, Del Carmen, near the mouth of the river Negro, in September 1832; and by Mr. Low, at their usual abode, near the Strait of Magalhaens, in February 1833. The individual who was then most noticed, a half-breed Indian woman, named

Maria,* once persuaded some of her companions to go with her to the Falkland islands, in a vessel commanded by Mr. Matthew Brisbane. They went, staid there some weeks, and returned in the same vessel, highly delighted by all the novelties, excepting sea-sickness. The chief wizard of the tribe was one of the party. Maria was then a person of much consequence, being almost their only interpreter, and the wife of a principal person. Her own history must be curious: she was born at Asuncion, in Paraguay; and has a son who is a cacique.

The mantles are curiously painted, usually on one side only, but some have had the hair rubbed off and are painted on both sides. They are very neatly sewed together with thread made out of the split sinews of ostriches, which is the strongest and most durable material they can procure. Making mantles is one of the occupations of the women. The paint used is found on the hills: it is an earthy substance, of various colours. Moistened with water, and made into the shape of crayons, pieces of this substance are dried in the sun; and when used, one end of the crayon is dipped in water and rubbed on the part to be coloured. These mantles are tied about the neck, and usually round the middle, by sinew cords. Often the upper part is dropped, and the body left quite exposed above the waist, and while in active exercise on horseback, this is usually the case, if the mantle is not then entirely discarded. This substantial substitute for clothing is made with skins of the animals of their country; and among those of guanaco, puma, fox, skunk (a kind of weasel or polecat), cavy, dog, otter, seal, and colt, the most esteemed are the small grey fox skins. A kind of 'maro' is sometimes worn by the men; and their boots, I have already said, are made out of the hock part of the skins of mares' and colts' legs. After being cleaned from fat, or membranous substances, dried, and then made pliable with grease, these ready-shaped boots require neither sewing nor soles. Wooden substitutes for spurs are worn, if iron cannot be procured.

For warlike purposes the men clothe themselves in three of

* Frequently mentioned by Captain King in vol. i.

their thickest mantles: the two outer ones have no hair, but are gaily painted: all three are worn like ponchos. On their heads they then wear conical caps, made of hide; and surmounted by a tuft of ostrich feathers. Another kind of armour, worn by those who can get it, is a broad-brimmed hat, or helmet, made of a doubled bull's hide: and a tunic, or frock, with a high collar, and short sleeves, made of several hides sewed together; sometimes of anta skins, but always of the thickest and most solid they can procure. It is very heavy, strong enough to resist arrows or lances, and to deaden the blow of a stone ball (bola perdida); but it will not turn the bullet fired from a musket. Some say that it will do so, but that which I saw had been pierced through, in the thickest part, by the musket-ball which killed the wearer. When obliged to fight on foot, they use a shield made of hides sewed together (clypeus septemplex).

Their arms are balls (bolas), lances, bows and arrows, clubs, and swords when they can get them. But in hasty, unforeseen skirmishes, they engage in as light order as the more northern Indians, without head-cover or mantle, stripped to their spurs, and armed only with lances and balls; which latter they are never without.

The balls, bowls, or bolas, called by themselves 'sōmai,' are two or three round stones, lumps of earth hardened, iron or copper ore, or lead. If made of earth or clay, the material is enclosed in small bags of green (fresh) hide, which, placed in the sun, contract so much, that they become like stones in hardness; but these clay balls are not used by the Patagonians so much as by the Pampa Indians, in whose country stones or metals are so scarçe that there probably the last-mentioned balls were invented. Two balls, connected by a thong of hide, two, three, or four yards in length, are called 'sōmai.' Three such balls, connected by thongs, equal to one another in length, with their inner ends united, are called 'achico.' Taking one ball in the right hand, the other two are whirled around several times, and the whole then thrown at the object to be entangled. There are also balls of less weight and size, made of marble,

lead, or metallic ore, with shorter cords or thongs, which are for small animals.

Sometimes two small balls, each of which has a cord about a yard in length, are fastened to the thong of the larger set. This is to entangle the victim more effectually. They do not try to strike objects with these balls, but endeavour to throw them so that the thong shall hit a prominent part; and then, of course, the balls swing around in different directions, and the thongs become so 'laid up' (or twisted), that struggling only makes the captive more secure. They can throw them so dexterously, as to fasten a man to his horse, or catch a horse without bruising him. If an animal is to be caught without being thrown down suddenly—an inevitable consequence of these balls swinging round his legs while at full speed—a sōmai is thrown at his neck. The two balls hang down, and perplex him so much by dangling about his fore-legs, that his speed is much checked; and another set of balls, or a lasso, may be used, to secure, without throwing him down. The lasso is not much used, so adroit are they with the balls. A formidable missile weapon is the single ball, called by the Spaniards 'bola perdida.' This is similar to the other in size and substance, but attached to a slighter rope, about a yard long. Whirling this ball, about a pound in weight, with the utmost swiftness around their heads, they dash it at their adversary with almost the force of a shot. At close quarters, it is used, with a shorter scope of cord, as an efficient head-breaker.

Several of these original, and not trifling offensive weapons, are kept in readiness by each individual; and many a Spaniard, armed with steel and gunpowder, has acknowledged their effect.

The lance (chuza) is a long bamboo cane, from twelve to twenty-four feet long, headed with iron or steel. The great length and tapering slightness of these spears makes them formidable to any adversaries, but often fatal to those who are unskilful or timorous, because their vibration, artfully increased to the utmost by the holders, makes it extremely difficult to parry the advance of their point; but, once parried they are

useless—perhaps become encumbrances to their owners, who, if they do not turn and dash off at full speed, have recourse to their balls or to swords. Some have swords obtained from white men; others fasten long blades (knife-blades, perhaps, or pieces of iron hoop, straightened and sharpened) to handles three or four feet in length. Their bows are three or four feet long; and the arrows, about two feet in length, are headed with small triangular pieces of agate, jasper, obsidian, or even bone. But bows, arrows, shields, clubs, and heavy armour are daily less used; and may we not infer, that arms and armour, suited to foot encounters—such as arrows, heavy clubs or maces, shields, and many-fold tunics—have been laid aside by degrees, as horses have multiplied in the country? Fighting on foot is now seldom practised, except in personal quarrels. Falkner says, they used to envenom the points of their arrows with a species of poison, which destroyed so slowly, that the wounded person lingered for two or three months, till, reduced to a skeleton, he at last expired; but I have not heard of such a practice among the southern aborigines in these days.

Those Indians who have felt the effects of fire-arms, and own abundance of horses, the men of Araucania, who are the terror of the Pampa tribes, have long abolished armour and the arms of former wars—wars so well sung by Ercilla, in which they gained unfading honour in maintaining the freedom of their country. Naked on their horses, armed with lances, swords, and balls, those men now rush like the whirlwind—destroy—and are gone!

The women of Patagonia wear nothing on their heads; their hair, parted before and behind, is gathered into two large tresses, one on each side. Ear-ornaments, necklaces, bracelets, and anklets, made of beads, pieces of brass, silver, or gold, are much esteemed. Their mantles are similar to those of the men; but they are pinned across the breast by a wooden skewer, or a metal pin, and are gathered about the waist, hanging loosely almost to their ankles. A short apron, or half-petticoat, made with skins of small animals, or coarse cloth, is tied about their waist, under the mantle. It only covers them in front, and reaches to the knee. Boots, similar to those

of the men, and additional clothes, are worn when they ride distances; sitting astride, upon a heap of skins, which serve at night for bedding.

The principal subsistence of these Indians is the flesh of mares, ostriches, cavies, or guanacoes; but though they are not particular, and eat almost anything that they catch, the flesh of young mares is preferred to any other. They broil their meat, and eat it with a lump of fat, and salt. The fat of mares and that of ostriches are boiled together and put into bladders; but the fat of guanacoes is eaten raw, being preferred in that state. There are two roots which they eat, one called tus, the other chālăs. The tus is a bulbous root, growing wild, which when cleaned and baked, or rather roasted, becomes mealy, like a yam. They use it sometimes with their meat, but not often. The chālăs is a long, white root, about the size of a goose-quill. It is either roasted in the embers or put into broth, which they make for women and sick people. When on the sea-coast, limpets and muscles are gathered by the women and children; but fish or seals are seldom obtained. Dogs are not eaten, neither are horses, unless disabled by an accident.

Cattle are yet scarce in the southern regions, because pasture-land is rather deficient; but about the lately-discovered river, Chupat, (lat. 43.21. S.) which, though small, is supposed to cross the continent, they are rather numerous, but their flesh is not thought equal to that of mares.

The only prepared drink which they use, besides the decoction of chālăs, is the juice of barberries, mixed with water, and drank in its natural state. They have no fermented liquor.

Hunting is both amusing and necessary to the men. They go out to the chase in parties, more or less numerous, according to the strength of the tribe, the scarcity of food, and the supply of horses. An extent of country is enclosed by the horsemen; then drawing together, they drive before them all the animals; till, when tolerably collected together, the cacique, or leading man of the party rides at an animal and throws it down with his balls. All then set to work, and ball away in every direction. They do not stop because one animal falls,

since not one in a hundred escapes by his own exertions when once entangled; but another and another become the victims of a good hunter, before the collection escapes out of his reach. All their sets of balls being employed, and the game dispersed, they begin to kill and divide. Each animal is knocked on the head with a ball, skinned, and cut into pieces, where it fell, and the pieces are then carried on horseback to their huts.

After reaching their settlement, the produce of the chase is brought together, and divided among the different families, in proportion to their respective numbers. If one family has eaten its share sooner than others, some one of that hungry house goes to any party which has meat left, and cuts off what is wanted, without a question.

A number of large dogs assist in the hunt: whether they scent the game I know not, but probably they run by eye, as so many animals are a-foot at once. Each regular hunter has a spare horse at hand; the best horses being carefully reserved for war and the chase. Upon others they travel, place the women and children, and their property.

The method of hunting abovementioned is that employed on set occasions; but if only a few men are together, they surprise and chase, as they can. Sometimes they ride together, and chase whatever they see, whether ostrich, skunk, guanaco, fox, or puma.

The wealth of these Indians consists chiefly in horses and dogs, the richer individuals having forty or fifty horses, and a large number of dogs; the poorer, only one or two horses, and but one dog.

The tents or huts called by themselves 'cow,' and by the Spaniards and their descendants, toldos (tolderia is the place of toldos, or Indian village, in Spanish), have already been partly described. Made of skins, sewed together and supported by poles, a tilt-like construction, open towards the east, is their hastily-formed dwelling. The top slopes towards the west side, which is not above two feet in height. The front is about six or seven feet high; and the inside space about twelve feet by nine. Both poles and skins are carried with them when

they migrate from place to place. Water does not lodge on the hide covering, neither does wind penetrate; and as east winds are very rare in Patagonia, a temporary screen, such as a few skins, suffices for protection against them.

Two or three families sleep in one hut, unless it is the dwelling of a cacique, or person who has many wives. Poor people have but one wife. Those who are rich, and able to maintain them, have several wives—three, four, five, or even more.

In places where some of the tribe stay constantly, and which are considered the head-quarters, or central rendezvous of a tribe, there are larger huts, almost deserving the name of houses. Some of these are for the cacique and his wives; others are for the wizards, who, in their three-fold capacity of priests, magicians and doctors, have great influence over the superstitious minds of their countrymen. These larger dwellings are made with poles and skins, put together so as to form an oblong shed, with a sloping roof, shaped like a small cottage. The substitutes for walls are about five feet in height, and the roof is in the middle about eight feet from the ground. Some of these houses are four or five yards in width, and eight, ten, or twelve in length. I have never seen one myself; but those who gave me other information, which I found true, said that there were such houses in the interior, and described them minutely to me.

At night, skins are spread upon the ground to sleep on; two or three rolled up, along the length of the back part of the tent or hut, form a pillow for the whole party, on which each family has its place, and the dogs lie at their feet.

The children have a little square place to themselves, in one corner. Infants in the cradle (a piece of hide with a thong fast to its four corners, by which it is suspended from the roof of the dwelling), are placed near their mother.

Marriages are made by sale more frequently than by mutual agreement. Instead of receiving a dowry with his wife, a man pays a large price to her nearest relations. Sometimes girls are betrothed while very young, and a part of the stipulated price paid to the relations. Mutual inclination may sometimes determine the choice; but payment must in every case be

made, in proportion to the supposed value of the damsel, and the property of her purchaser. If a girl dislikes a match made for her, she resists, and although dragged forcibly to the hut of her lawful owner, plagues him so much by her contumacy, that he at last turns her away, or sells her to the person on whom she has fixed her affections; but he seldom beats her, or treats her ill. Perhaps she does not wait to be so disposed of, but elopes and takes her choice of a protector; who, if more powerful than the husband, obliges him to submit to the double loss, unless a cacique, or a powerful friend of the losing party, forces the gallant to restore her, or compromise the matter, and these affairs are in general easy to settle. It has been already mentioned that each man who possesses any property has usually more than one wife; and that some few men, who have forty or fifty horses, and other riches in proportion, maintain four or five wives.

"Women who have accepted their husbands with good-will are in general very faithful and laborious," says Falkner; "their lives are but one continued scene of labour; for, besides nursing and bringing up children, they are obliged to do much drudgery." Except hunting, providing food, and fighting, all work is done by the women. Indeed they sometimes aid in battle. Some families have slaves who do household work; but if they should have no slaves, not even the wives of a cacique are exempt from every-day labour.

Men do not marry before they are about twenty years of age. Girls are married earlier: from fourteen or fifteen they are considered to be marketable commodities. Falkner says, "When once the parties are agreed, and have children, they seldom forsake each other, even in extreme old age. The husband protects his wife from all injuries, and always takes her part, even if she is in the wrong, which occasions frequent quarrels and bloodshed; but this partiality does not prevent him from reprimanding her, in private, for engaging him in these disputes.

"He very seldom beats her; if she is found unfaithful he lays blame on the gallant, and, if able, punishes him severely;

unless the delinquent atones by some valuable gift. Sometimes, at the command of a wizard, a man orders his wife to go to an appointed place, usually a wood, and abandon herself to the first person she meets. Yet there are women who refuse to comply with such orders."

When it does happen that a man and his wife quarrel, the woman is sometimes punished by having her two tails rather savagely pulled. I have been told that the husband scarcely ever beats her, except in the height of passion.

Children are left to take care of themselves soon after they can walk. With sets of little balls (bolas) they annoy the dogs not a little, practising their future occupation. While very young they climb upon old, or quiet, horses' backs. If a young guanaco is caught and tamed, or a bird with its wings clipped hops about the tolderia, the little ones have fine sport. While infants are suckling, the mothers use frames or cradles in which their charges are carried about: they are made of flat pieces of wood, with a few semi-circular guards of lath, or thin branches, whose ends are fixed into holes in the wood. In such frames, between pieces of guanaco skin, the babies are placed; and while travelling, these cradles are hung at the mothers' saddle-bows. The children are much indulged. Falkner says, "The old people frequently change their habitations to humour the caprices of their children. If an Indian, even a cacique, wish to change his abode, and the tribe with whom he is living do not choose to part with him, it is customary to take one of his children, and pretend such a fondness for it, that they cannot part with the little favourite. The father, fond of his child, and pleased that it is so much liked, is induced to remain."

Yet with all this apparent goodness of disposition, in moments of passion, these Indians have been seen to be like other savages, disgraced by the worst barbarity. Neither man, woman, wife, nor even a smiling innocent child, is safe from that tiger in human shape—a savage in a rage. "Nunca, nunca fiarse de los Indios," is a Spanish maxim, as well founded as it is common.

Education, and the beneficial effects of the opinions of others, an influence fully felt only in civilized society, have so tamed and diminished the naturally strong passion of anger, with its sequel, immediate violence, or hatred and revenge, that imagination must be called to the assistance of those who, happily, have never seen a furious savage.

Who can read that instance of child murder, related so well by Byron, in his narrative of the Wager's wreck, without a shudder? yet the man who, in a moment of passion, dashed his own child against the rocks, would, at any other time, have been the most daring, the most enduring, and the most self-devoted in its support and defence! (Appendix No. 14.)

Generally speaking, the Patagonians are extremely healthy. Their constitutions are so good that wounds heal rapidly: but they are not ignorant of the healing properties of some herbs; nor of the purgative qualities of others. They know the effect of bleeding, and can adroitly open a vein with a sharp piece of shell or flinty stone.

When sick, the chālăs root, pounded and mixed with water, is a favourite specific. Should this, or the few other remedies which they think they know, fail, the wizard (who is also doctor) performs some absurd ceremonies, and then rattles together two pieces of dry bladder, in which are some loose stones, in order to frighten away the 'Valichu,' or evil spirits, who are opposing their art, and tormenting the unlucky patient. The diabolical noise caused by rattling these dried bladders, is continued until the disease takes a favourable turn, or the sufferer dies. If death ends the scene, the body is wrapped in the best mantle of the deceased, placed on his favourite horse, and carried to the burying-place of the tribe. The wizard rattles, and the other people howl over the corpse as it is carried to the sepulchre. In a square pit, about six feet deep, and two or three feet wide, where many others have been deposited, the corpse is placed in a sitting posture, adorned with mantles, plumes of feathers, and beads. The spurs, sword, balls, and other such property belonging to the deceased, are laid beside him; and the pit is then covered over with branches of

trees, upon which earth is laid. His favourite horse is afterwards killed. It is held at the grave while a man knocks it on the head with one of the balls of the deceased. When dead, it is skinned and stuffed, then, supported by sticks (or set up) upon its legs, with the head propped up, as if looking at the grave. Sometimes more horses than one are killed. At the funeral of a cacique four horses are sacrificed, and one is set up at each corner of the burial place. The clothes and other effects belonging to the deceased are burned: and to finish all, a feast is made of the horses' flesh.

But there are also other modes of disposing of dead bodies: and as I am certain that at least two of them are practised by the Patagonians of the present day, and we are assured by Falkner that other methods, one of which was carrying them into the desert by the sea-coast, were customary in his time, I shall here repeat what he says on the subject (p. 118).

"The burial of the dead and the superstitious reverence paid to their memory, are attended with great ceremony. When an Indian dies, one of the most distinguished women among them is immediately chosen to make a skeleton of his body; which is done by cutting out the entrails, which they burn to ashes, dissecting the flesh from the bones as clean as possible, and then burying them under ground till the remaining flesh is entirely rotted off, or till they are removed (which must be within a year after the interment, but is sometimes within two months) to the proper burial-place of their ancestors.

"This custom is strictly observed by the Molu-che, Taluhet, and Diuihet,* but the Chechehet and Tehuelhet, or Patagonians, place the bones on high, upon canes or twigs woven together, to dry and whiten with the sun and rain.

"During the time that the ceremony of making the skeleton lasts, the Indians, covered with long mantles of skins, and their faces blackened with soot, walk round the tent, with long poles or lances in their hands, singing in a mournful tone of voice, and striking the ground, to frighten away the Valichus,

* The Taluhet, Chechehet, and Diuihet, were tribes of Puel-che.

or evil spirits. Some go to visit and console the widow, or widows, and other relations of the dead, that is, if there is any thing to be got; for nothing is done but with a view of interest. During this visit of condolence they cry, howl, and sing in the most dismal manner; straining out tears, and pricking their arms and thighs with sharp thorns, to make them bleed. For this shew of grief they are paid with glass beads, brass cascabels and such like baubles, which are in high estimation among them. The horses of the dead are also immediately killed, that he may have wherewithal to ride upon in the 'alhue mapu,' or country of the dead, reserving only a few to grace the last funeral pomp, and to carry the relics to their proper sepulchres.

"When they remove the bones of their dead, they pack them up together in a hide, and place them upon one of the deceased's favourite horses, kept alive for that purpose, which they adorn after their best fashion, with mantles, feathers, &c., and travel in this manner, though it be to the distance of three hundred leagues, till they arrive at the proper burial-place, where they perform the last ceremony.

"The Molu-che, Taluhet, and Diuihet, bury their dead in large square pits, about a fathom deep. The bones are put together, and secured by tying each in its proper place, then clothed with all the best robes they can get, adorned with beads, plumes, &c., all of which they cleanse or change once a year. They are placed in a row, sitting, with the sword, lance, bow and arrows, bowls, and whatever else the deceased had while alive. These pits are covered over with trees, canes, or branches woven together, upon which they put earth. An old matron is chosen out of each tribe, to take care of these graves, and on account of her employment is held in great veneration. Her office is to open every year these dreary habitations, and to clothe and clean the skeletons. Besides all this they every year pour upon these graves some bowls of their first made chicha, and drink some of it themselves to the good health of the dead. (N. B. Not the Tehuelhet.)

"These burying places are, in general, not far distant from

their ordinary habitations; and they place, all around, the bodies of their dead horses, raised upon their feet and supported with sticks.

"The Tehuelhet, or more southern Patagonians, differ in some respects from the other Indians. After having dried the bones of their dead, they carry them to a great distance from their habitations, into the desert by the sea-coast; and after placing them in their proper form, and adorning them in the manner before described, they set them in order above ground, under a hut or tent erected for that purpose, with the skeletons of their dead horses placed around them.

"In the expedition of the year 1746, some Spanish soldiers, with one of the missionaries, travelling about thirty leagues within land, to the west of Port San Julian, found one of these Indian sepulchres, containing three skeletons, and having as many dead horses propped up around it."

In the expeditions of the Adventure and Beagle, between 1826 and 1834, a few burial places of another kind were examined. These were piles of stones, upon the summits of the highest hills, on the eastern sea-coast. Some had been thrown down and ransacked; probably by the crews of sealing vessels: others there was no opportunity of visiting: only one untouched pile was found: and that one was examined by Lieutenant Wickham. It was on a height, near Cape Dos Bahias, in latitude forty-five south. Only bones were found, in a much decayed state, under a pile of stones about four feet high; and from the remains of the bones Mr. Bynoe ascertained that they had belonged to a woman of the ordinary stature. A pile of stones on a neighbouring height had been pulled down by the crew of a sealing vessel: under it were fragments of decayed bones, which were thought too much injured by time and weather to be worth removing; indeed they crumbled to the touch. Under similar heaps of stones the 'gigantic skeletons' which some voyagers have described, were said to have been found.

Doubtless these several methods of disposing of the dead are not those of one horde only, but of various tribes. But I prefer mentioning all that is yet known of the subject, as

far as I am aware,* and leaving it for better-informed persons to decide upon the particular habits of each subdivision. Would any one tribe bury each of the five following persons in a similar manner, and in the same place? A powerful cacique—a wizard—a woman—an ordinary man—a child?

"The widow or widows of the dead are obliged to mourn and fast for a whole year after the death of their husband. This consists in keeping themselves close shut up in their huts, without having communication with any one, or stirring out, except for the common necessaries of life; in not washing their faces or hands, but being blackened with soot, and having their garments of a mournful appearance; in abstaining from horse's and cow's flesh, and, within land where they are plenty, from the flesh of ostriches and guanacoes; but they may eat any thing else. During the year of mourning, they are forbidden to marry, and if, within this time, a widow is discovered to have had any communication with a man, the relations of her dead husband will kill them both, unless it appears that there has been violence. But I did not discover that the men were obliged to any such kind of mourning on the death of their wives." (Falkner, p. 119.)

Manslaughter is not infrequent. When quarrels arise, the parties draw their knives, or take such weapons as are at hand, and fight, if not parted, till one is killed. War often occurs between the smaller tribes, but does not last long. When the small tribes unite against another nation, such as the Molu-che, or the Puel-che of the north, their preparations are more serious, and their hostilities of far longer duration.

When at war, or expecting an attack, the Patagonians exercise on horseback, in their armour, every other evening. Frequently the occasion of hostility is an encroachment upon the territories of a neighbouring tribe, either for hunting or plunder. War is, in such case, instantly declared by the insulted

* Except about the tomb which is described by Captain King in the first volume.

party. In armour, and upon their best horses, they sally forth to meet the intruders. Having met, they ask why their land has been invaded, and desire the strangers to return to the place whence they came. The non-compliance of the intruders is a signal for action; they close—fight—and one party, being vanquished, loses all its property. The manner of fighting has already been mentioned.

The horsemanship of the Patagonians is not equal to that of the northern Indians: yet it is not indifferent. From their weight, and the openness of their country, they do not habitually ride so hard, or practise so many manœuvres as the Araucanian,* who can hang at the side of his horse while at speed, directing him by voice and rein; or even while going through a wood can cling quite beneath his belly for a short time, still urging on and directing him; but such feats, performed by naked men, who are almost centaurs, surpass the powers, or rather the dexterity, of the bulky, well-fed, and heavily-clothed Patagonian.

The Patagonians are very fond of racing. At almost every leisure hour either horses or play engage their attention, for they are also great gamblers. Race-courses are regularly marked out, but they are very short, not a quarter of a mile in length. These short bursts at the utmost speed seem absurd, till one considers that in hunting wild animals, attacking or escaping from the sudden attack of an adversary, such short starts are of the utmost importance. They bet upon the horses, and sometimes stake even their wives and their children. Payment is faithfully made, even to the uttermost. The cards with which they play are pieces of skin, with figures

* The Araucanian hangs at one side of his horse to shelter himself from the lances, balls, or shot of his adversaries, or to avoid trees. At a distance, a troop of these Indians advancing irregularly, might seem to an inexperienced eye merely loose horses, of which so many are seen in the Pampas; but to another Indian, or to a trained gaucho, the attempt to conceal themselves would avail them nothing, because the horses' action, and manner of going, would, at a glance, show him that they were guided by riders.

painted upon them: perhaps rough imitations of the cards used by the Spaniards; but this may be doubted.

According to Falkner, the native of Patagonia is a superstitious polytheist. I cannot add to, nor have I reason to doubt his account; and shall therefore repeat what he says on this subject, abridging it slightly.

"The Indians imagine that there is a multiplicity of deities, some good, others evil. At the head of the good deities is Guayara-kunny, or the lord of the dead. The chief evil agent is called Atskannakanatz, or Valichu. This latter name is applied to every evil demon.*

"They think that the good deities have habitations in vast caverns under the earth, and that when an Indian dies his soul goes to live with the deity who presides over his particular family.

"They believe that their good deities made the world, and that they first created the Indians in the subterranean caverns above mentioned; gave them the lance, the bow and arrows, and the balls, to fight and hunt with, and then turned them out to shift for themselves. They imagine that the deities of the Spaniards created them in a similar manner, but that, instead of lances, bows, &c., they gave them guns and swords. They say that when the beasts, birds, and lesser animals were created, those of the more nimble kind came immediately out of the caverns; but that the bulls and cows being the last, the Indians were so frightened at the sight of their horns, that they stopped the entrances of their caves with great stones. This is the grave reason they give why they had no black cattle in their country, till the Spaniards brought them over; who, more wisely, had let them out of their caves.

* The Patagonians call the good deity the Creator of all things, but consider him as one who afterwards has no concern about them. He is styled by some Soucha, or chief in the land of strong drink; by others, Guayara-kunny, or lord of the dead. The evil principle is called Huecovoe, or the wanderer without. Other spirits are supposed to take care of particular people—protect their own and injure others: they are called Valichu.—Pennant, p. 61.

"Some say that the stars are old Indians; that the milky way is the field where the old Indians hunt ostriches, and that the Magellan clouds are the feathers of the ostriches which they kill. They have an opinion that the creation is not yet exhausted; nor all of it yet come out to the daylight of this upper world. The wizards, beating their drums, and rattling their hide-bags full of shells, or stones, pretend to see into other regions under the earth. Each wizard is supposed to have familiar spirits in attendance, who give supernatural information, and execute the conjuror's will. They believe that the souls of their wizards, after death, are of the number of these demons, called Valichu, to whom every evil, or unpleasant event is attributed.

"Their religious worship is entirely directed to the powers of evil; except in some particular ceremonies made use of in reverence to the dead.

"To perform their worship they assemble together in the tent of the wizard, who is shut up from the sight of the rest in a corner. In this seclusion he has a small drum, one or two round calabashes or bags of dry hide, with small sea shells in them, and some square bags of painted hide in which he keeps his spells. He begins the ceremony by making a strange noise with his drum and rattle-bags; after which he feigns a fit, or struggle with the evil spirit, who it is then supposed has entered into him; keeps his eyes turned up, distorts his face, foams at the mouth, screws up his joints, and, after many violent and distorting motions, remains stiff and motionless, resembling a man seized with an epilepsy. After some time he comes to himself, as having overcome the demon's influence; next he feigns, behind his screen, a faint, shrill, mournful voice, as of the evil spirit, who, by this dismal cry, is supposed to acknowledge himself subdued; and then the wizard, from a kind of tripod, answers all questions that are put to him.

"Whether his answers are true or false, is of very little consequence; because, if his intelligence should prove false, it is the fault of the demon, or Valichu. On all these occasions the wizard is well paid.

"The profession of the wizards is very dangerous, notwithstanding the respect that is sometimes paid to them; for it often happens, when an Indian chief dies, that some of the wizards are killed; especially if they had any dispute with the deceased just before his death; the Indians, in this case, attributing the loss of their cacique to the wizards and their demons. In cases also of pestilence and epidemic disorders, when great numbers are carried off, the wizards often suffer.

"On account of the small-pox, which almost destroyed the Chechehet tribe, Cangapol ordered all the wizards to be killed, to see, if by such means, the distemper would cease.

"There are wizards and witches. The former are obliged to dress in female apparel, and are not allowed to marry. The latter are not restricted. Wizards are generally chosen when children; and a preference is always shewn to those who, at that time of life, discover an effeminate disposition. They are clothed very early in female attire, and presented with the drum and rattles belonging to the profession which they are to follow. Those who are seized with fits of the falling sickness, or the 'Chorea Sancti Viti' (St. Vitus's dance), are immediately chosen for this employment, as selected by the demons themselves; whom they suppose to possess them, and to cause all those convulsions and distortions common in epileptic paroxysms."

The Patagonians, and indeed all the South-American aborigines, have faith in witchcraft. They all believe that the wizards or witches can injure whom they choose, even to deprivation of life, if they can possess themselves of some part of their intended victim's body, or that which has proceeded thence—such as hair, pieces of nails, &c.; and this superstition is the more curious from its exact accordance with that so prevalent in Polynesia.

The tribe, or subdivision of the Tehuelhet who generally live near Magalhaens' Strait, have learned to pay a sort of homage (perhaps it may be termed worship) to an image of wood, cut into the figure of a man's head and body, and called Cristo; this image they rarely produce to strangers, or even amongst

themselves, except at deaths, or on very particular occasions. This attempt at an outward demonstration of faith in customs of the Romish church, appears to have been caused by a Captain Pelippa, who visited the Strait of Magalhaens some time before the Adventure and Beagle. Who or what he was, I could not discover.

There is a particular kind of tree, which is esteemed sacred, and never burned. It is like a thorn; a resinous gum issues from the knotty, close-grained stem, which has a pleasant aromatic smell, if put into the fire.

Regular government, or any forms and rules approaching to what may be called a civil constitution, no one would expect to find among tribes of wandering savages; but amongst the Araucanian tribes of Moluche, who do not wander, and have advanced towards civilization, there are regular laws, supporting a settled form of government; and their ideas have been communicated to the southern tribes, and have slightly influenced them. Thus, in many cases, offenders are tried by an assembly of the older people, and their sentence pronounced, after mature deliberation, instead of being at once dealt with as the cacique may, at first thought, deem expedient.

The caciques or chiefs are hereditary. Those who possess much property and have many followers are highly respected; but their authority, though absolute in some instances, is little exerted in the common occurrences of life. When meetings are held for the purpose of deciding upon any question, the cacique presides—that is, he is considered the principal person present; certainly he looks the most solemn, and is the least active. He gives orders to hunting parties, or to those who exercise for war: and if men quarrel, he sometimes causes them to be parted. In time of war he leads his tribe, and in proportion to his enterprise and success is his actual authority while the war lasts. Each person has a particular name, implying a quality or some peculiarity; sometimes a particular place.

"All the sons of a cacique," says Falkner, "have a right to assume the dignity, if they can get any persons to follow them;

but, on account of the small utility of the rank of cacique, it is often resigned."

Falkner's account of the caciques ought to be, and is, no doubt, one of the best; it is as follows:—

"The cacique has the power of protecting as many as apply to him; of composing or silencing any difference; or delivering over the offending party to be punished with death, without being accountable for it. In these respects, his will is the law. He is generally too apt to take bribes, delivering up his vassals, and even his relations, when well paid for it. According to his orders, the Indians encamp, march, or travel from one place to another, to hunt or make war. He frequently summons them to his tent, and harangues them upon their behaviour; the exigencies of the time; the injuries they have received; the measures to be taken, &c. In these harangues, he always extols his own prowess and personal merit. When eloquent, he is greatly esteemed; and when a cacique is not endowed with that accomplishment, he generally has an orator, who supplies his place" (as in Polynesia).

"In cases of importance he calls a council of the principal Indians and wizards, with whom he consults about the measures to be taken, to defend himself or attack his enemies. In a general war, when many nations unite against a common enemy, as in the great alliances against the Spaniards, they choose a commander-in-chief, called Apo (or Toqui), from among the oldest or most celebrated caciques; but this honour though properly elective, has for many years been hereditary in the family of Cangapol. (Written in 1780.)

"The caciques have not the power to raise taxes, or to take away any thing from their vassals; nor can they oblige them to serve in the least employment, without paying them. They are obliged to treat their vassals with great humanity and mildness, and oftentimes to relieve their wants, or they will seek the protection of some other chief. For this reason, many of those who are born caciques refuse to have any vassals, as they cost them dear, and yield but little profit. No Indian, or body of Indians, can live without the protection of

some cacique, according to their law of nations; and if any of them attempted to do so, they would undoubtedly be killed, or carried away as slaves, as soon as they were discovered.

"In case of any injury, notwithstanding the authority of the cacique, the party aggrieved often endeavours to do himself justice to the best of his power. They know of no punishment or satisfaction, but that of paying or redeeming the injury or damage done with something of value. If the offence is not very great, and the offender is poor, the injured party perhaps beats him with his balls on the back and ribs; but, in general, they do not chastise, except by death. When the offender is too powerful, they let him alone; unless the cacique interferes, and obliges him to make satisfaction."

A curious plant is found in Patagonia (and at the Falkland Islands), somewhat like a very large and very solid cauliflower. It is greenish, or yellowish-green, tough, and very abundant. It grows upon and close to the ground, forming a lump like a large ant-hill overgrown with moss and grass. From the succulent stalks of this plant a balsamic juice or sap exudes, which is particularly good for healing wounds.

Battles between tribes are carried on similarly to their wars against a nation; but, of course, on a smaller scale. The attacking party halts at a great distance from the enemy, and sends out scouts to reconnoitre. These emissaries hide during the day, but at night examine every detail most minutely, and return to the camp with a full account of their opponent's strength and position. When the moon is near, or a little past the full, showing good light for their work, they advance to the attack. A few hours after midnight they make the assault, kill all the men who resist, and carry away the women and children for slaves.

Sometimes the Indian women follow their husbands, and share in the booty. Laden with plunder, they all retreat as hastily as possible, resting neither night nor day, till they are at a great distance, and out of the reach of their enemies. Sometimes they ride more than a hundred leagues from the place of attack before stopping to rest, and divide the booty.

On such occasions, if fearful of pursuit, or hard pressed by pursuers, they stop very little by the way—light no fire—eat but little food, and that raw—and some are even able to change horses without checking their speed, or touching the ground. A troop of loose horses is always driven along before the party: and when an Indian, at such a time, wants to change, he rides along-side of a loose horse, jumps on his back, bridle in hand, and in an instant, the bit is transferred from one to the other. Saddle they care not for, when thus pressed.

In guiding and managing their horses, the Indians use the voice with very good effect. The best of those animals are exceedingly well trained; and the owners are as reluctant to part with them as Arabs are to sell their steeds.

The natives of Patagonia breed their own horses as well as dogs: but their constant practice of killing the horses of men who die tends to prevent their being numerous. Upon such occasions, all, excepting the few which had been assigned to his children (generally one or two to each child at its birth), are killed. Dogs have a similar fate. With such laws, a man need not fear being put out of the way for the sake of his property; nor, while the women are enjoined to go through such a mourning ordeal, is it likely they would enter into or favour any combination made against their husbands, however harshly they might be treated by them.

Excepting that of the caciques, I believe there is no superiority of one person over another among the Patagonians. Those who have more property than others, or who are related to the chief, have influence over the rest, but are not considered by them to be their superiors.

The moral restraints of these people seem to be very slight. Each man is at liberty to do very much as he feels inclined; and, if he does not injure or offend his neighbour, is not interfered with by others. Their social habits are those handed down by their ancestors, and adapted to the life they are compelled to lead. Ideas of improvement do not trouble them. Contented with their fine climate—plenty of wholesome food, and an extensive range of country—they rather pity white

people, who seem to them always in want of provisions, and tossed about at sea. These natives have a great dislike to the motion of a ship; yet, for novelty, they will go afloat when opportunity offers.

In landing at Gregory Bay, Mr. Low has had much trouble in preventing the natives from crowding into his boat, all being anxious to see the vessel. Once, when many strange Indians (of another tribe) were present, he was obliged to affect to quarrel with them; and afterwards they behaved better and were quite civil, but he never allowed his boat to be grounded. Having left a Dutchman as boat-keeper, the natives teased him into a quarrel, and then dragged him out of the water, boat and all, with their lassoes, leaving him among the bushes, frightened and spluttering, while they galloped off, laughing heartily. The Dutchman hastened to Mr. Low; but while he was gone, the boat was put into the water by the authors of the trick, who then dashed off at full speed, highly amused at their feat. Mr. Low gave one of the women a gay gown: it was the first she had seen; and wishing to suckle her infant, she put it under the skirt of the gown, and, with some difficulty, forced the little thing upwards to her breast.

When the Patagonians meet white men, their inclinations are almost always friendly; but if they find themselves able to dictate to the strangers, a tribute of tobacco, bread, muskets, powder, ball, or such articles as they see and fancy, is often imposed.

A trading schooner called at Gregory Bay (in the Strait of Magalhaens) in 1834. Her mate landed, and was asked for various things which he could not or did not wish to give. The natives detained him as a prisoner; sent his boat away; and kept him till his ransom (tobacco and bread) was sent ashore.

Considerable traffic for knives, swords, muskets, ammunition, tobacco, bread, and, latterly, spirits, has been kept up between the southern Patagonians and the vessels which have touched on their shores (especially at Gregory Bay) in going through the Strait. Their returns have been mantles, skins, and fresh guanaco meat.

During late years, several persons, run-away seamen and others, have passed many months—some, indeed, have passed years—in their company,—living as they live.

In 1833-34, one of the most influential individuals among them was a Chilian, named San Leon, who had been carried to Patagonia by Mr. Brisbane, for the purpose of trading with the Indians for horses. He ran away from the vessel (1830-32), and has since lived with the tribe who are generally found near Gregory Bay. His wife is the daughter of an old native who possesses much property (according to their ideas); she speaks a little Spanish, and interprets for strangers better than her husband, whose knowledge of the Indian language is very slight. Bred in Chile, San Leon is a good horseman, and considered by the Indians to be an excellent hunter.

Mr. Low thinks that the natives would encourage and be friendly to a settlement of white people, made in Patagonia. They profess to like white men, and to wish some to live with them: when old Maria (the woman previously mentioned) was at the Falkland Islands, Mr. Low told her that he intended to build a house at Gregory Bay, and carry white people with him to live there, at which she and her party (including the wizard) seemed to be much pleased.

Mr. Low considers that those natives who live eastward and northward of the First Narrow are not of the same tribe as those who are generally about Gregory Bay, with whom, he says, they are frequently at war. He also thinks that those who live farther westward, near Otway and Skyring Waters, form another subdivision. The following notices, written from his dictation, will show that what I have already stated respecting these minor tribes, considered as subdivisions of one large body or nation, cannot be very far wrong:—

During the stay of the Unicorn (Mr. Low's vessel) in the channel between Otway and Skyring Waters, a fire was made, as a signal to the Indians. They soon began to arrive in small detached parties, some of whom were known to Mr. Low, whose acquaintance with them had been formed at Gregory Bay. They travelled in small parties, therefore were not,

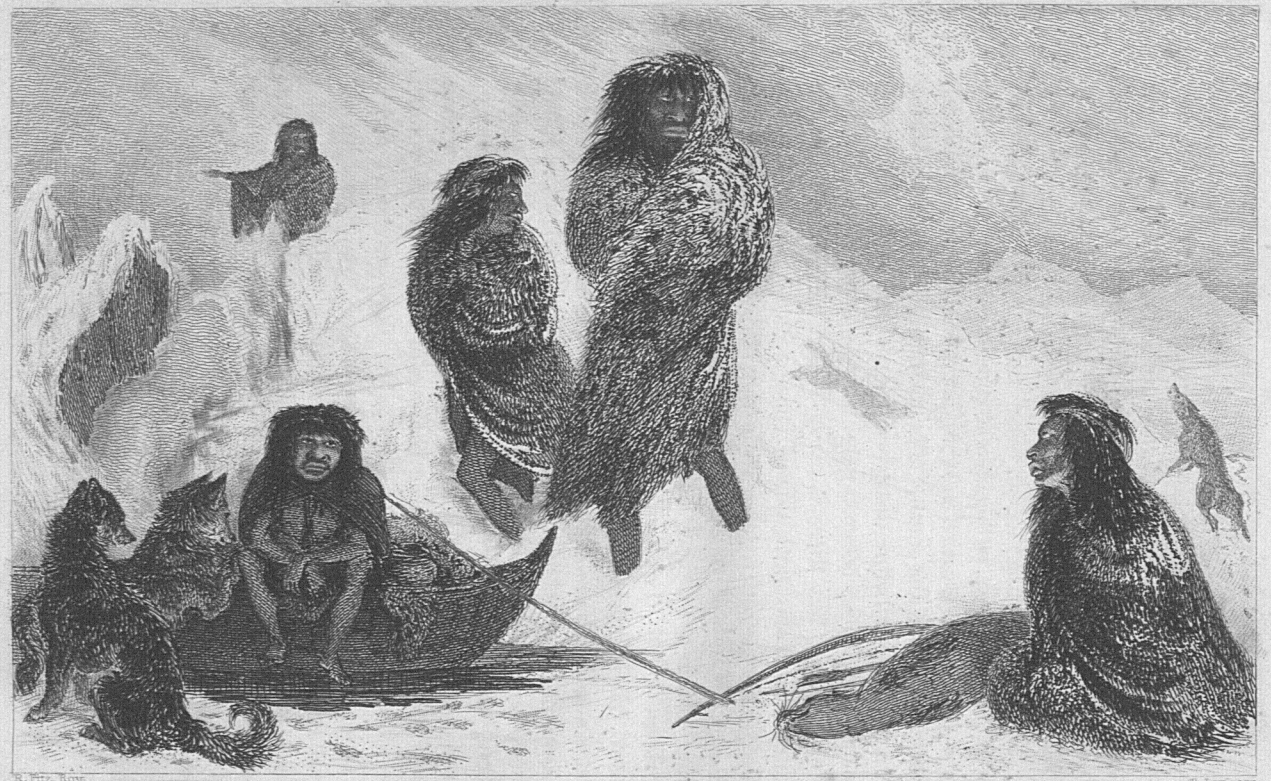
in all probability, on bad terms with their neighbours at that time.

Those who first arrived were invited on board; but declined going, because their chief was expected: and with the last party came a boy, about nine years' old, fantastically decked with ornaments of copper and brass, with beads, and with a new mantle. A tall, fine-looking man, of the Gregory Bay tribe, accompanied this young cacique, and made him known to Mr. Low, by the name of 'Capitan Chups.'

These natives have adopted the word 'capitan,' and now always use it when addressing white men who they suppose have authority. When some Patagonians of the Gregory Bay party came on board the Beagle, in 1834, seeing a larger number of officers than is usual in small vessels, one of the first questions asked, in broken Spanish, was, "Quanto capitanes abordo?"

Little Capitan Chups seemed to have no small idea of his own consequence, and tried to affect much dignity. He willingly went on board the Unicorn; but not a native would enter the boat until the young chief was seated, when there was a most inconsistent scramble, which nearly swamped it. However, after pushing out a few of the intruders, the party reached the vessel in safety. On board her was a Patagonian boy, who had been four months with Mr. Low, and had been clothed at Monte Video. He had recognized Capitan Chups at a distance, said who he was, and showed by his manner that he considered him a person of high distinction. The little cacique called this boy, asked him many questions, and examined every part of his dress. Afterwards the boy joined some of his own family, who were present. He had before refused to go to the party at Gregory Bay, while there in the vessel, alleging that they were not his people.

Mr. Low said, that the tribe on the banks of this channel were mixed, being partly horse and partly canoe Indians. They were entirely under the dominion of the Gregory Bay party, who appointed their chiefs. Maria's son, called 'Capitan Chico,' was their ruler, until the arrival of Capitan Chups.



R. Fitz. Roy. T. Lanseer.

FUEGIANS GOING TO TRADE IN ZAPALLOS WITH THE PATAGONIANS.

Published by Henry Colburn, Great Marlborough Street, 1838.

Yet Mr. Low did not think that the little capitan belonged to any of the families residing near Gregory Bay, but to some part of the same tribe who live far inland. Maria's son, Chico, was subsequently cacique, or acting as cacique of the Gregory Bay party. Had this western tribe been under the dominion of the Gregory Bay party, would the successor to Chico have been taken from a tribe who live far inland?

The apparent mixture of horse and canoe Indians appears to me to have been an accidental consequence of the fire made as a signal, which called to the spot horsemen from the north and canoes from the south. The novelty of a vessel anchoring in a place never before disturbed by such a visitor, might well suspend hostilities between neighbouring tribes, even had they been at war; but there is every reason to conclude that the canoe men of the south side of those waters have frequent and even amicable intercourse with the horsemen of Patagonia. A part though of that amicable intercourse consists in selling their children to the Patagonians for slaves. The following incident led to the discovery of this slave-trade: Mr. Low heard Maria talking of 'zapallos,'* and asked her if she could get some for him—and how many? He thought she meant pumpkins (for which zapallos is Spanish); Maria replied, "two boat loads," and to show of what, pointed to a young slave, lately purchased from the Fuegians. When there are more zapallos among them than are wanted for slaves, or than suits their convenience, what becomes of them? While young, they may be more useful than when they grow old; and a wandering people, subsisting by hunting, would not in all probability take the trouble of providing for useless slaves, who might maintain themselves. The Patagonians are not so barbarous as to kill them; then what becomes of those zapallos? If they are not sent to the borders of the Skyring and Otway Waters, there to shift for themselves, with perhaps a few old horses, and even some young men who help them to hunt, the employment of their later years is unexplained.

* 'Zapallos,' or some word of similar sound.

The canoe Indians are in reality despised by the Patagonians; but, for the sake of trade, are generally kept upon half-friendly terms. For dogs, old horses, guanaco meat, and old mantles, the former give pieces of iron pyrites (used for striking fire), their captives, or their children.

Patagonians have a great antipathy to negroes. As soon as they see a black man, they shout, hoot, hiss, and make faces at him.

No signs of hieroglyphics or writing have been noticed among the Patagonians. They can reckon as far as thousands. Time is counted by years and moons, days and nights. There are particular words denoting the various phases of the moon, the seasons of the year, and the times of day and night. In counting, the fingers and toes are used, as well as words expressing numbers, especially when trying to make their meaning clear to strangers. Once, when Mr. Low was leaving Gregory Bay, he gave Maria to understand that he would return again in four moons, and asked her to have some guanaco meat ready for him when he should arrive. He returned a fortnight before his time. No meat was ready. Maria said he was too soon, explaining herself by holding three fingers up, and the fourth bent half down. The few words of their language which have been collected by me are mentioned in the Appendix.

The Patagonians pay respect to old people, taking great care of them; they seldom move about on ordinary occasions, but remain near the tolderia (village or encampment) with the herds of mares.

It has been mentioned that the Patagonians have lately taken a liking to spirits. When intoxicated, they are very noisy, but not quarrelsome. They are very fond of tobacco; and use some sort of pipe, frequently ornamented with brass and tassels: it is passed round from one to the other. They neither work, nor use any metal but what is obtained from white men. There is no kind of pottery made by them: wooden vessels, or bladders, being used for containing water. Many of them now have iron kettles, in which meat is sometimes boiled, but their usual mode of cookery is roasting; a

piece of meat being put upon a wooden skewer, which is stuck into the ground near their fire.

The conduct of the women does not correspond to their character drawn by Falkner; but their ideas of propriety may have been altered by the visits of licentious strangers. Both at Gregory Bay (on the north shore of Magalhaens Strait), and at the River Negro, the Patagonian women are now thought to be unfaithful to their husbands, and to care little about chastity. The men appear to give themselves no anxiety on the subject. Spirits, provisions, and (to them) valuable articles of hardware, or clothing which they receive, occupy much more of their attention.

These Indians do not appear very sensible of heat or cold, if one may judge from their habits of life, and from their clothing; in the latter, the only difference made during the coldest part of winter is wearing horse-hide boots more constantly. In summer, their feet and legs are generally naked. Both men and women wash themselves occasionally, neither regularly nor often; but the women are rather less uncleanly than the men. I have elsewhere mentioned that they comb their hair with the jawbone of a porpoise (obtained from the zapallos). They have also a small brush, made of coarse grass, twigs, or rushes, with which their toilet is assisted.

When Mr. Low was returning from Monte Video, with the boy on board who has been spoken of as recognizing Capitan Chups, some natives were seen on Elizabeth Island (Strait of Magalhaens). A boat was sent, with the boy in her, to trade with them for skins. When near enough to distinguish persons, he seemed extremely frightened—clung to the thwarts of the boat—and begged not to be landed. These were canoe Indians, but of what tribe was not ascertained: he said they would certainly kill him. Some time after this boy had rejoined his family, Mr. Low was informed, by the Gregory Bay people, that he had collected seal-skins for 'Capitan Low,' which he would not part with to any other person, as he knew they were the object of his friend's trading voyages. This instance of gratitude for kind treatment speaks well for both

parties: but, indeed, every white man who has passed any time among the Patagonian Indians agrees in giving a favourable account of the treatment experienced. The 'Basket-maker,' however, would fare better than the 'Scholar,' I fancy, with these, as well as with most other tribes of savages, until ideas could be communicated clearly.*

The dogs now found in the southern part of Patagonia have a wolfish appearance—their size, colour, hair, ears, nose, tail, and form being in general much like those of a wolf; though some black or spotted dogs are also seen. The roof of the mouth is black: the ears are always erect, and the nose sharp-pointed. I should say that their usual height is about that of a large fox-hound. Generally the coat is harsh or wiry, and rather short; but there are some dogs among them which have thick woolly coats, like those of Newfoundland or large shepherd's dogs, which some resemble; others being more like lurchers; but all have a wild wolf-like look, not at all prepossessing. I had a fine dog of this kind, rather like a Newfoundland, except in physiognomy, but his habits were so savage that he came to an untimely end. These dogs hunt by sight, without giving tongue; but they growl or bark loudly at the approach of strangers. As to attachment to their masters, the dogs we had could hardly give fair testimony, having been taken (bought) from them; but to strangers they were always snappish.

* With reference to what has been already mentioned about their migratory inclinations, I will here annex an omitted date:—Maria and her companions were at Gregory Bay in November 1831: at the River Negro in September 1832: and again at Gregory Bay, in the Strait of Magalhaens, in March 1833.

CHAPTER IX.

Features—Form—Paint—Disposition—Food—Doctor—Religious ideas Superstitions — Marriage — Death—Burial—Cannibalism—Weapons —Women's occupation—Training—Obtaining food—Fire—Language —Sagacity and local knowledge—Battles — Ceremony — Natives in Trinidad Gulf—Obstruction Sound—Potatoes—Dogs.

THE most remarkable traits in the countenance of a Fuegian are his extremely small, low forehead; his prominent brow; small eyes (suffering from smoke); wide cheek-bones; wide and open nostrils; large mouth, and thick lips. Their eyes are small, sunken, black, and as restless as those of savages in general. Their eyelids are made red and watery by the wood smoke in their wigwams. The chin varies much; that of a Tekeenica is smaller and less prominent than that of an Alikhoolip, in whom it is large and rather projecting, but there is much variety. The nose is always narrow between the eyes, and, except in a few curious instances, is hollow, in profile outline, or almost flat. The mouth is coarsely formed (I speak of them in their savage state, and not of those who were in England, whose features were much improved by altered habits, and by education); their teeth are very peculiar: no canine, or eye-teeth, project beyond the rest, or appear more pointed than those; the front teeth are solid, and often flat-topped like those of a horse eight years old, and enamelled only at the sides: the interior substance of each tooth is then seen as plainly, in proportion to its size, as in that of a horse. Their hair is black, coarse, and lank, excepting the few instances mentioned in the next page. It grows by single hairs, not by piles, or by little bunches like very small camel-hair pencils. It does not fall off, nor does it turn gray until they are very old. Little, if any, hair is seen on the eye-brow. They would have a straggling beard, but scrupulously pull out every hair with tweezers made of muscle-shells.

As exceptions to the general appearance of these people, it ought to be said that, among the Fuegians, I have seen several individuals, both men and women, with curly or frizzled hair (like that of some of the Polynesians or Malays), with rather high foreheads, straight or aquiline noses; and in other features allied to the natives of New Zealand rather than to their countrymen of Tierra del Fuego. I was much struck by those exceptions, and, at the time, conjectured that they might be descendants of the Spanish colonists at Port Famine: but since then, having seen the Polynesians, I have been led to think otherwise; as will be mentioned in a future page relating to New Zealand.

Phrenological remarks on the forms of their heads are added in the Appendix: some were made on the spot by Mr. Wilson, the former surgeon of the Beagle, and others by a person in London. Mr. Wilson's paper also contains anatomical remarks and measurements. In this place it will be sufficient to remark that their heads are remarkably low, but wide; and full from the ears backward. The neck of a Fuegian is short and strong. His shoulders are square, but high; his chest and body are very large. The trunk is long, compared to the limbs and head. His arms and legs are rounder, and less sinewy, than those of Europeans; his joints are smaller, and his extremities are likewise comparatively less. The hands are shaped like those of Europeans, but the feet, from always going barefooted, are square at the toes, and would, by some persons, be considered of the Papua form. Most of them are rather bow-legged, and they turn their feet a little inwards in walking. The knee is strained by the custom of sitting so long on their heels, so that, when straightened, there are considerable folds or wrinkles of loose skin above and below the joint. The muscles of their thighs are large, but those of the legs, small. Little children are nearly of the same hue as their parents' skin is when cleaned; but infants are, for a few days, rather lighter coloured.

As I have already said, a small fillet is all that is worn around the head. Usually this is a mere string, made of the

sinews of birds or animals; but, to make a show, they sometimes stick feathers, bits of cloth, or any trash given to them, into these head-bands. White feathers, or white down, on the fillet, is a sign of hostility, or of being prepared for war. Red is the favourite colour, denoting peace, or friendly intentions, and much admired as ornamental. Red paint, made with ochre, is profusely used. Their white* paint is added to the red when preparing for war; but the marks made are mere daubs, of the rudest, if of any design. Black is the mourning colour. After the death of a friend, or near relation, they blacken themselves with charcoal, and oil or grease. Any sort of clay is used, if their paint is scarce, to preserve warmth rather than as an improvement to their appearance.

When discovered by strangers, the instant impulse of a Fuegian family is to run off into the wood with their children, and such things as they can carry with them. After a short time, if nothing hostile is attempted by the intruders, and if they are not too numerous, the men return cautiously, making friendly signs, waving pieces of skins, rubbing and patting their bellies, and shouting. If all goes on quietly, the women frequently return, bringing with them the children; but they always leave the most valuable skins hidden in the bushes. This hasty concealment of seal or otter skins is the result of visits from sealers, who frequently robbed Fuegian families of every skin in their possession, before the natives understood the motives of their expeditions in boats into the interior waters of Tierra del Fuego. Sometimes nothing will induce a single individual of the family to appear; men, women, and children hide in the thick woods, where it would be almost impossible to find them, and do not show themselves again until the strangers are gone: but during the whole time of their concealment a watchful look-out is kept by them upon the motions of their unwelcome visitors.

Scarcity of food, and the facility with which they move from one place to another in their canoes, are, no doubt, the reasons

* Aluminous earth, indurated pipe clay, or decomposed feldspar.

why the Fuegians are always so dispersed among the islands in small family parties, why they never remain long in one place, and why a large number are not seen many days in society. They never attempt to make use of the soil by any kind of culture; seals, birds, fish, and particularly shell-fish, being their principal subsistence; any one place, therefore, soon ceases to supply the wants of even one family; hence they are always migratory.

In a few places, where the meeting of tides causes a constant supply of fish, especially porpoises, and where the land is broken into multitudes of irregular islets and rocks, whose shores afford an almost inexhaustible quantity of shell-fish, a few families may be found at one time, numbering altogether among them from twenty to forty souls; but even those approaches towards association are rare, and those very families are so migratory by nature, that they do not remain many months in such a spot, however productive it may be, but go wandering away among the numerous secluded inlets or sounds of their country, or repair to the outer sea-coast in search of seals, a dead whale, or fragments of some wrecked ship. During the summer they prefer the coast, as they then obtain a great quantity of eggs and young birds, besides seal, which come ashore to breed at that season; and in the winter they retire more into the interior waters in search of shell-fish, and the small but numerous and excellent fish which they catch among the sea-weed (kelp).

The substitutes for clothing, the arms, canoes, and dwellings of the Fuegians have been so often described already, that I will not tire the reader by a repetition. Some of their customs, hitherto not related, may be more interesting.

There is no superiority of one over another, among the Fuegians, except that acquired gradually by age, sagacity, and daring conduct; but the 'doctor-wizard' of each party has much influence over his companions. Being one of the most cunning, as well as the most deceitful of his tribe, it was not surprising that we should always have found the 'doctor' concerned in all mischief and every trouble arising out of our intercourse

with these natives. It became a saying among us, that such a person was as troublesome as a Fuegian doctor.

In each family the word of an old man is accepted as law by the young people; they never dispute his authority. Warfare, though nearly continual, is so desultory, and on so small a scale among them, that the restraint and direction of their elders, advised as they are by the doctors, is sufficient.

Ideas of a spiritual existence—of beneficent and evil powers—they certainly have; but I never witnessed or heard of any act of a decidedly religious nature, neither could I satisfy myself of their having any idea of the immortality of the soul. The fact of their believing that the evil spirit torments them in this world, if they do wrong, by storms, hail, snow, &c., is one reason why I am inclined to think that they have no thought of a future retribution. The only act I have heard of which could be supposed devotional, is the following. When Matthews was left alone with them for several days, he sometimes heard a great howling, or lamentation, about sun-rise in the morning; and upon asking Jemmy Button what occasioned this outcry, he could obtain no satisfactory answer; the boy only saying, "people very sad, cry very much." Upon one occasion, when some canoes were alongside the Beagle, at a subsequent visit to the Beagle Channel (in 1834), a sudden howl from one of the Fuegians aroused several others who were near, and at the opposite side of the vessel, when a general howl of lamentation took place, which was ended by a low growling noise. By this, as well as by pulling their hair, and beating their breasts, while tears streamed down their faces, they evinced their sorrow for the fate of some friends who had perished, some days before the Beagle's arrival, by the upsetting of a loaded canoe.* There was no regular weeping, nor any thing at all like the downright cry of a civilized being; it was a noise which seemed to be peculiar to a savage. This howling was mostly among the men, only one young woman was similarly affected. Now whether the noises heard by

* The bottom of a Fuegian canoe is full of mud, or clay, for the fire-place.

Matthews were occasioned by similar feelings, or by those of a devotional nature, I cannot pretend to say.

The natives whom I carried to England often amused us by their superstitious ideas, which showed, nevertheless, that their ideas were not limited by the visible world. If any thing was said or done that was wrong, in their opinion it was certain to cause bad weather. Even shooting young birds, before they were able to fly, was thought a heinous offence. I remember York Minster saying one day to Mr. Bynoe, when he had shot some young ducks with the old bird—' Oh, Mr. Bynoe, very bad to shoot little duck—come wind—come rain—blow—very much blow."

A great black man is supposed to be always wandering about the woods and mountains, who is certain of knowing every word and every action; who cannot be escaped, and who influences the weather according to men's conduct. York related a curious story of his own brother, who had committed a murder. "In woods of my country," said he, "some men go about alone; very wild men—have no belly (meaning probably that they were very thin), live by stealing from other men." He then went on to say, that his brother had been getting birds out of a cliff, and, on coming down, hid them among some long rushes, and went away. Soon afterwards he returned, and, seeing feathers blown away by the wind from the spot, suspected what was going on; so taking a large stone in his hand, he crept stealthily towards the place, and there saw one of these wild men plucking a bird which he had got out of the cliff. Without saying a word, he dashed the stone at the wild man's head, and killed him on the spot. Afterwards York's brother was very sorry for what he had done, particularly when it began to blow very hard. York said, in telling the story, "rain come down—snow come down—hail come down—wind blow—blow—very much blow. Very bad to kill man. Big man in woods no like it, he very angry." At the word 'blow,' York imitated the sound of a strong wind; and he told the whole story in a very low tone of voice, and with a mysterious manner; considering it an extremely serious affair.

Jemmy Button was also very superstitious, and a great believer in omens and dreams. He would not talk of a dead person, saying, with a grave shake of the head, "no good, no good talk; my country never talk of dead man." While at sea, on board the Beagle, about the middle of the year 1832, he said one morning to Mr. Bynoe, that in the night some man came to the side of his hammock, and whispered in his ear that his father was dead. Mr. Bynoe tried to laugh him out of the idea, but ineffectually. He fully believed that such was the case, and maintained his opinion up to the time of finding his relations in the Beagle Channel, when, I regret to say, he found that his father had died some months previously. He did not forget to remind Mr. Bynoe (his most confidential friend) of their former conversation, and, with a significant shake of the head said, it was "bad—very bad." Yet those simple words, as Mr. Bynoe remarked, seemed to express the extent of his sorrow, for after that time he said no more about his father. This subsequent silence, however, might have been caused by the habit already noticed, of never mentioning the dead.

When a person dies, his family wrap the body in skins, and carry it a long way into the woods; there they place it upon broken boughs, or pieces of solid wood, and then pile a great quantity of branches over the corpse. This is the case among the Tekeenica and Alikhoolip tribes, as well as the Pecheray; but how the others dispose of their dead, I know not, excepting that, on the west coast, some large caves have been found, in which were many human bodies in a dried state. One of these caves is mentioned in Byron's narrative of the wreck of the Wager: and another was seen by Mr. Low, which will be spoken of in describing the natives of the western coast of Patagonia (the Chonos Indians), who from their intercourse with the Spaniards may be supposed to have acquired ideas somewhat more enlarged than those of the southernmost regions —the Alikhoolip and Tekeenica. I prefer relating all that I know of these tribes, in consequence of the intercourse carried on with them by the Beagle's officers and myself, and the visit

of York, Jemmy, and Fuegia to England, before any of Mr. Low's account is given; because, as his intercourse was chiefly with the Chonos tribe, and was quite unconnected with the Beagle's visit, it will be more satisfactory to the reader to be enabled to compare accounts from different sources, which in some points are so strikingly similar, that their agreement gives great weight to the whole.

The Fuegians marry young. As soon as a youth is able to maintain a wife, by his exertions in fishing or bird-catching, he obtains the consent of her relations, and does some piece of work, such as helping to make a canoe, or prepare seal-skins, &c. for her parents. Having built or stolen a canoe for himself, he watches for an opportunity, and carries off his bride. If she is unwilling, she hides herself in the woods until her admirer is heartily tired of looking for her, and gives up the pursuit; but this seldom happens. Although this is undoubtedly the custom among many of them, we had some reason to think there were parties who lived in a promiscuous manner—a few women being with many men. It is, however, hardly fair to judge from what we saw during our short visit, when the ordinary habits of their life were certainly much altered. We observed, while at Woollya, a disproportionately small number of females; but it ought to be remembered, that the people whom we then saw came to look at us from a distance, and that the greater part of their women and children were probably left in security at various places, as were the women and children of those who stole our boat in the former voyage (vol. i. p. 394) whom we found in a retired nook, far out of ordinary observation.

Jemmy Button often talked of his father, mother, brothers, and sisters, also of uncles* and aunts, after he knew enough of our language to understand distinctly the relationship. Now this could not have been the case had not his father and mother lived together permanently as man and wife, according to the clear account which he himself always gave of their custom in this respect.

* It was an uncle who gave him to me for some buttons.

From the concurring testimony of the three Fuegians abovementioned, obtained from them at various times and by many different persons, it is proved that they eat human flesh upon particular occasions, namely, when excited by revenge or extremely pressed by hunger. Almost always at war with adjoining tribes, they seldom meet but a hostile encounter is the result; and then those who are vanquished and taken, if not already dead, are killed and eaten by the conquerors. The arms and breast are eaten by the women; the men eat the legs; and the trunk is thrown into the sea. During a severe winter, when hard frost and deep snow prevent their obtaining food as usual, and famine is staring them in the face, extreme hunger impels them to lay violent hands on the oldest woman of their party, hold her head over a thick smoke, made by burning green wood, and pinching her throat, choke her. They then devour every particle of the flesh, not excepting the trunk, as in the former case. Jemmy Button, in telling this horrible story as a great secret, seemed to be much ashamed of his countrymen, and said, he never would do so—he would rather eat his own hands. When asked why the dogs were not eaten, he said "Dog catch iappo" (iappo means otter). York told me that they always eat enemies whom they killed in battle; and I have no doubt that he told me the truth.

When the Dutch fleet were in Nassau Bay (1624), a boat's crew were attacked by the natives, murdered and partly eaten. But previous to this (in 1599), Oliver Van Noort had attacked some Fuegians in a cave near a cape, then called Nassau, where he killed several men, and took four boys and two girls prisoners.

Jemmy Button told me that there are two tribes of Tekeenica, differing only in situation, who go to war sometimes with one another, though usually at peace; they live east and west, respectively, of some islets in the Beagle Channel, a short distance north-eastward of Woollya. With these two tribes or subdivisions of the Tekeenica there is constant war made by the Yacana, called by Jemmy 'Oens-men;' but they (the Tekeenica) are sometimes at peace with the Alikhoolip.

The food of the Fuegians has been mentioned so often in the preceding pages of this or the former volume, that I will only add here a few remarks which have not hitherto been made. When there is time, the natives roast their shell-fish, and half-roast any other food that is of a solid nature; but when in haste, they eat fish, as well as meat, in a raw state. A seal is considered to be a grand prize; for, besides the flesh, they feast on the oil; and a porpoise is much valued, for a similar reason. Seal are often killed on the rocks, by striking them on the nose with a club, or large stick: and rather than let a seal go, which has been intercepted by getting between it and the water, they will risk having a severe bite by attacking it with a stone in hand. Both seal and porpoises are speared by them from their canoes. When struck, the fish usually run into the kelp, with the spear floating on the water, being attached by a short line to a moveable barb; and there the men follow with their canoe, seize the spear, and tow by it till the fish is dead. To them, the taking of a seal or porpoise is a matter of as much consequence as the capture of a whale is to our countrymen. On moonlight nights, birds are caught when roosting, not only by the men but by their dogs, which are sent out to seize them while asleep upon the rocks or beach; and so well are these dogs trained, that they bring all they catch safely to their masters, without making any noise, and then return for another mouthful. Birds are also frequently killed with arrows,* or by stones slung at them with unerring aim. Eggs are eagerly sought for by the natives; indeed, I may say that they eat any thing and every thing that is eatable, without being particular as to its state of freshness, or as to its having been near the fire. Penguins are much prized; the otter is also valued, excepting the body part, which they seldom

* These arrows are of hard wood, well polished, and quite straight. They are about two feet in length, and in a notch at the point have a sharp triangular piece of agate, obsidian, or broken glass; which is not permanently fixed, and therefore remains in a wound, though the shaft may be drawn out. The bow is from three to four feet long, quite plain, with a string made of twisted sinews.

eat unless hard pressed by hunger. Sometimes they spear fine fish, like cod-fish—fifteen or twenty pounds in weight. Small fish are caught in abundance by the method formerly described,* and they are the staple article of food among the Tekeenica. The fins of a dead whale are esteemed; but if other food is to be had, they do not eat the blubber.

In the Tekeenica country, near the Beagle Channel, there are many small animals, about the size of a cat, which they sometimes take and eat. These, I think, are nutria; for, on one occasion, a fresh nutria skin was obtained from them, the only sign I ever found of a small animal in that neighbourhood.

Of vegetable food they have very little: a few berries, cranberries, and those which grow on the arbutus, and a kind of fungus, which is found on the birch-tree, being the only sorts used. This fungus is very plentiful in some places: it grows upon the birch-tree much as the oak-apple upon an oak-tree. Mr. Darwin describes it fully in his journal (vol. iii). There is also another much larger kind of fungus, which is sometimes eaten. On what tree it grows, I know not, but it was mentioned to me as being about two feet in circumference. The Fuegians drink only pure water, but often, and in large quantities. The women or children fetch it in small buckets, made of birch-bark; and two or three times in the course of a night they wake to eat and drink. In the day-time also they eat and drink very frequently.

The men procure food of the larger kind, such as seal, otter, porpoises, &c.; they break or cut wood and bark for fuel, as well as for building the wigwams and canoes. They go out at night to get birds; they train the dogs, and of course undertake all hunting or warlike excursions.

The women nurse their children, attend the fire (feeding it with dead wood, rather than green, on account of the smoke), make baskets and water-buckets, fishing-lines and necklaces,† go out to catch small fish in their canoes, gather shell-fish, dive for sea-eggs, take care of the canoes, upon ordinary occasions paddle their masters about while they sit idle;—and do any other drudgery.

* See vol. i. p. 428. † See note at end of chapter.

Swimming is a favourite amusement of the Fuegians during summer; but the unfortunate women are obliged to go out into rather deep water, and dive for sea-eggs in the depth of winter as often as in summer. Men, women, and children are excellent swimmers; but they all swim like dogs. Directly they come out of the water they run to the fire, and rub their bodies all over with oil or grease and ochreous earth, to keep out the cold. Swinging between branches of trees, as our children do, is also a favourite pastime, the ropes being made of strips of sealskin. Frequently the men are lowered down by such ropes over the faces of high cliffs in search of eggs and young birds, or to attack the seal which herd in caves washed by the surf, and inaccessible to man from seaward.

When ill, however seriously, they know of no remedies but rubbing the body with oil, drinking cold water, and causing perspiration by lying near the fire, wrapped up in skins.

Both men and women are remarkably fond of the little children, and were always much pleased at any notice taken of them by our parties, when they felt sufficient confidence in us to bring the children forward. Much respect is said to be paid to age; yet we never saw either man or woman who appeared to be very old—certainly no one was decrepit.

It is rather curious that usually each of these natives is trained to a particular pursuit: thus, one becomes an adept with the spear; another with the sling; another with a bow and arrows; but this excellence in one line does not hinder their attaining a considerable proficiency in all the others.*

Hostilities are usually carried on with slings and stones rather than by close encounters; yet occasional surprises happen, especially when the Oens-men make an attack, and then there is savage work with clubs, stones in the hand, and spears.

In the winter, when snow lies deep on the ground, the Tekeenica people assemble to hunt the guanaco, which then comes down from the high lands to seek for pasture near the sea. The long legs of the animal stick deeply into the snow and soft boggy ground, disabling him from escape, while the

* Mr. Low has seen Fuegians with balls (bolas) in the northern part of their country.

Fuegians and their dogs hem him in on every side, and quickly make him their prey.

Jemmy Button's division of the Tekeenica, living westward of Murray Narrow, never obtain guanacoes; but the other division, who live eastward of that small passage, often kill them in winter; and at other times of the year they sometimes get them by lying in wait, and shooting them with arrows, or by getting into a tree near their track, and spearing them as they pass beneath the branches. An arrow was shewn to Low, which was marked with blood two-thirds of its length in wounding a guanaco, afterwards caught by dogs. Low held out his jacket, making signs that the arrow would not penetrate it: upon which the native pointed to his eye.

Some of the families of this eastern division of the Tekeenica have no canoes, living entirely at a distance from the shore, and subsisting upon berries, birch-fungus, guanacoes, and birds. The bows and arrows of those men are longer and better, and they have some very fine dogs, which are trained to search for and bring home food. These dogs often surprise the larger birds, while feeding on the ground, as well as when they are at roost, so quietly do they steal upon their prey. Byron mentions that the Chonos Indians send their dogs away to fish, and that they assist their owners in fishing, by swimming about, and driving the fish into a corner. This I have not witnessed or heard of among the Fuegians; but their dogs assist in a similar manner when in pursuit of an otter, by swimming and diving after it with the utmost eagerness.

Fire, that essential necessary to man in every state and every climate, is always kept alive by these savages wherever they go, either in their canoes, in their wigwams, or even in their hand, by a piece of burning wood; but they are at no loss to rekindle it, should any accident happen. With two stones (usually iron pyrites) they procure a spark, which received among tinder, and then whisked round in the air, soon kindles into a flame. The tinder used is the inner down of birds, well dried; very fine dry moss; or a dry kind of fungus found on the under side of half-rotten trees. Where the pyrites is

usually obtained, I do not know; but it cannot be plentiful in the Tekeenica country, since every woman keeps small pieces by her, in the basket which holds their paint and ornaments, and will not easily be prevailed upon to part with them. Some of the sealers have fancied these pieces of pyrites were silver or gold ore, and have eagerly sought for the mines whence they came. One person finding a large quantity in a rock somewhere near the Gulf of Trinidad, employed his crew and himself for many days in loading his ship with it, being quite sure it was gold.

Of the Fuegian language we know but little, although three of the natives were so many months with us. I found great difficulty in obtaining words, excepting names for things which could be shown to them, and which they had in their own country; however, the few which I have collected are given in the Appendix to this volume, and I can assure the reader that the utmost pains were taken to spell each word so as to ensure having the correct sound when pronounced by other persons; and to place the marks of accent, as well as quantity, with precision. All the Fuegian sounds are imitable by using our letters, excepting one, a curious sort of 'cluck,' meaning 'no.' Many of their words are exceedingly guttural in their pronunciation, yet I have twice heard their women sing, and not disagreeably. Weddell, in his narrative (p. 173), gives some Fuegian words, and endeavours to trace a similarity to the Hebrew language. Molina also, in his vocabulary of the Araucanian language, which appears to be related to the Fuegian, traces some singular correspondences.

Mr. Low, who has had more intercourse with the Fuegians than perhaps any other individual, gave me much information about them. He says that, generally speaking, they appear to be friendly when meeting strangers, but that their subsequent conduct depends entirely upon their relative numbers. They ought never to be trusted, however, as they have hasty tempers, and are extremely revengeful. They show much hardiness and daring, being always ready to defend their own property, or resent any ill treatment; and they are enterprising thieves.

When the intentions of the natives are hostile, the women and children are kept out of the way; the men are quite naked, their bodies painted more than usual, and the leader of the party has a band of white feathers around his head.

Mr. Low had a Fuegian boy on board the Adeona, who learned to speak English very tolerably, during eighteen months that he staid on board as a pilot and interpreter. This boy, whose name, among the sealers, was Bob, was one of the Chonos tribe, and had never been south of Magalhaens Strait before he embarked with Mr. Low. He said, that in cases of extreme distress, caused by hunger, human flesh was eaten, and that when they had recourse to such food, the oldest women invariably suffered. The poor creatures escaped to the woods, if possible, at such a time, but were soon found and brought back by force. They were killed by suffocation, their heads being held over the thick smoke of a fire made of green wood, and their throats squeezed by the merciless hands of their own relations. This boy imitated the piercing cries of the miserable victims whom he had seen sacrificed. He also mentioned that the breasts, belly, hands, and feet, were most liked. When first questioned on this subject, he showed no reluctance in answering any questions about it; but after a time, perceiving how much shocked his English companions were at the story, and how much disgust it excited among the crew of the vessel, he refused to talk of it again.

The different tribes of canoe Indians are generally upon hostile terms with each other, as well as with the horse Indians. This may be more particularly noticed about the western entrance of Magalhaens Strait, where the tribes which inhabit opposite sides* are particularly inveterate in their hostility.

On the west coast of Patagonia, from the Strait of Magalhaens to Cape Tres Montes, Mr. Low found that the natives seemed to be of one tribe, and upon friendly terms with one another. A man, whose native name was Niqueaccas, was taken on board Mr. Low's vessel, near Cape Victory, as a pilot,

* Chonos and Alikhoolip.

and he afterwards proved to be acquainted with all the natives met with along the coast as far north as the parallel of 47°. He was always glad to see the various parties of Indians whom they met, and was invariably well received by them. Perfectly acquainted with every part of the coast, he was able to point out excellent harbours, as well as the best seal 'rookeries.' Niqueaccas and the boy Bob were of the same tribe; but whenever he was spoken to about eating people, he became sullen, and not a word could be obtained from him. He spoke English very fairly before leaving the vessel in his own country, after being with Mr. Low fourteen months.

The people of this tribe* are by no means without ideas of a superior Being. They have great faith in a good spirit, whom they call Yerri Yuppon, and consider to be the author of all good: him they invoke in time of distress or danger. They also believe in an evil spirit, called Yaccy-ma, who they think is able to do all kinds of mischief, cause bad weather, famine, illness, &c.: he is supposed to be like an immense black man. After being hard pressed for food, and then obtaining a good quantity, much form is observed in distributing the first supplies. Mr. Low witnessed a ceremony of this kind, during which the greatest order prevailed. The whole tribe was seated round a fire, and the oldest man gave each individual a share, repeatedly muttering a short prayer, and looking upwards. Not one of the party, although nearly starved, attempted to touch the food, a large seal, until this ceremony was ended: one share was offered to Mr. Low. At another time, on Madre de Dios Island, after having been detained in port upwards of three months, owing to very bad weather, during which time the natives were almost famished, being unable to reach the outer rocks in quest of food, Mr. Low went with his boats and procured a few seals, taking an Indian in each boat. At his return the carcasses of the seals were sent ashore, but not one of the natives, ravenous as they were, attempted to touch a morsel until all was landed, till the

* Chonos. See page 194.

ceremony above-mentioned had been duly performed, and till the natives who had been in the boats had chosen what they pleased for their share.

This tribe appears to have regular places for depositing their dead; as on a small out-lying island, a little southward of Madre de Dios, Mr. Low found a cave which had been used for such a purpose: it was strewed with human bones, and the body of a native child was found in a state of putrefaction. The bodies seemed to have been placed in shallow graves, about a foot deep, which had been dug along the sides of the cave, and covered with twigs and leaves. Slips of a peculiar plant, resembling box, had been carefully planted along the outer sides of each grave, and those near the mouth of the cave had taken root and were growing, but all those in the interior had decayed.

One evening, while at sea, Mr. Low called the boy to him, and said, "Bob, look at the sun; it is going to be drowned." The boy shook his head, saying, "No, no drown; to-morrow morning get up again. Sun go round earth; come again to-morrow."

The natives of this tribe* suppose that all white people originally came from the moon; they call them "cubba;" and often make use of an expression with reference to them which means "White men of the Moon." These Indians, in common with those of the other southern tribes, are exceedingly superstitious, implicitly believing omens, signs, and dreams, as well as the 'wise men' among them, who are thought infallible as prophets, doctors, and magicians. Once, when Mr. Low was detained about three weeks by contrary winds and bad weather, his crew became discontented, and attributed their ill-luck to a native who was detained on board against his will. To pacify those who were, in this instance, every bit as superstitious as the aborigines themselves, a fire was made on shore, to invite the Indians to approach; and when they came he delivered their countryman to them, explaining at the same

* Chonos.

time that he would depart as soon as the wind became fair. An old Indian, then, in a very ceremonious and mysterious manner, gave Low what he understood to be a charm, with strict injunctions not to look at it until next morning; when, at sunrise, there would be a fair wind, and the vessel might sail. Notwithstanding the old man's orders, he was no sooner out of sight than Low opened the mysterious packet, which appeared to contain human hair, mixed with the scrapings of the shaft of an arrow.

Next morning, however, at sunrise, a fair (easterly) wind sprung up, and the vessel sailed. How the old man foreknew the change—whether he judged by the sky, the tides, or other indications, did not transpire; but this was by no means a singular instance of extraordinary accuracy shown by the natives in foretelling changes of weather.

The sagacity and extensive local knowledge of these people is very surprising; Niqueaccas was so well acquainted with all the coast between 47° and the Strait of Magalhaens, that, upon being taken to a high hill, immediately after landing from a cruise, in which they had been far out of sight of land, he pointed out the best harbours and places for seal then visible; and in one direction, a long way off (pointing towards Eyre Sound, then far out of sight), he said there were great numbers of fur seals. The boy Bob also described that same place, when he was with Mr. Low at the Galapagos Islands. On a calm day, while there was nothing going on, he made a chart with chalk upon the vessel's deck, reaching from the windlass to the taff-rail, and Mr. Low has since felt quite certain that the boy meant Eyre Sound, though at that time these interior waters on the west coast of Patagonia had not been explored by any white man.

Niqueaccas was always anxious and timid about taking the Adeona through a passage where he knew danger existed, and proportionably pleased when the dangers were safely passed, and the vessel anchored in a safe position.

The boy Bob, when only ten years old, was on board the Adeona at sea. As the vessel approached land, Low asked

him where a harbour could be found? As soon as he understood what was meant, which was an affair of some difficulty, for he then could speak but very little English, he got up on the vessel's bulwark, and looked anxiously around. After some hesitation, he pointed to a place where the ship might go, and then went to the lead-line, and made signs to Mr. Low that he must sound as he approached the land. The cove was found to have a shoal and narrow entrance, but was safe and sufficiently spacious within. Such knowledge at so early an age is an extraordinary proof of the degree in which the perceptive and retentive faculties are enjoyed by these savages. Whenever the advice of Niqueaccas or any of his tribe was rejected, much sullenness and displeasure were shown. Upon one occasion his services were refused, and a harbour tried against his advice, which proved to be a bad one; it was left to seek for that which he had previously recommended, and his sullenness suddenly changed into delight; but when his harbour was pronounced excellent, and he was duly praised, his joy knew no bounds.

Generally speaking, both Niqueaccas and the boy Bob were well-behaved and good-tempered; but the boy was sometimes inclined to be mischievous, and would hide the people's clothes, or put salt into their mouths while asleep. When much annoyed, he would use both teeth and nails, and attack any one, however superior to himself in size and strength.

Battles between parties of the same tribe seem to occur occasionally, as this boy showed Mr. Low two spots where quarrels had been decided. Both were open spaces, clear of trees, and near them were the remains of wigwams. One of those battles occurred in consequence of one party wishing to take some seal-skins away from the other; but it did not distinctly appear from the boy's account whether these encounters were between parties of his tribe, or whether an encroachment upon their territory, with a view to plunder, had been made by some other tribe. That parties occasionally cross overland from Skyring Water to Obstruction Sound is evident from Mr. Bynoe's account (page 198), and that people of the

tribe to which Niqueaccas belonged either make excursions themselves southward of the Strait of Magalhaens, or that the Alikhoolip invade their territory and take away canoes, is evident from the fact of plank canoes* having been seen in and about the Barbara Channel. The arms used are similar to those of the Alikhoolip already described.

A method of declaring war, ascertained by the following circumstance, is rather curious. The boy Bob had been taken on board the Adeona, in consequence of some dispute with the natives, who had stolen things from the vessel. Mr. Low intended to keep him as a hostage until the missing property should be restored; but the tribe decamped, and as Low was obliged to sail, he carried the boy away with him. At the return of the vessel, about eight months afterwards, the boy saw something on shore, at the entrance of the harbour, which he looked at for some time very earnestly, and then gave Mr. Low to understand that the natives had declared war against him and his ship, and intended to attack her at her return. No natives being visible, Low went ashore with the boy, to see what it was that had attracted his attention, and found a number of spears, arrows, and clubs, roughly cut out of wood, painted red, and stuck into the ground, across a point of the island, and having in the middle a large block of wood, roughly carved into a strange figure (said by the boy to be that of their evil spirit) curiously painted, with long red teeth, and having a short halter of hide (seal-skin) round the part intended to represent a neck. Notwithstanding this outward demonstration of anger and intent to revenge, not a native was seen in the neighbourhood during the many months which Low passed there, and in consequence he had no opportunity of restoring the boy to his own tribe; but he was afterwards kindly received, and treated as Low's son, among the Patagonians of Gregory Bay.

The natives of Niqueaccas' tribe (Chonos) are less dishonest and deceitful than those of the southernmost islands. Mr. Low

* Plank canoes are used on the west coast. See page 142.

has sometimes left his vessel, while he was away sealing, with only two men on board; and although in one instance, at Madre de Dios, there were about a hundred and fifty natives assembled, no hostile or predatory attempt whatever was made by them in his absence: indeed so careful were they to prevent any cause for misunderstanding, that in no instance did more than two of their party go on board the vessel during the absence of the boats; though, after their return with Low, they went to her as usual in great numbers. This tribe was in extreme distress for want of food; the whole party looked thin and miserable. Continual gales had prevented the rocks from being uncovered at low water, and no canoe could be launched on account of the surf, therefore they could get neither shell-fish nor seal. A small party were observed going away, as if on an excursion, and the others who remained explained to Low, by signs, that in four sleeps they would return with food. On the fifth day they were met by Low, returning, but almost dead with fatigue, each man having two or three great pieces of whale-blubber, shaped like a poncho with a hole in the middle, on his shoulders. The blubber was half putrid, and looked as if it had been buried under ground. When they entered the largest wigwam, an old man cut very thin slices off one piece, broiled each successively, and distributed to the party in rotation; but before doing so, he muttered a few words over each piece in a mysterious manner, while strict silence was kept by the by-standers. One slice was offered to Low. The boy Bob once noticed marks where a whale had been cast ashore; taking a sharp stick, he probed the sand in several places, and found many large pieces of blubber, which were taken on board and boiled down for oil. One of the men of this tribe, seeing two long powder-horns on board the Adeona, placed them to his head and made a noise like the bellowing of cattle; but he and his tribe were much frightened by sheep and pigs. They would not land on a small island where some pigs were turned loose, and when talking of them, made signs that they had very big noses which alarmed them. When a pig was killed by the crew

and part of it cooked, the natives refused even to taste the meat. One day several of these people had gone on board the Adeona with some old axes and pieces of iron, which they wished to have ground at her grindstone (a favour which had often been granted); but in consequence of something having gone wrong in the vessel, which had ruffled Low's temper, he rather roughly refused to let them stay on board. They went away quietly, but left their axes, &c. behind; and while returning were met by the mate of the vessel, who asked if they had ground them; they replied negatively, and gave the mate to understand that the captain's face was too long, but that they would come again when it was shorter. This occurred before either Niqueaccas or the boy had been taken on board the Adeona.

Mr. Low remarked to me that the conduct of these Indians on this occasion of his harshly refusing to comply with a slight request, was quite different from that which the Fuegians would have shown under similar circumstances: they would have been angry, and in all probability have returned his ill-temper with a display of their own, evinced by a shower of stones. Once, when Low was in the Magdalen Channel, he desired some Fuegians who were on board to leave the vessel while his men were below at dinner. They refused to comply, and offered resistance; but being obliged to go, went in their canoes to a short distance a-head, and there remained slinging large stones on board, which broke several windows. To drive them away muskets were used, though without injuring any of their party. Next day the hardy fellows came alongside again, as unconcernedly as ever.

When the Fuegians are inclined to attack an enemy with stones, they generally try to raise a breastwork of boughs or logs; but no such preparation was ever noticed among the natives of the western coast of Patagonia.

While the Adelaide tender was examining the inner passages and sounds of the western shores of Patagonia, under Lieutenant Skyring, some interesting remarks were made by

Mr. Bynoe, which do not appear in the narrative of that cruise given in the preceding volume. I shall here insert them in his own words:—

"We entered the Gulf of Trinidad, and while surveying thereabouts met two large canoes, which were thought to be whale-boats when first seen at a distance; but as we concluded that some sealing vessel was in the neighbourhood, and that these were her boats, little notice was taken of them until they had approached very near, when, to our astonishment they proved to be large plank canoes, pulled with oars, and full of fine stout Indians. Just within hail they stopped, lay on their oars, halloed to us most vociferously, and waved skins above their heads. One man was very conspicuous, having on his head a tall leathern cap, tapering to a point, which was ornamented with feathers of various gaudy colours; and around the brim of this high conical hat there was also a fringe of feathers. This singular character was painted black all over from head to foot, except a circle of white round each eye, and a few white dots upon his cheeks. By signs we succeeded in tempting them to come alongside the schooner, and were then still more struck by their appearance: they were far superior to any Fuegians I had seen, being a taller race, more upright, and better proportioned; their limbs were better formed, more muscular, rounder, and fuller than those of any canoe Indians of the Strait of Magalhaens or Barbara Channel; and their skins were cleaner as well as clearer, which was probably the reason why we thought them lighter coloured than the others whom we had seen. The length of back, so remarkable in a Fuegian, was not very discernible in these people, neither were they by any means so ugly as the former; indeed a rather pleasing smile was sometimes noticed on the younger faces. None among them were much smoke-dried, nor did their eyes look red and watery. There did not appear to be one of the party above a middle age, and most of them were young. Three of the men had lost each an upper incisor tooth, and one had a long though not deep scar upon the breast. We all pronounced these people to belong to a finer race than we had

seen on the water, and the size of their canoes was quite beyond anything hitherto noticed: they were near thirty feet in length and seven feet broad, with proportionate depth, being made of planks sewn together with strips of twisted bark and rushes: the bow and stern were flat, and nearly upright. Six round pieces of wood formed the thwarts, which were fastened to the gunwale by ropes of twisted rushes; and there were six short oars on each side. These oars were about seven feet long, the blade being a flat piece of wood about sixteen inches in length, fastened to the handle by rush rope passed through two holes in the blade. Of such burthen were these boats (rather than canoes), that two men standing on one gunwale did not bring it down to the water. Each was steered by an old woman, who sat silently abaft with a paddle. All the party were quite naked excepting the old women.

"From one of the old women a small bag was obtained, in exchange for a shirt and some woollen stuff, which proved to contain white dust, feathers, parrots' heads, hawks' feet, white earth, and red ochre. One of the men had an old hatchet, and made signs that he wanted to sharpen it at our grindstone: of course we complied with his request, and allowed a man and a young lad to come on board for that purpose. The lad turned the stone, while the man held the axe; and extremely well it was sharpened. The spears and slings were similar to those seen in other places.

"Although these natives seemed to be remarkably well disposed, it was not quite pleasant to see thirty of them looking over the schooner's bulwark, while our boats were away and only five or six men left on board: however, they made no attempt to do any thing improper, and before sunset left us peaceably, striking up a song as they paddled away."

Mr. Bynoe remarked, that in the neighbourhood of Easter Bay (Obstruction Sound), the country had much the appearance of English park scenery; large clumps of trees growing straight and tall, with intervening spaces of clear ground covered with long grass. In this place he found great numbers of wigwams and deserted canoes. Some of the former were of

large dimensions, and various shapes: two were like inverted whale-boats, each of which might hold forty or fifty people; and in the long ones (six feet high), Mr. Bynoe could walk upright. All of them were built of slight materials, such as branches of trees covered with long grass. Five or six large wigwams stood together in each place; and near them canoes had evidently been built, for many trees had been felled and barked close by. The traces of fire were visible, which had been trained around the roots of the trees; and many large pieces of bark were lying about, partly sewed together. Four good canoes were found in one place, one of the four being quite new: and there were many old or broken ones. They also saw on nearly every sandy point a neatly-constructed small wigwam, about two feet high, at the entrance of which was a platted rush noose, intended as a snare to catch swans probably, which were numerous about the adjoining grounds, and generally roost on those sandy points. Many deer, like a kind of roebuck, were seen by Mr. Bynoe, but he did not suceeed in shooting one. Horse tracks were seen near the upper part of Obstruction Sound; showing that the eastern Patagonians occasionally visit this part of the western coast. Mr. Bynoe suggested the possibility of the natives of Skyring Water travelling overland, building canoes, and then going northward along the west coast; but I do not myself think it so likely as that the Chonos Indians should select such a spot, abounding in food, to pass their winter in, or to stay at for a considerable time while building canoes. Probably, when Mr. Bynoe was there (being summer-time) the tribe, whose winter quarters it had been, were dispersed along the sea-coast in search of seal, eggs, and young birds. In support of his idea Mr. Bynoe says, " I only met one canoe, and that of the bark kind, in the Mesier Channel: whence could that one have come? None of the bark canoes have been seen by us on the west coast, excepting in that instance, and in Obstruction Sound. The distance from Skyring Water to the head of Obstruction Sound is small, though sufficiently difficult to traverse to prevent transporting canoes, because of low prickly brushwood.

How can we account for the numerous canoes stranded in Obstruction Sound, excepting by a supposition that the natives, after using them in a north-westerly excursion, left them behind at their return, as they may have left others on the shores of Skyring Water? These canoes were all of bark, and rather smaller than those usually made by the southern Fuegians." Should this be the case, there can no longer be any doubt of the non-existence of a direct passage between Skyring Water and the Smyth Channel (leading northwards from Magalhaens Strait). Perhaps the horse Indians sometimes stay in the neighbourhood of Obstruction Sound, and oblige their slaves (zapallos) to build canoes and swan-traps, to fish for them, and even make excursions for seal.

Mr. Bynoe saw many nutria among the islands of Western Patagonia, and a great number of otters. Brant-geese, swans, ducks, and rock-geese were also plentiful in particular places, but not generally. Besides the wild potato, found on the Guaianaco islands (mentioned in the first volume), Mr. Bynoe noticed, in the Gulf of Peñas, an abundance of the plant called 'pangue,' which grows also in Chilóe, and is so much liked by the Chilotes.

Mr. Low said that natives whom he met in the Gulf of Trinidad relished potatoes which he gave them, and asked for more. They pointed towards the north and used the word 'aquinas,' which he recognized as being the term used for potatoes by the aborigines at the south of Chilóe.

A native who was on board the Adeona in one of her excursions among the western islands of Patagonia induced Low to take long walks in search of potatoes, which never were found; and afterwards, in the Mesier Channel, he persuaded him to go about in quest of seals, until an opportunity offered for escaping to a small party of his own tribe whom he met there. When taxed by the crew with deceiving Mr. Low about the potatoes, he fell into (or affected) a violent passion, and sprung at the nearest man, grappling him in a most determined and malicious manner.

Having now mentioned all that I know respecting the Canoe

Indians (excepting some facts related by Capt. King in vol. i.), I will add a few words about their constant and faithful companion, the dog: and then continue the narrative.

The dog of a Fuegian or Chonos Indian is small, active, and wiry, like a terrier with a cross of fox. His hair is usually rough, and dusky, or dark-coloured; but there are many dogs among the Fuegians almost white, or prettily spotted, some of which have fine smooth hair. All that were examined had the roof of their mouth black, the ears erect, large, and pointed; the nose sharp, like that of a fox; the tail drooping, and rather inclined to be bushy. They are exceedingly vigilant and faithful. Their sagacity is shown in many ways, some of which I have already noticed; and not least, in their providing for themselves, each low-water, by cunningly detaching limpets from the rocks, or by breaking muscle and other shells, and then eating the fish.

These dogs bark at strangers with much fury: and they give tongue eagerly when hunting the otter.*

* Byron says they do so likewise when driving fish into corners.

NOTE to page 185.—The Fuegian necklaces show some ingenuity in those who make them, being composed of small shells, perforated very neatly, and fastened together on strings of sinews or gut, so finely divided and platted, that one is, at first, inclined to doubt their being the manufacture of such uncouth savages.

CHAPTER X.

Set out to land Matthews and the Fuegians—Their meeting with Natives—Supposed Volcano—Dream—Oens-men—Scene—Arrival at Woollya—Encampment—Concourse of Natives—Jemmy's Family—Wigwams—Gardens—Distrust—Experiment—Westward Exploration—Remove Matthews—Revisit Woollya—Gale—Sail for the Falkland Islands.

At the end of Chapter vi., I described our preparations for landing the Fuegians, who had been in England, among their own countrymen; and now, having attempted to give a fuller idea of those people, the narrative of our proceedings shall be continued.

Jan. 19, 1833. The yawl, being heavily laden, was towed by the other three boats, and, while her sails were set, went almost as fast as they did; but after passing Cape Rees, and altering our course to the westward, we were obliged to drag her along by strength of arm against wind and current. The first day no natives were seen, though we passed along thirty miles of coast, and reached Cutfinger Cove. (This name was given because one of our party, Robinson by name, almost deprived himself of two fingers by an axe slipping with which he was cutting wood.) At this place, or rather from a hill above it, the view was striking. Close to us was a mass of very lofty heights, shutting out the cold southerly winds, and collecting a few rays of sunshine which contrived to struggle through the frequent clouds of Tierra del Fuego. Opposite, beyond a deep arm of the sea, five miles wide, appeared an extensive range of mountains, whose extremes the eye could not trace; and to the westward we saw an immense canal, looking like a work of gigantic art, extending between parallel ranges of mountains, of which the summits were capped with snow, though their sides were covered by endless forests. This singular canal-like passage is almost straight and of nearly an

uniform width (overlooking minute details) for one hundred and twenty miles.

20th. We passed the clay cliffs, spoken of in the former volume, first visited by Mr. Murray. They narrow the channel to less than a mile, but, being low, were beneath the horizon of our eye at Cutfinger Cove:—westward of them the channel widens again to its usual breadth of two miles. Several natives were seen in this day's pull; but as Jemmy told us they were not his friends, and often made war upon his people, we held very little intercourse with them. York laughed heartily at the first we saw, calling them large monkeys; and Jemmy assured us they were not at all like his people, who were very good and very clean. Fuegia was shocked and ashamed; she hid herself, and would not look at them a second time. It was interesting to observe the change which three years only had made in their ideas, and to notice how completely they had forgotten the appearance and habits of their former associates; for it turned out that Jemmy's own tribe was as inferior in every way as the worst of those whom he and York called "monkeys—dirty—fools—not men.".

We gave these 'Yapoos,' as York called them, some presents, and crossed over to the north side of the channel to be free from their importunities; but they followed us speedily, and obliged us to go on further westward than was at all agreeable, considering the labour required to make way against a breeze and a tide of a mile an hour. When we at last landed to pass the night, we found that the forests on the sides of the mountains had been burned for many leagues; and as we were not far from the place where a volcano was supposed to exist, in consequence of flames having been seen by a ship passing Cape Horn, it occurred to me that some conflagration, like that of which we found the signs, might have caused appearances resembling the eruption of a distant volcano: and I have since been confirmed in this idea, from having witnessed a volcano in eruption; and, not long afterwards, a conflagration, devouring many miles of mountain forest; both of which, at a distance, shewed lines of fire, fitful flashes, and sudden gleams.

Persons who have witnessed a forest burning on the side of a mountain, will easily perceive how, when seen from a distance, it may resemble the eruption of a volcano; but to those who have not seen fire on such a scale, I may remark that each gust of wind, or temporary calm; each thick wood, or comparatively barren space; augments or deadens the flames so suddenly, as the fire sweeps along the mountain side, that, at a distance of fifty miles or more, the deception may be complete.

22d. Favoured by beautiful weather, we passed along a tract of country where no natives were seen. Jemmy told us it was "land between bad people and his friends;" (neutral-ground probably). This evening we reached a cove near the Murray Narrow; and from a small party of Tekeenica natives, Jemmy's friends, whom we found there, he heard of his mother and brothers, but found that his father was dead. Poor Jemmy looked very grave and mysterious at the news, but showed no other symptom of sorrow. He reminded Bennett* of the dream (related in the previous chapter), and then went for some green branches, which he burned, watching them with a solemn look: after which he talked and laughed as usual, never once, of his own accord, recurring to the subject of his father's decease. The language of this small party, who were the first of Jemmy's own tribe whom we met, seemed softer and less guttural than those of the "bad men" whom we had passed near the clay cliffs; and the people themselves seemed much better disposed, though as abject and degraded in outward appearance as any Fuegians I had ever seen. There were three men and two women: when first we were seen they all ran away, but upon two of our party landing and advancing quietly, the men returned and were soon at their ease. Jemmy and York then tried to speak to them; but to our surprise, and much to my sorrow, we found that Jemmy had almost forgotten his native language, and that, of the two, York, although belonging to another tribe, was rather the best interpreter. In a few minutes the natives comprehended that we should do them no harm; and they then called back their women, who were hiding in the

* My coxswain.

woods, and established themselves, very confidently, in a wigwam within a hundred yards of our tents. During this and the preceding day, we found the weather, by comparison, so mild, even warm, that several of our party bathed; yet the thermometer ranged only to 53° in the shade, and at night fell to 40°. The temperature of the sea was 48°.

Being within a few hours' pull (row) of Jemmy's 'own land,' which he called Woollÿa, we all felt eager, though anxious, and I was much gratified by seeing that Matthews still looked at his hazardous undertaking as steadily as ever, betraying no symptom of hesitation. The attentions which York paid to his intended wife, Fuegia, afforded much amusement to our party. He had long shewn himself attached to her, and had gradually become excessively jealous of her good-will. If any one spoke to her, he watched every word; if he was not sitting by her side, he grumbled sulkily; but if he was accidentally separated, and obliged to go in a different boat, his behaviour became sullen and morose. This evening he was quizzed so much about her that he became seriously angry, and I was obliged to interpose to prevent a quarrel between him and one of his steadiest friends.

On this and previous evenings, as we sat round the blazing piles, which our men seemed to think could never be large enough, we heard many long stories from Jemmy about the Oens, or Coin men, who live beyond the mountains at the north side of the Beagle Channel, and almost every year make desperate inroads upon the Tekeenica tribe, carrying off women and children, dogs, arrows, spears, and canoes; and killing the men whom they succeed in making prisoners. He told us that these Oens-men made their annual excursions at the time of 'red leaf;' that is in April or May, when the leaves of deciduous trees are changing colour and beginning to fall; just the time of year also when the mountains are least difficult to pass.

At that period these invaders sometimes come down to the shores of the Beagle Channel in parties of from fifty to a hundred; seize upon canoes belonging to the Yapoo division of

the Tekeenica tribe, cross over to Navarin Island, and thence sometimes to others, driving the smaller and much inferior Tekeenica people before them in every direction. By Jemmy's own account, however, there are hard battles sometimes, and the Oens tribe lose men; but as they always contrive to carry away their dead, it seems that the advantage of strength is on their side.

These periodical invasions of a tribe whose abode is in the north-eastern quarter of Tierra del Fuego are not to be confounded with the frequent disputes and skirmishes which take place between the two Tekeenica tribes; and it is interesting to compare what we thus heard with the account obtained by Oliver Van Noort in 1589: who learnt that the people lived in caves dug in the earth, * and that there were five tribes—four of ordinary stature and one of gigantic size. These giants, called Tiremenen, lived in 'Coin.' The other tribes were called Enoo, Kemenites, Karaike, and Kenneka.

23d. While embarking our tents and cooking utensils, several natives came running over the hills towards us, breathless with haste, perspiring violently, and bleeding at the nose. Startled at their appearance, we thought they had been fighting; but it appeared in a few moments, that having heard of our arrival, they lost not a moment in hurrying across the hills from a place near Woollÿa, and that the bloody noses which had surprised us were caused by the exertion of running. This effect has been noticed among the New Hollanders, I believe the islanders of the Pacific Ocean, as well as the Esquimaux, and probably others; but to our party it was then a novelty, and rather alarming.

Scarcely had we stowed the boats and embarked, before canoes began to appear in every direction, in each of which was a stentor hailing us at the top of his voice. Faint sounds of deep voices were heard in the distance, and around us echoes to the shouts of our nearer friends began to reverberate, and warned me to hasten away before our movements should be-

* The ground within a wigwam is scooped out considerably.

come impeded by the number of canoes which I knew would soon throng around us. Although now among natives who seemed to be friendly, and to whom Jemmy and York contrived to explain the motives of our visit, it was still highly necessary to be on our guard. Of those men and boys who ran over the hills to us, all were of Jemmy's tribe excepting one man, whom he called an Oens-man; but it was evident, from his own description, that the man belonged to the Yapoo, or eastern Tekeenica tribe, and was living in safety among his usual enemies, as a hostage for the security of a man belonging to Jemmy's tribe who was staying among the eastern people.

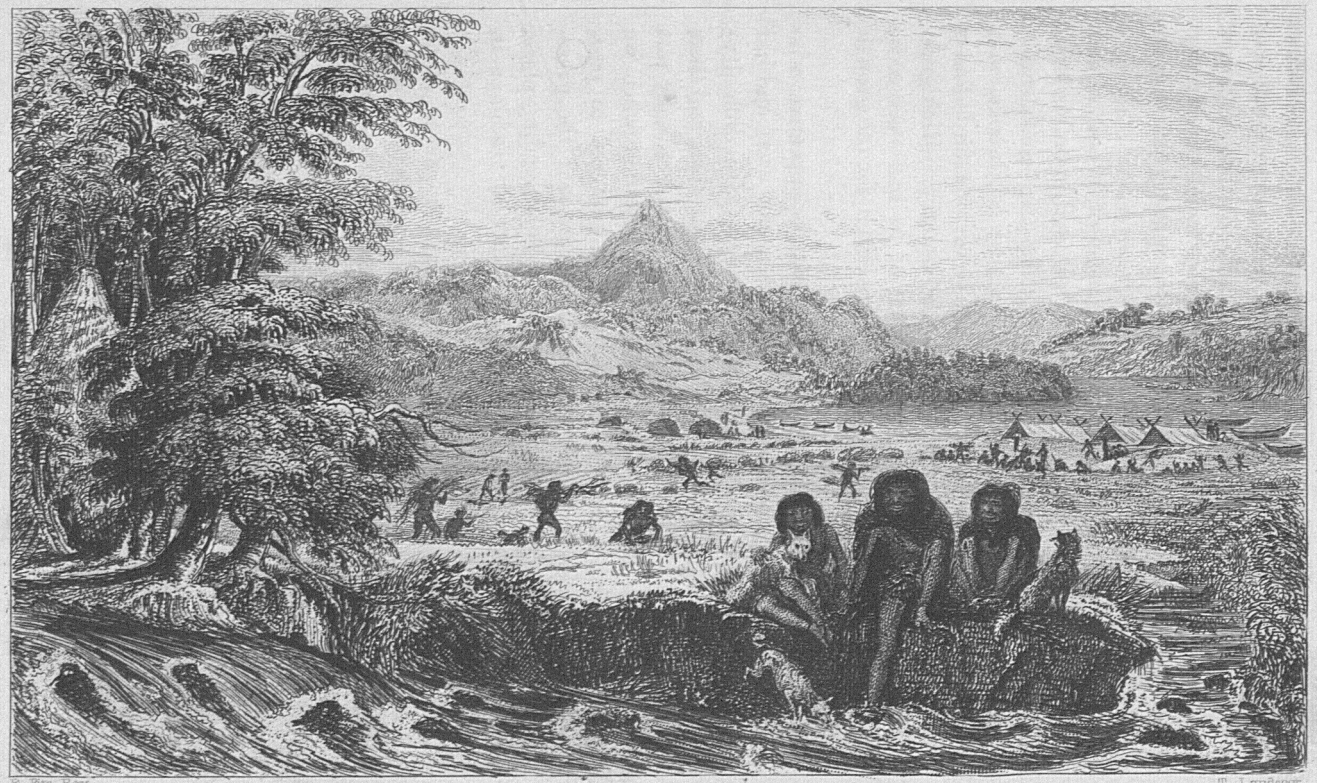
As we steered out of the cove in which our boats had been sheltered, a striking scene opened: beyond a lake-like expanse of deep blue water, mountains rose abruptly to a great height, and on their icy summits the sun's early rays glittered as if on a mirror. Immediately round us were mountainous eminences, and dark cliffy precipices which cast a very deep shadow over the still water beneath them. In the distant west, an opening appeared where no land could be seen; and to the south was a cheerful sunny woodland, sloping gradually down to the Murray Narrow, at that moment almost undistinguishable. As our boats became visible to the natives, who were eagerly paddling towards the cove from every direction, hoarse shouts arose, and, echoed about by the cliffs, seemed to be a continual cheer. In a very short time there were thirty or forty canoes in our train, each full of natives, each with a column of blue smoke rising from the fire amidships, and almost all the men in them shouting at the full power of their deep sonorous voices. As we pursued a winding course around the bases of high rocks or between islets covered with wood, continual additions were made to our attendants; and the day being very fine, without a breeze to ruffle the water, it was a scene which carried one's thoughts to the South Sea Islands, but in Tierra del Fuego almost appeared like a dream. After a few hours (pulling hard to keep a-head of our train) we reached Woollÿa, and selected a clear space favourably situated for our encampment, landed, marked a boundary-line,

placed sentries, and made the various arrangements necessary for receiving the anticipated visits of some hundred natives. We had time to do all this quietly, as our boats had distanced their pursuers several miles, while running from the Murray Narrow before a favourable breeze which sprung up, and, to our joy, filled every sail.

We were much pleased by the situation of Woollya, and Jemmy was very proud of the praises bestowed upon his land. Rising gently from the water-side, there are considerable spaces of clear pasture land, well watered by brooks, and backed by hills of moderate height, where we afterwards found woods of the finest timber trees in the country. Rich grass and some beautiful flowers, which none of us had ever seen, pleased us when we landed, and augured well for the growth of our garden seeds.

At our first approach, only a few natives appeared, who were not of Jemmy's family. The women ran away and hid themselves, but Jemmy and York contrived (with difficulty) to make the men comprehend the reason of our visit; and their awkward explanation, helped by a few presents, gradually put them at ease. They soon understood our meaning when we pointed to the boundary-line which they were not to pass. This line was on the shore between our tents and the grass-land; immediately behind the tents was a good landing-place, always sheltered, where our boats were kept in readiness in case of any sudden necessity.

Soon after our arrangements were made, the canoes which had been following us began to arrive; but, much to my satisfaction, the natives landed in coves at some distance from us, where the women remained with the canoes while the men and boys came overland to our little camp. This was very favourable for us, because it divided their numbers and left our boats undisturbed. We had only to guard our front, instead of being obliged to look out all round, as I had expected; and really it would have been no trifling affair to watch the pilfering hands and feet of some hundred natives, while many of our own party (altogether only thirty in num-



R. Fitz, Roy. T. Landseer

WOOLLYA.

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ber) were occupied at a distance, cutting wood, digging ground for a garden, or making wigwams for Matthews, York, and Jemmy.

As the natives thronged to our boundary-line (a mere mark made with a spade on the ground), it was at first difficult to keep them back without using force; but by good temper on the part of our men, by distributing several presents, and by the broken Fuegian explanations of our dark-coloured shipmates, we succeeded in getting the natives squatted on their hams around the line, and obtaining influence enough over them to prevent their encroaching.

Canoes continued to arrive; their owners hauled them ashore on the beach, sent the women and children to old wigwams at a little distance, and hastened themselves to see the strangers. While I was engaged in watching the proceedings at our encampment, and poor Jemmy was getting out of temper at the quizzing he had to endure on account of his countrymen, whom he had extolled so highly until in sight, a deep voice was heard shouting from a canoe more than a mile distant: up started Jemmy from a bag full of nails and tools which he was distributing, leaving them to be scrambled for by those nearest, and, upon a repetition of the shout, exclaimed "My brother!" He then told me that it was his eldest brother's voice, and perched himself on a large stone to watch the canoe, which approached slowly, being small and loaded with several people. When it arrived, instead of an eager meeting, there was a cautious circumspection which astonished us. Jemmy walked slowly to meet the party, consisting of his mother, two sisters, and four brothers. The old woman hardly looked at him before she hastened away to secure her canoe and hide her property, all she possessed—a basket containing tinder, firestone, paint, &c., and a bundle of fish. The girls ran off with her without even looking at Jemmy; and the brothers (a man and three boys) stood still, stared, walked up to Jemmy, and all round him, without uttering a word. Animals when they meet show far more animation and anxiety than was displayed at this meeting. Jemmy was evidently much morti-

fied, and to add to his confusion and disappointment, as well as my own, he was unable to talk to his brothers, except by broken sentences, in which English predominated. After a few minutes had elapsed, his elder brother began to talk to him; but although Jemmy understood what was said, he could not reply. York and Fuegia were able to understand some words, but could not or did not choose to speak.

This first evening of our stay at Woollya was rather an anxious one; for although the natives seemed inclined to be quite friendly, and they all left us at sunset, according to their invariable practice, it was hard to say what mischief might not be planned by so numerous a party, fancying, as they probably would, that we were inferior to them in strength, because so few in number. Jemmy passed the evening with his mother and brothers, in their wigwam, but returned to us to sleep. York, also, and Fuegia were going about among the natives at their wigwams, and the good effect of their intercourse and explanations, such as they were, was visible next day (24th) in the confident, familiar manner of the throng which surrounded us while we began to dig ground for gardens, as well as cut wood for large wigwams, in which Matthews and his party were to be established. Canoes still arrived, but their owners seemed as well-disposed as the rest of the natives, many of whom assisted us in carrying wood, and bringing bundles of grass or rushes to thatch the wigwams which they saw we were making, in a pleasant sheltered spot, near a brook of excellent water. One wigwam was for Matthews, another for Jemmy, and a third for York and Fuegia. York told me that Jemmy's brother was "very much friend," that the country was "very good land," and that he wished to stay with Jemmy and Matthews.

A small plot of ground was selected near the wigwams, and, during our stay, dug, planted and sowed with potatoes, carrots, turnips, beans, peas, lettuce, onions, leeks, and cabbages. Jemmy soon clothed his mother and brothers, by the assistance of his friends. For a garment which I sent the old woman she returned me a large quantity of fish, all she had to offer;

and when she was dressed, Jemmy brought her to see me. His brothers speedily became rich in old clothes, nails and tools, and the eldest were soon known among the seamen as Tommy Button and Harry Button, but the younger ones usually staid at their wigwams, which were about a quarter of a mile distant. So quietly did affairs proceed, that the following day (25th) a few of our people went on the hills in search of guanacoes: many were seen, but they were too wild to approach. An old man arrived, who was said to be Jemmy's uncle, his father's brother; and many strangers came, who seemed to belong to the Yapoo Tekeenica tribe. Jemmy did not like their visit; he said they were bad people, 'no friends.'

26th. While some of my party were washing in a stream, stripped to the waist, several natives collected round, and were much amused at the white skins, as well as at the act of washing, so new probably to them. One of them ran to the nearest wigwams, and a troop of curious gazers collected, whose hands, however, were soon so actively employed in abstracting the handkerchiefs, shoes, &c., which had been laid on the bank, that a stop was put to the ablutions.

We discovered that Jemmy's eldest brother was a 'doctor,' and though young for his occupation of conjuring and pretending to cure illness, he was held in high estimation among his own tribe. I never could distinctly ascertain whether the eldest man, or the doctor of a tribe had the most influence; but from what little I could learn, it appeared to me that the elder of a family or tribe had a sort of executive authority, while the doctor gave advice, not only in domestic affairs, but with respect to most transactions. In all savage nations, I believe there is a person of this description—a pretended prophet—conjuror—and, to a certain degree,—doctor.

This evening our party were employed for a short time in firing at a mark, with the three-fold object of keeping our arms in order—exercising the men—and aweing, without frightening, the natives. While this was going on, the Fuegians sat about on their hams, watching our proceedings, and often eagerly talking to each other, as successful shots were made at the target,

which was intentionally placed so that they could see the effect of the balls. At sunset they went away as usual, but looking very grave, and talking earnestly. About an hour after dark, the sentry saw something moving along the ground near our tents, within the boundary line, which he thought was a wild animal, and had just levelled his musket to fire at it, when he discovered it was a man, who instantly darted off, and was lost in the darkness. Some native had doubtless stolen to the tents, to see what we were doing; perhaps with a view to surprise us, if asleep, perhaps only to steal.

27th. While a few of our party were completing the thatch of the last wigwam, and others were digging in the garden which was made, I was much surprised to see that all the natives were preparing to depart; and very soon afterwards every canoe was set in motion,—not half a dozen natives remaining. Even Jemmy's own family, his mother and brothers, left us; and as he could give no explanation of this sudden departure, I was in much doubt as to the cause. Whether an attack was meditated, and they were removing the women and children, previous to a general assembly of the men, or whether they had been frightened by our display on the preceding evening, and feared that we intended to attack them, I could not ascertain; but deeming the latter by far the most probable, I decided to take the opportunity of their departure to give Matthews his first trial of passing a night at the new wigwams.

Some among us thought that the natives intended to make a secret attack, on account of the great temptation our property offered; and in consequence of serious offence which had been taken by two or three old men, who tried to force themselves into our encampment, while I was at a little distance; one of whom, when resisted by the sentry, spit in his face; and went off in a violent passion, muttering to himself, and every now and then turning round to make faces and angry gestures at the man who had very quietly, though firmly, prevented his encroachment.

In consequence of this incident, and other symptoms of a

disposition to try their strength, having more than three hundred men, while we were but thirty, I had thought it advisable, as I mentioned, to give them some idea of the weapons we had at command, if obliged to use them, by firing at a mark. Probably two-thirds of the natives around us at that time had never seen a gun fired, being strangers, coming from the Beagle Channel and its neighbourhood, where no vessel had been; and although our exercise might have frightened them more than I wished, so much, indeed, as to have induced them to leave the place, it is not improbable that, without some such demonstration, they might have obliged us to fire at them instead of the target. So many strangers had arrived during the few days we remained, I mean strangers to Jemmy's family —men of the eastern tribe, which he called Yapoo—that his brothers and mother had no longer any influence over the majority, who cared for them as little as they did for us, and were intent only upon plunder. Finding this the case, I conclude that Jemmy's friends thought it wise to retreat to a neighbouring island before any attack commenced; but why they did not tell Jemmy their reasons for going, I know not, neither could he tell me more than that they said they were going to fish, and would return at night. This, however, they did not do.

In the evening, Matthews and his party—Jemmy, York, and Fuegia—went to their abode in the three new wigwams. In that made for Matthews, Jemmy also took up his quarters at first: it was high and roomy for such a construction; the space overhead was divided by a floor of boards, brought from the ship, and there most of Matthews' stores were placed; but the most valuable articles were deposited in a box, which was hid in the ground underneath the wigwam, where fire could not reach.

Matthews was steady, and as willing as ever; neither York nor Jemmy had the slightest doubt of their being all well-treated; so trusting that Matthews, in his honest intention to do good, would obtain that assistance in which he confided, I decided to leave him for a few days. The absence of the

natives, every one of whom had decamped at this time, gave a good opportunity for landing the larger tools belonging to Matthews and our Fuegians, and placing them within or beneath his wigwam, unseen by any one except ourselves; and at dusk, all that we could do for them being completed, we left the place and sailed some miles to the southward.

During the four days in which we had so many natives about us, of course some thefts were committed, but nothing of consequence was stolen. I saw one man talking to Jemmy Button, while another picked his pocket of a knife, and even the wary York lost something, but from Fuegia they did not take a single article; on the contrary, their kindness to her was remarkable, and among the women she was quite a pet.

Our people lost a few trifles, in consequence of their own carelessness. Had they themselves been left among gold and diamonds, would they all have refrained from indulging their acquisitive inclinations?

Notwithstanding the decision into which I had reasoned myself respecting the natives, I could not help being exceedingly anxious about Matthews, and early next morning our boats were again steered towards Woollÿa. My own anxiety was increased by hearing the remarks made from time to time by the rest of the party, some of whom thought we should not again see him alive; and it was with no slight joy that I caught sight of him, as my boat rounded a point of land, carrying a kettle to the fire near his wigwam. We landed and ascertained that nothing had occurred to damp his spirits, or in any way check his inclination to make a fair trial. Some natives had returned to the place, among them one of Jemmy's brothers; but so far were they from showing the slightest ill-will, that nothing could be more friendly than their behaviour.

Jemmy told us that these people, who arrived at daylight that morning were his friends, that his own family would come in the course of the day, and that the 'bad men,' the strangers, were all gone away to their own country.

A further trial was now determined upon. The yawl, with one whale-boat, was sent back to the Beagle, and I set out on

a westward excursion, accompanied by Messrs. Darwin and Hamond, in the other two boats: my intention being to complete the exploration of Whale-boat Sound, and the north-west arm of the Beagle Channel; then revisit Woollÿa, either leave or remove Matthews, as might appear advisable, and repair to our ship in Goree Road. With a fair and fresh wind my boat and Mr. Hamond's passed the Murray Narrow, and sailed far along the channel towards the west, favoured, unusually, by an easterly breeze. Just as we had landed, and set up our tent for the night, some canoes were seen approaching; so rather than be obliged to watch their movements all night, we at once embarked our tent and half-cooked supper, and pulled along the shore some miles further, knowing that they would not willingly follow us in the dark. About midnight we landed and slept undisturbed. Next day we made little progress, the wind having changed, and landed, earlier than usual, on the north side of the channel, at Shingle Point. Some natives soon appeared, and though few in number, were inclined to give trouble. It was evident they did not know the effect of fire-arms; for if a musket were pointed at them, and threatening gestures used, they only made faces at us, and mocked whatever we did. Finding them more and more insolent and troublesome, I preferred leaving them to risking a struggle, in which it might become necessary to fire, at the hazard of destroying life. Twelve armed men, therefore, gave way to six unarmed, naked savages, and went on to another cove, where these annoying, because ignorant natives could not see us.

On the 29th we reached Devil Island, and found the large wigwam still standing, which in 1830 my boat's crew called the 'Parliament House.' Never, in any part of Tierra del Fuego, have I noticed the remains of a wigwam which seemed to have been burned or pulled down; probably there is some feeling on the subject, and in consequence the natives allow them to decay naturally, but never wilfully destroy them. We enjoyed a grand view of the lofty mountain, now called Darwin, with its immense glaciers extending far and wide. Whether

this mountain is equal to Sarmiento in height, I am not certain, as the measurements obtained did not rest upon satisfactory data; but the result of those measures gave 6,800 feet for its elevation above the sea. This, as an abstract height, is small, but taking into consideration that it rises abruptly from the sea, which washes its base, and that only a short space intervenes between the salt water and the lofty frozen summit, the effect upon an observer's eye is extremely grand, and equal, probably, to that of far higher mountains which are situated at a distance inland, and generally rise from an elevated district.

We stopped to cook and eat our hasty meal upon a low point of land, immediately in front of a noble precipice of solid ice; the cliffy face of a huge glacier, which seemed to cover the side of a mountain, and completely filled a valley several leagues in extent.

Wherever these enormous glaciers were seen, we remarked the most beautiful light blue or sea green tints in portions of the solid ice, caused by varied transmission, or reflection of light. Blue was the prevailing colour, and the contrast which its extremely delicate hue, with the dazzling white of other ice, afforded to the dark green foliage, the almost black precipices, and the deep, indigo blue water, was very remarkable.

Miniature icebergs surrounded us; fragments of the cliff, which from time to time fall into a deep and gloomy basin beneath the precipice, and are floated out into the channel by a slow tidal stream. In the first volume the frequent falling of these masses of ice is noticed by Captain King in the Strait of Magalhaens, and in the narrative of my first exploring visit to this arm of the Beagle Channel; therefore I will add no further remark upon the subject.

Our boats were hauled up out of the water upon the sandy point, and we were sitting round a fire about two hundred yards from them, when a thundering crash shook us—down came the whole front of the icy cliff—and the sea surged up in a vast heap of foam. Reverberating echoes sounded in every direction, from the lofty mountains which hemmed us in; but our whole attention was immediately called to great rolling waves

which came so rapidly that there was scarcely time for the most active of our party to run and seize the boats before they were tossed along the beach like empty calabashes. By the exertions of those who grappled them or seized their ropes, they were hauled up again out of reach of a second and third roller; and indeed we had good reason to rejoice that they were just saved in time; for had not Mr. Darwin, and two or three of the men, run to them instantly, they would have been swept away from us irrecoverably. Wind and tide would soon have drifted them beyond the distance a man could swim; and then, what prizes they would have been for the Fuegians, even if we had escaped by possessing ourselves of canoes. At the extremity of the sandy point on which we stood, there were many large blocks of stone, which seemed to have been transported from the adjacent mountains, either upon masses of ice, or by the force of waves such as those which we witnessed. Had our boats struck those blocks, instead of soft sand, our dilemma would not have been much less than if they had been at once swept away.

Embarking, we proceeded along a narrow passage, more like a river than an arm of the sea, till the setting sun warned us to seek a resting-place for the night; when, selecting a beach very far from any glacier, we again hauled our boats on shore. Long after the sun had disappeared from our view, his setting rays shone so brightly upon the gilded icy sides of the summits above us, that twilight lasted an unusual time, and a fine clear evening enabled us to watch every varying tint till even the highest peak became like a dark shadow, whose outline only could be distinguished. No doubt such scenes are familiar to many, but to us, surrounded even as we so often were by their materials, they were rare; because clouds continually hang over the heights, or obscure the little sunshine which falls to the lot of Tierra del Fuego.

The following day (30th) we passed into a large expanse of water, which I named Darwin Sound—after my messmate, who so willingly encountered the discomfort and risk of a long cruise in a small loaded boat. Desirous of finding an opening

northwards, I traced the northern shore of this sound, mile by mile, leaving all islands to the southward until we entered Whale-boat Sound, and I recognized Cape Desolation in the distance, as well as a number of minor points which had become familiar to me during the search after our lost boat in the former voyage (1830).

Feb. 2. Having done what was necessary and attainable for the purposes of the survey, we traversed Whale-boat Sound, and stopped for a time at an old bivouac, used by me twice before, on an islet near the east extremity of the largest Stewart Island. While the boat's crew were occupied in preparing our meal, I went to Stewart Island, and from a small eminence saw Mount Sarmiento quite distinctly. We next steered eastward, along the north side of the Londonderry Islands, and passed the night in a narrow passage. On the 3d we got to the open sea at the south side of Darwin Sound, and entered the south-west arm of the Beagle Channel rather too late, for it had become so dark we could distinguish no place fit to receive us; however, after much scrutiny and anxious sounding, to ascertain if our boats could approach without danger of being stove, we were guided by the sound of a cascade to a sheltered cove, where the beach was smooth. Excepting for the novelty and excitement of exploring unknown places, however uninteresting they may be, there was little in this trip worthy of general notice, considering how much has already been said of these unprofitable regions. Even to a professed naturalist, there was scarcely anything to repay the time and trouble, as it was impossible to delay long enough in any one place to give time for more than a most cursory examination.

I need hardly say that the survey of such places as were visited in this hasty manner is little more than an eye-sketch, corrected by frequent bearings, occasional latitudes by sun, moon, or stars, and meridian distances, measured by two chronometers, which were always kept in a large box and treated very carefully. To have attempted more, to have hoped for such an accurate delineation of these shores, at present almost useless to civilized man, as is absolutely necessary where ship-

ping may resort, would have been wrong, while so many other objects demanded immediate attention.

4th. We sailed along the passage very rapidly, a fresh wind and strong tide favouring us. The flood-tide stream set two or three knots an hour through this south-west arm of the Beagle Channel, but the ebb was scarcely noticed: certainly its strength did not, even in the narrowest places, exceed one knot an hour. A few Alikhoolip Fuegians were seen in a cove on the south shore, ten miles west of Point Divide; the only natives, except a very small party in Darwin Sound, that had been met in the excursion since we left the Tekeenica people.

Near Point Divide we saw a large fire, and approached the spot guardedly, supposing that a number of Fuegians must be there. No one appeared; but still the fire burned brightly, and we began to think there might be an ambush, or that the natives who had been there had fled, but were still in the neighbourhood. Approaching nearer, we found that the fire was in a large tree, whose trunk it had almost consumed. Judging from the slow rate at which the tree burned while we were present, I should say it had been on fire two or three days, and that the frequent heavy rain had prevented the flames from making head. Had the weather been some time dry, the adjoining woodland would have blazed, and, as the mountain side is steep and covered with trees, the conflagration would have been immense. At Point Divide the slate rock seemed to be of excellent quality, fit for roofing; but when will roofing slates be required in Tierra del Fuego? Perhaps though sooner than we suppose; for the accidental discovery of a valuable mine might effect great changes.

On the south shore, nearly opposite to Shingle Point, we met a large party of natives, among whom those who disturbed us at that place as we passed westward were recognized. All of them appeared in full dress, being bedaubed with red and white paint, and ornamented, after their fashion, with feathers and the down of geese. One of their women was noticed by several among us as being far from ill-looking: her features were regular, and, excepting a deficiency of hair on the eyebrow,

and rather thick lips, the contour of her face was sufficiently good to have been mistaken for that of a handsome gipsy. What her figure might be, a loose linen garment, evidently one that had belonged to Fuegia Basket, prevented our noticing. The sight of this piece of linen, several bits of ribbon, and some scraps of red cloth, apparently quite recently obtained, made me feel very anxious about Matthews and his party: there was also an air of almost defiance among these people, which looked as if they knew that harm had been done, and that they were ready to stand on the defensive if any such attack as they expected were put into execution. Passing therefore hastily on, we went as far as the light admitted, and at daybreak next morning (6th) were again hastening towards Woollÿa. As we shot through the Murray Narrow several parties of natives were seen, who were ornamented with strips of tartan cloth or white linen, which we well knew were obtained from our poor friends. No questions were asked; we thought our progress slow, though wind and tide favoured us: but, hurrying on, at noon reached Woollÿa. Several canoes were on the beach, and as many natives seemed to be assembled as were there two days before we left the place. All were much painted, and ornamented with rags of English clothing, which we concluded to be the last remnants of our friends' stock. Our boats touched the shore; the natives came hallooing and jumping about us, and then, to my extreme relief, Matthews appeared, dressed and looking as usual. After him came Jemmy and York, also dressed and looking well: Fuegia, they said, was in a wigwam.

Taking Matthews into my boat, we pushed out a short distance to be free from interruption, and remained till I had heard the principal parts of his story: the other boat took Jemmy on board, and York waited on the beach. Nearly all the Fuegians squatted down on their hams to watch our proceedings, reminding me of a pack of hounds waiting for a fox to be unearthed.

Matthews gave a bad account of the prospect which he saw before him, and told me, that he did not think himself

safe among such a set of utter savages as he found them to be, notwithstanding Jemmy's assurances to the contrary. No violence had been committed beyond holding down his head by force, as if in contempt of his strength; but he had been harshly threatened by several men, and from the signs used by them, he felt convinced they would take his life. During the last few days, his time had been altogether occupied in watching his property. At first there were only a few quiet natives about him, who were inoffensive; but three days after our departure several canoes full of strangers to Jemmy's family arrived, and from that time Matthews had had no peace by day, and very little rest at night. Some of them were always on the look-out for an opportunity to snatch up and run off with some tool or article of clothing, and others spent the greater part of each day in his wigwam, asking for every thing they saw, and often threatening him when he refused to comply with their wishes. More than one man went out in a rage, and returned immediately with a large stone in his hand, making signs that he would kill Matthews if he did not give him what was demanded. Sometimes a party of them gathered round Matthews, and, if he had nothing to give them, teased him by pulling the hair of his face, pushing him about, and making mouths at him. His only partizans were the women; now and then he left Jemmy to guard the hut, and went to the natives' wigwams, where the women always received him kindly, making room for him by their fire, and giving him a share of whatever food they had, without asking for any thing in return. The men never took the trouble of going with him on these visits (which, however, ceased when so many strangers arrived), their attention being engrossed by the tools, clothes, and crockeryware at our shipmate's quarters. Fortunately, the most valuable part of Matthews' own things were underground, in a cave unsuspected by the natives, and other large tools were hidden overhead in the roof of his hut. York and Fuegia fared very well; they lost nothing; but Jemmy was sadly plundered, even by his own family. Our garden, upon which much labour had been bestowed, had been trampled

over repeatedly, although Jemmy had done his best to explain its object and prevent people from walking there. When questioned about it, he looked very sorrowful, and, with a slow shake of the head, said, "My people very bad; great fool; know nothing at all; very great fool." It was soon decided that Matthews should not remain. I considered that he had already undergone a severe trial, and ought not to be again exposed to such savages, however willing he might be to try them farther if I thought it right. The next difficulty was how to get Matthews' chest and the remainder of his property safely into our boats, in the face of a hundred Fuegians, who would of course understand our object, and be much more than a match for us on land; but the less hesitation shown, the less time they would have to think of what we were about; so, dividing our party, and spreading about a little to create confidence—at a favourable moment the wigwam was quickly cleared, the cave emptied, and the contents safely placed in our boats. As I stood watching the proceedings, a few anxious moments passed, for any kind of skirmish would have been so detrimental to the three who were still to remain. When the last man was embarked, I distributed several useful articles, such as axes, saws, gimblets, knives and nails, among the natives, then bade Jemmy and York farewell, promising to see them again in a few days, and departed from the wondering throng assembled on the beach.

When fairly out of sight of Woollÿa, sailing with a fair wind towards the Beagle, Matthews must have felt almost like a man reprieved, excepting that he enjoyed the feelings always sure to reward those who try to do their duty, in addition to those excited by a sudden certainty of his life being out of jeopardy. We slept that night in a cove under Webley Head; sailed early the following morning (7th) along the north side of Nassau Bay, and about an hour after dark reached the Beagle—found all well, the surveying work about Goree Road done, the ship refitted, and quite ready for her next trip.

A day or two was required for observations and arrangements, after which (10th) we beat to windward across Nassau

Bay, and on the 11th anchored in Scotchwell Bay. A rough night was passed under sail between Wollaston and Navarin Islands, in which we pretty well proved the clearness of that passage, as it blew fresh and we made a great many boards.

Next day I set out to examine the western part of Ponsonby Sound and revisit Woollya. In my absence one party was to go westward, overland, to look at the outer coast between False Cape and Cape Weddell, and another was to examine and make a plan of the bay or harbour in which the Beagle lay. In 1830, Mr. Stokes had laid down its shores with accuracy on a small scale, but there was not then time to take many soundings; and as I conceived that Orange Bay and this harbour were likely to be useful ports, it was worth making a particular plan of each.

12th. With one boat I crossed Tekeenica Sound, and explored the western part of Ponsonby Sound. Natives were seen here and there, but we had little intercourse with them. Some curious effects of volcanic action were obsevred, besides masses of conglomerate, such as I had not noticed in any other part of Tierra del Fuego. On one islet I was placed in an awkward predicament for half an hour; it was a very steep, precipitous hill, which I had ascended by climbing or creeping through ravines and among trees; but, wishing to return to the boat's crew, after taking a few angles and bearings from its summit, I could find no place by which it appeared possible to descend. The ravine up which I crawled was hidden by wood, and night was at hand. I went to and fro, like a dog on a wall, unable to descend, till one of the boat's crew who was wandering about heard me call, and, ascending at the only accessible place, showed me where to plunge into the wood with a prospect of emerging again in a proper direction. This night we had dry beautiful weather, the leaves and sticks on the ground crackling under our feet as we walked, while at the ship, only sixty miles distant, rain poured down incessantly.

The night of the 13th was passed on Button Island. This

also was quite fine, without a drop of rain, while at the ship, in Packsaddle Bay, it rained frequently. I mention these instances to show how different the climate may be even in places so near one another as Packsaddle Bay and Woollȳa.

14th. With considerable anxiety I crossed over from Button Island to Woollȳa. Several canoes were out fishing, women only being in them, who did not cease their occupation as we passed: this augured well; and in a few minutes after we saw Jemmy, York, and Fuegia, in their usual dress. But few natives were about them, and those few seemed quiet and well disposed. Jemmy complained that the people had stolen many of his things, but York and Fuegia had contrived to take better care of theirs. I went to their wigwams and found very little change. Fuegia looked clean and tidily dressed, and by her wigwam was a canoe, which York was building out of planks left for him by our party. The garden was uninjured, and some of the vegetables already sprouting.

Jemmy told us that strangers had been there, with whom he and his people had 'very much jaw,' that they fought, threw 'great many stone,' and stole two women (in exchange for whom Jemmy's party stole one), but were obliged to retreat. Jemmy's mother came down to the boat to see us; she was decently clothed, by her son's care. He said that his brothers were all friendly, and that he should get on very well now that the 'strange men' were driven away. I advised Jemmy to take his mother and younger brother to his own wigwam, which he promised to do, and then, finding that they were all quite contented and apparently very happy, I left the place, with rather sanguine hopes of their effecting among their countrymen some change for the better. Jemmy's occupation was hollowing out the trunk of a large tree, in order to make such a canoe as he had seen at Rio de Janeiro.

I hoped that through their means our motives in taking them to England would become understood and appreciated among their associates, and that a future visit might find them so favourably disposed towards us, that Matthews might then

undertake, with a far better prospect of success, that enterprise which circumstances had obliged him to defer, though not to abandon altogether.

Having completed our work in Packsaddle Bay on the 18th, the Beagle went to the inlet originally called Windhond Bay, a deep place full of islets: thence, on the 19th, she moved to Gretton Bay, on the north side of Wollaston Island, and to Middle Cove. On the 20th, it was blowing a gale of wind from the south-west, but we pushed across before it to Goree Road, knowing that we should there find secure anchorage, and be unmolested by the furious williwaws which whirled over the high peaks of Wollaston Island.

We weighed from Goree Road on the 21st, and ran under close-reefed topsails to Good Success Bay, where our anchors were dropped in the evening. The night of the 22d was one of the most stormy I ever witnessed. Although close to a weather shore in a snug cove, upon good holding ground, with masts struck and yards braced as sharp as possible, the wind was so furious that both bowers were brought a-head with a cable on each, and the sheet anchor (having been let go early) had half a cable on it, the depth of water being only ten fathoms. During some of the blasts, our fore-yard bent so much that I watched it with anxiety, thinking it would be sprung. The storm being from the westward, threw no sea into the cove, but I several times expected to be driven out of our place of refuge, if not shelter. During part of the time we waited in Good Success Bay for an interval of tolerable weather, in which we might cross to the Falkland Islands without being molested by a gale, there was so much surf on the shore that our boats could not land, even while the wind was moderate in the bay.

While we were prisoners on board, some fish were caught, among which was a skate, four feet in length and three feet wide. Several fine cod-fish, of the same kind as those off Cape Fairweather, were also hooked, and much relished.

On the 26th we sailed, passed through a most disagreeable swell off Cape San Diego, and ran before a fresh gale towards

the Falkland Islands. Towards evening we rounded to for soundings, but the sea was so high and short, that a man* at the jib-boom-end was pitched more than a fathom under water. He held on manfully, both to the boom and the lead-line, and as he rose above the wave, blowing and dripping, hove the lead forward as steadily as ever.† My own feelings at seeing him disappear may be imagined:—it was some time before we sounded again. This heavy though short sea seemed to be caused by the flood tide, coming from the southward, and meeting waves raised by strong north-west winds. The stream of tide set us a mile each hour north-eastward.

At eight the wind and sea were too much for us to run with; therefore, watching an opportunity, we rounded to ‡ under close-reefed main-topsail, trysails, and fore-staysail. Next morning (27th) we bore up, though the sea was still heavy, and steered to pass south of the Falklands. Our observations at noon showed that since leaving Good Success Bay we had been set more than thirty miles to the north-east. This effect, whether caused by the flood tide-stream, or by a current independent of the tide, would be dangerous to ships endeavouring to pass westward of the Falklands during bad weather, and in all probability caused the embayment of H.M.S. Eden, Captain W. F. W. Owen, when she was saved by his skill: also of a French storeship, the Durance; and of several other vessels. At noon, on the 28th, we found that the current or stream of tide had set us more towards the east than to the northward, during the preceding twenty-four hours, while we were at the south side of the islands.

At daylight on the 1st of March (having passed the preceding night standing off and on under easy sail), we made Cape Pembroke, at the eastern extremity of the Falklands. The weather was very cold and raw, with frequent hail-squalls,

* Nicholas White.

† Two men in the staysail netting were also dipped under water, at a second plunge, from which White escaped.

‡ The barometer was below 29 inches. See Meteorological Journal in Appendix.

although in the month corresponding to September of our hemisphere; and while working to windward into Berkeley Sound, the gusts of wind were sometimes strong enough to oblige us to shorten all sail. I did not then know of Port William—so close to us, and so easy of access.

The aspect of the Falklands rather surprised me: instead of a low, level, barren country, like Patagonia, or a high woody region, like Tierra del Fuego, we saw ridges of rocky hills, about a thousand feet in height, traversing extensive tracts of sombre-looking moorland, unenlivened by a tree. A black, low, and rocky coast, on which the surf raged violently, and the strong wind against which we were contending, did not tend to improve our first impressions of those unfortunate islands—scene of feud and assassination, and the cause of angry discussion among nations.

In a cove (called Johnson Harbour) at the north side of Berkeley Sound, was a wrecked ship, with her masts standing, and in other places were the remains of two more wrecks. We anchored near the beach on which Freycinet ran the Uranie, after she struck on a rock off Volunteer Point, at the entrance of Berkeley Sound; and from a French boat which came alongside learned that the Magellan, French whaler, had been driven from her anchors during the tremendous storm of January 12-13; that her crew were living on shore under tents, having saved every thing; that there were only a few colonists left at the almost ruined settlement of Port Louis; and that the British flag had been re-hoisted on the islands by H.M.S. Tyne and Clio.

CHAPTER XI.

HISTORICAL SKETCH OF THE FALKLAND ISLANDS.

THE Falkland Islands, lying between the parallels of 51° and 53° S., and extending from near 57° almost to 62° W., are in number about two hundred, but only two are of considerable size. Between these latter, called East, and West Falkland, is the channel to which our countryman, Strong, gave the name of Falkland Sound, he himself calling the adjacent country Hawkins' Land.

Plausible assertions have been made by parties anxious to disprove the claim of Great Britain to these islands, and so few persons, excepting those immediately concerned, have inclination to refer to original documents, that I may be pardoned for recalling to the recollection of those to whom the subject is still interesting, a few well-known facts, which, if fairly considered, place the question above dispute.

It has been asserted, that Americus Vespucius saw these islands in 1502,* but if the account of Americus himself is authentic,† he could not have explored farther south than the right bank of La Plata. In 1501-2 Americus Vespucius, then

* Il me paroît qu'on en peut attribuer la première découverte au célèbre Améric Vespuce, qui, dans son troisième voyage pour la découverte de l'Amérique, en parcourut la côte du nord au mois d'Avril 1502. Il ignoroit à la vérité si elle appartenoit à une île, ou si elle faisoit partie du continent; mais il est facile de conclure de la route qu'il avoit suivie, de la latitude à laquelle il étoit arrivé, de la description même qu'il donne de cette côte, que c'étoit celle des Malouines. J'assurerais, avec non moins de fondement, que Beauchesne Gouïn, revenant de la mer du Sud en 1700, a mouillé dans la partie orientale des Malouines, croyant être aux Sebaldes.—Voyage de Bougainville, 2d édit. 1772, tom. i. p. 63.

† Letters of Americus Vespucius, in Ramusio's Collection, vol. i. fol. 128.

employed by the King of Portugal, sailed 600 leagues south and 150 leagues west from Cape San Agostinho (lat. 8° 20′ S.) along the coast of a country then named Terra Sancte Crucis.* His account of longitude may be very erroneous, but how could his latitude have erred thirteen degrees in this his southernmost voyage?

The south shore of the Plata is low, and appears to be woody, though it is not; the depth of water off it is moderate, and the currents are strong—all which peculiarities have been remarked on the northern coasts of the Falklands; therefore the 'description' alluded to by De Bougainville would apply equally well to the right bank of the Plata. The late Mr. Dalrymple published an extract from a chart printed at Rome, in 1508, in which it is said, that ships of Portugal discovered a continuation of land as far south as fifty degrees,† which did not there terminate. In that chart the name America is not to be found. Brazil is there called Terra‡ Sancte Crucis.

If the Portuguese or any other people actually traced or even discovered portions of coast south of the Plata before 1512, it appears strange that so remarkable an estuary, one hundred and twenty miles across, should have been overlooked; especially as soundings extend two hundred miles seaward of its entrance:—and that the world should have no clear record of its having been discovered prior to the voyage of Juan de Solis, in 1512. Vespucius has already robbed Columbus and his predecessor, Cabot, of the great honour of affixing their names to the New World—shall he also be tacitly permitted to claim

* The name America was not given before the year 1507. (Herrera, Dec. 1, 7, 5.)

† The Falklands are beyond fifty-one degrees of south latitude.

‡ In 1507 (the admiral Christopher Columbus being dead), Americus Vespucius was taken into the service of the King of Spain, with the title of 'Pilote mayor,' and was employed in making charts of the new discoveries, which gave him an opportunity to affix his own name to the land of South America. (Herrera, Dec. 1, 7, 5.)

even the trifling distinction of discovering the Falklands, when it is evident that he could not have seen them? *

On the 14th of August 1592, John Davis, who sailed with Cavendish on his second voyage, but separated from him in May 1592, discovered the islands now called Falkland. In Mr. John Jane's relation of Davis's voyage (Hakluyt, vol. iii. p. 846), there is the following simple, but distinct account of this discovery: "Aug. 14, 1792. We were driven in among certain isles, never before discovered by any known relation, lying fifty leagues or better from the shore, east and northerly from the Strait" (of Magalhaens).

At this time Davis was striving to enter the Strait of Magalhaens, but had been long at sea, and driven far by tempests. His bearing is correct, though the distance (by estimation only) is too small.

In 1683-4, Dampier and Cowley saw three islands in lat. 51° to 51° 20′ S., which they (correctly) supposed to be those seen and named by Sebald de Weert. However, the editor of Cowley's narrative, one William Hack, published a different latitude for the land they saw, and called it Pepys Island, in compliment to the then Secretary of the Admiralty, intending that it should be supposed a new discovery. The false latitude given by Hack was 47° S.: in his drawing of the island he did not omit the insertion of an Admiralty Bay and a Secretary Point.

Hawkins sailed along the northern shores of these islands in 1594, and he, ignorant of Davis's discovery, named them Hawkins's Maiden Land. His account appearing first, and prominently, before the public, procured for them the name by which they were known until Strong, in 1690, sailed through and anchored in the channel which he named Falkland Sound. The Welfare's journal, written by Strong, is in the British Museum, together with Observations made during a South Sea Voyage, written by Richard Simson, who sailed in the

* Could the constructor of the chart, published at Rome in 1508, have been misinformed, owing to a mistake of 5 for 3 (50 for 30)? Such errors occur frequently in modern compilations.

same ship; but a few sentences in each are so relevant to the present subject, that I shall quote them verbatim:—"1690. Monday 27th January. We saw the land; when within three or four leagues, we had thirty-six fathoms. It is a large land, and lieth east and west nearest. There are several quays that lie among the shore. We sent our boat to one, and she brought on board abundance of penguins, and other fowls, and seals. We steered along shore E. by N., and at eight at night we saw the land run eastward as far as we could discern. Lat. 51° 3′ S.

"Tuesday 28th. This morning at four o'clock we saw a rock that lieth from the main island four or five leagues. It maketh like a sail.* At six, we stood into a sound that lies about twenty leagues from the westernmost land we had seen. The sound lieth south and north nearest. There is twenty-four fathoms depth at the entrance, which is four leagues wide. We came to an anchor six or seven leagues within, in fourteen fathoms water. Here are many good harbours. We found fresh water in plenty, and killed abundance of geese and ducks. As for wood, there is none.

"On the 31st we weighed from this harbour, with the wind at W.S.W. We sent our long-boat a-head of the ship, to sound before us. At eight o'clock in the evening, we anchored in nine fathoms. The next morning we weighed, and sent our boat before us. At ten, we were clear out of the sound. At twelve, we set the west cape bearing N.N.E., which we named Cape Farewell. This sound, Falkland Sound as I named it, is about seventeen leagues long; the first entrance lies S. by E., and afterwards S. by W."

How it happened that the name Falkland, originally given to the sound alone, obliterated Hawkins, and has never yielded to Davis, is now a matter of very trifling importance.

I may be permitted to remark particularly, that Hawkins and Strong not only saw both East and West Falkland, but that in 1690 Strong anchored repeatedly between them, and landed: and I do so, because stress has been laid upon the fact

* This rock was seen by Hawkins, and named by him 'White Conduit.' Now it is called Eddystone.

of Beauchesne Goüin having anchored in 1700 on their eastern coast.

In the year 1600, the islands now called Jasons, Salvages, or Sebaldines, at the north-west extremity of the Falklands, were seen and named by Sebald de Weert; and during the next two centuries many other navigators, sailing to or from the Pacific, saw the Falklands; but it does not appear that any further landing was effected, or even that any vessel anchored there, after Beauchesne, except the Saint Louis, of St. Malo, until M. de Bougainville landed to form his settlement, in February 1764.

Several ships of St. Malo passed near the Eastern Falklands between the years 1706 and 1714, from whose accounts M. Frezier compiled his chart, published in 1717; and in compliment to the owners of one of them (the Saint Louis), her commander, M. Fouquet, named the cluster of islets near which he anchored, the Anican Isles.

In consequence of the visits of these ships of St. Malo, the French named the islands Les Malouines; but this was not till after 1716, when Frezier compiled the chart in which he called them 'Isles Nouvelles,' although in his own narrative (p. 512, Amsterdam edition, 1717), he says, "Ces îsles sont sans doute les mêmes que celles que le Chevalier Richard Hawkins découvrit en 1593."

The Spaniards adopted the French name, slightly altered, by changing Malouines into Malvinas: even now the term 'Maloon,' a corruption of Malouine, * is sometimes used by English or Americans instead of island, in writing as well as in speaking.

During the early part of the last century, France maintained a lucrative commerce with Chile and Peru, by way of Cape Horn, and the advantages which might be derived from a port of refuge and supply at the eastern extremity of the Falklands did not escape her active discernment.

De Bougainville says, "Cependant leur position heureuse

* "Fortunately, it is on this maloon, or island, that bullocks and horses are found running wild."—(Weddell, p. 97.)

pour servir de relâche aux vaisseaux qui vont dans la mer du sud, et d'échelle pour la découverte des terres Australes, avoit frappé les navigateurs de toutes les nations. Au commencement de l'année 1763, la cour de France résolut de former un établissement dans ces îles. Je proposai au ministere de le commencer à mes frais, et secondé par MM. de Nerville et d'Arboulin, l'un mon cousin-germain et l'autre mon oncle, je fis sur le champ construire et armer à Saint Malo, par les soins de M. Duclos Guyot, aujourd'hui mon second, l'Aigle de vingt canons, et le Sphinx de douze, que je munis de tout ce qui étoit propre pour une pareille expédition. J'embarquai plusieurs familles Acadiennes, espèce d'hommes laborieuse, intelligente, et qui doit être chère à la France par l'inviolable attachement que lui ont prouvé ces honnêtes et infortunés citoyens.

" A' Monte Video nous prîmes beaucoup de chevaux, et de bêtes à corne,—nous atterrâmes sur les îles Sébaldes le 31 Janvier 1764.

" La même illusion qui avoit fait croire à Hawkins, à Woodes Rogers, et aux autres, que ces îles étoient couvertes de bois, agit aussi sur mes compagnons de voyage, et sur moi. Nous vîmes avec surprise, en débarquant, que ce que nous avions pris pour du bois en cinglant le long de la côte, n'étoit autre chose que des touffes de jonc fort élevées et fort rapprochées les unes des autres. Leur pied, en se desséchant reçoit la couleur d'herbe morte jusqu'à une toise environ de hauteur; et de là sort une touffe de joncs* d'un beau verd qui couronne ce pied; de sorte que, dans l'éloignement, les tiges réunies présentent l'aspect d'un bois de médiocre hauteur. Ces joncs ne croissent qu'au bord de la mer, et sur les petites îles; les montagnes de la grande terre sont, dans quelques endroits, couvertes entièrement de bruyères, qu'on prend aisément de loin pour du taillis."—(Voyage autour du Monde, 1766-69, séconde édition, 1772, tom. i. p. 66-69.)

On the 17th of March De Bougainville decided to place his

* Now called Tussac by the sealers and colonists.

establishment on the spot where the present settlement stands, and forthwith disembarked to commence the laborious undertaking of founding a colony.

In the year 1764, a squadron was sent to the South Seas by George III., in whose instructions, dated June 17th, 1764, it is said, "And whereas his Majesty's islands, called Pepys Island and Falkland Islands, lying within the said track," (the track between the Cape of Good Hope and the Strait of Magalhaens), "notwithstanding their having been first discovered and visited by British navigators, have never yet been so sufficiently surveyed, as that an accurate judgment may be formed of their coasts and product, his Majesty, taking the premises into consideration, and conceiving no junction so proper for enterprises of this nature as a time of profound peace, which his kingdoms at present happily enjoy, has thought fit that it should now be undertaken."

On the 23d January 1765, Commodore Byron went on shore at these islands, with the captains and principal officers of his squadron, "when the Union Jack being erected on a high staff, and spread, the commodore took possession of the harbour and all the neighbouring islands for his Majesty King George III., his heirs, and successors, by the name of Falkland Islands. When the colours were spread, a salute was fired from the ship."

In consequence of Byron's favourable report, Captain Macbride was sent out in H.M.S. Jason to begin their colonization. He arrived in January 1766.

Spain, hearing of the French settlement, immediately laid claim to the islands, as forming a part of her American possessions; and France, influenced by various considerations, agreed to deliver up to Spain her newly-formed colony, upon condition that the projectors and colonists should be indemnified for their losses: an agreement honourably fulfilled by Spain.

On the 1st of April 1767, De Bougainville gave up possession to the Spanish officer appointed to take charge; the standard of Spain was hoisted, and royal salutes fired by the ves-

sels present. Some of the French colonists remained, but the greater part preferred returning to France, and passages were given to them on board Spanish ships.

In 1770, a Spanish armament attacked the British colony at Port Egmont, and obliged its small garrison to surrender to an overpowering force, and quit the place. England, indignant at the insult, armed for war, and demanded satisfaction from Spain for the injury inflicted. At first Spain argued and temporized; but finding that Great Britain continued firm, and that the English people were even more disposed for action than their Government, she relinquished her views—disavowed the act of her officer—and restored Port Egmont. England was satisfied—or rather, the court party professed to be satisfied; but the opposers of government angrily declared that Spain had not done enough; and that, though compelled to make restitution, her insult was unatoned for.

In 1774, finding the establishment at the Falklands expensive, and almost useless,* England quietly withdrew it; but the marks and signals of possession and property were left upon the islands, and when the governor departed, the British flag remained flying, and various formalities were observed, intended to indicate the right of possession, as well as to show that the occupation of them might be resumed.

The reports made by officers employed at Port Egmont were of such a discouraging tendency, that no person at that time entertained the least wish to have any further concern with the islands—and for years they were unnoticed—though not forgotten by England. Spain, however, jealous of interference with her colonial possessions, and regarding the Falklands as a vantage-ground, from which those in the south might be suddenly or secretly invaded, maintained a small garrison at the eastern extremity of the Archipelago, where her ships occasionally touched, and from time to time reconnoitred the adjacent ports, in order to ascertain whether any visitors were there. At what precise time the Spaniards with-

* The fact was, it was injudiciously situated, and therefore seldom visited, except by a few fishermen.

drew this small garrison, and left the Falkland archipelago uninhabited by man, I am not certain; but it must have been early in this century, because from 1810 to 1820 there was no person upon those islands who claimed even a shadow of authority over any of them.

In 1820, a ship of war was sent from Buenos Ayres to Port Louis; her captain, Jewitt, hoisted the Argentine flag, and saluted it with twenty-one guns; notifying, at the same time, to the sealing and whaling vessels present, that he was "commissioned by the Supreme Government of the United Provinces of South America to take possession of these islands in the name of the country to which they naturally appertain."—(Weddell, p. 103.) This act of the Buenos Ayrean Government was scarcely known in Europe for many years; and not until 1829 was it noticed formally by Great Britain.

After reading this short statement of facts, one may pause to consider what nation is at this moment the legitimate owner of the Falklands. Do the discovery, prior occupation, and settlement of new and uninhabited countries give a right to possession? If so, Great Britain is the legal owner of those islands. Davis first discovered them; Hawkins first named them; Strong first landed on them; and (excepting the French), Byron first took formal possession of them; and (again excepting the French), Macbride first colonized them. Respecting the French claim, depending only upon first settlement, not discovering, naming, or landing; whatever validity any one may be disposed to allow it, that value must be destroyed, when it is remembered that Spain asserted her superior claim, and that France actually admitted it, resigning for ever her pretensions to those islands. Whatever France might have been induced to do for political reasons, of which the most apparent now is the continuance of the trade she then carried on with Chile and Peru, England never admitted that the Spanish claim was valid: and France having withdrawn, the question is solely between Spain and Great Britain. Spaniards neither discovered, landed upon, nor settled in the Falklands before Englishmen; and their only claim rests upon

the unstable foundation of a papal bull, by virtue of which Spain might just as well claim Otaheite, the Sandwich Islands, or New Zealand.

As to the pretensions of Buenos Ayres, I shall only remark, that in a paper transmitted by her government to Mr. Baylies, chargé-d'affaires of the United States of North America, on the 14th August 1832, the advocate of her claims asserts, that "it is a political absurdity to pretend that a colony which emancipates itself, inherits the other territories which the metropolis may possess. If that singular doctrine were to be found in the code of nations, the Low Countries, for example, on their independence being acknowledged, in 1648, would have succeeded to Spain in her rights to America; and in the same manner, the United States would have appropriated to themselves the British possessions in the East-Indies. Inheritance, indeed! the United States did not inherit the rights of England in Newfoundland, notwithstanding its contiguity; and are they to inherit those which she may have to the Malvinas, at the southern extremity of the continent, and in the opposite hemisphere."*

The writer of the preceding sentences, in his haste to attack the United States of America for an assertion made by one of their journalists, to the effect that the United States inherited from Great Britain a claim to fish around the Falklands, must have overlooked the simple fact, that his arguments were even more applicable to Buenos Ayres than they were to the United States of North America.

When Captain Jewitt arrived at the Falklands, he found more than thirty sail of vessels engaged there in the seal fishery, besides others which were recruiting the health of their crews after whaling or sealing voyages in the antarctic regions. By the crews of these ships numbers of cattle and pigs were killed, as well as horses, the wild descendants of those taken there by Bougainville and his successors.

* Papers relative to the origin and present state of the questions pending with the United States of America on the subject of the Malvinas (Falkland Islands). Translated and printed at Buenos Ayres in 1832.

In 1823, the Buenos Ayrean Government took another step, in the appointment of a 'comandante de las Malvinas;' and in the same year, Lewis Vernet, by birth a German, in concert with his friends at Buenos Ayres, "solicited and obtained from the Government the use of the fishery and of the cattle on the Eastern Malvina, and likewise tracts of land thereon, in order to provide for the subsistence of the settlement.* This undertaking did not prosper; but the next year Mr. Vernet prepared a second expedition, in which he himself sailed. His own words (translated) are: † "After many sacrifices, I was enabled to surmount great obstables; but still that which we expected to effect in one year was not realized before the expiration of five. My partners lost all hope, and sold me their shares. I bought successively three vessels, and lost them; I chartered five, one of which was lost. Each blow produced dismay in the colonists, who several times resolved to leave that ungrateful region, but were restrained by their affection for me, which I had known how to win, and by the example of constancy and patience which my family and myself held out to them."

In 1828, the Government of Buenos Ayres granted to Mr. Vernet (with certain exceptions) the right of property in the Falkland Islands—and in Staten Land! "It also conceded to the colony exemption from taxation for twenty years, and for the same period the exclusive right to the fishery in all the Malvinas, and on the coast of the continent to the southward of the Rio Negro, under the condition that within three years I (Vernet) should have established the colony." ‡

About this time merchant-vessels of all nations visited the Falkland Islands, both in their outward voyage and when returning from the Pacific; but advantageous as their visits were, those of numerous sealers had a very different effect: for, instead of frequenting the settlement, their crews killed the seal indiscriminately at all seasons, and slaughtered great numbers of wild cattle. "For this reason," says Vernet, "I

* See note in preceding page. † Idem. ‡ Idem.

requested the Government to furnish me with a vessel of war, to enable me to cause the rights of the colony to be respected. The Government was aware of the necessity of the measure; but not being then able to place a vessel at my disposal, it resolved to invest me with a public and official character, and for that purpose issued the two decrees of the 10th of June: the one re-establishing the governorship of the Malvinas and Tierra del Fuego; and the other nominating me to fulfil that office."*

In 1829, Vernet warned off some North American sealers; and in 1831, upon their repeating the sealing excursion of which he had complained, he detained them by force. This act, and various circumstances arising out of it, drew upon him and his unfortunate colony the hasty indignation of Captain Silas Duncan, of the United States corvette Lexington, who, on his own responsibility, without waiting to communicate with his Government, sailed from the Plata to the Falkland Islands, surprised, assaulted, and made prisoners of many unoffending people, and unwarrantably destroyed both property and buildings. Mr. Brisbane and several others were put into confinement, and carried away, on board the Lexington, to Buenos Ayres, where they were delivered up to the Buenos Ayrean Government, in February 1832. The United States supported their officer, and immediately despatched a chargé-d'affaires to Buenos Ayres, with instructions to demand compensation for the injury done to North American trade, and full reparation to all North American citizens for personal wrongs.

While the United States and Buenos Ayres were discussing the questions at issue, Great Britain, following up the solemn warnings she had given Buenos Ayres (especially in the protest addressed to that Government by Mr. Parish, in November 1829), issued orders to her Commander-in-chief on the South American station, to send a vessel of war to re-hoist the British flag upon the Falkland Islands; to assert her right of sovereignty, and to cause every thing belonging to the Buenos Ayrean Government to be embarked and sent away.

* See note, page 236.

On the 2d of January 1833, H.M.S. Clio anchored in Berkeley Sound, to carry these orders into effect; H.M.S. Tyne, about the same time, anchoring in Port Egmont. In each place the British colours were hoisted and saluted: the small Buenos Ayrean garrison at Port Louis quietly withdrew, and sailed for the Plata in an armed schooner, belonging to Buenos Ayres: and from that time those unhappy islands have been more ostensibly British, though but little has yet been done to draw forth the resources, and demonstrate the advantages which they unquestionably possess. When the Tyne and Clio sailed, after a very short stay at the islands, no authority was left there, but the colours were entrusted to an Irishman, who had been Mr. Vernet's storekeeper.*

In 1834, a lieutenant in the navy, with a boat's crew, was sent to reside at Port Louis, and since that time various small ships of war have succeeded each other in visiting and exploring the numerous islands and harbours of that archipelago.

Those who may wish for more historical information on this subject—for further details of former negociations between Spain and England, or of the late discussions between North America and Buenos Ayres—should refer to Dr. Johnson's "Thoughts respecting the Falkland Islands" (Johnson's Works, vol. viii. p. 96, Murphy's Edition, 1816); to Junius's 42d Letter; and to papers published at Buenos Ayres in 1832; in addition to general history.

* Not long before the Clio arrived, there had been a mutiny in the garrison, and the Buenos Ayrean commanding officer had been barbarously murdered. In the early part of 1834, Mr. Brisbane fell a victim to treachery. These fatal occurrences will be mentioned again in the course of my narrative.

CHAPTER XII.

First Appearance — Tides — Currents — Winds — Lightning — Seasons — Temperature — Rain — Health — Dangers — Cautions — View — Settlement — Animals — Foxes — Varieties — Seal — Whales — Fish and Fishery — Birds — Brushwood — Peat — Pasture — Potash — Orchilla — Grazing — Corn — Fruit — Vegetables — Trees — Plants — Land — Situation of principal Settlement — Prospective advantages — Suggestions — Vernet's Establishment — Reflections.

In the appearance of the Falkland Islands, there is very little either remarkable or interesting. About the greater part of the archipelago, barren hills, sloping towards low and broken ground, or rocky surf-beat shores, are the only objects which meet the eye. On the West Falkland, and some small islands near it, there are high precipitous cliffs in a few parts exposed to the western seas; but other places, and especially the southern portions of East Falkland, are so low that they cannot be seen from the deck of a vessel five miles distant. The average height of the western island is greater than that of the eastern, although the highest hills seem to be in the latter, where they rise to about thirteen hundred feet above the sea level.

Around the islands, especially toward the south-eastern and north-western extremes, there are numerous islets and rocks, whose distance from shores, where tides run strongly and winds are violent as well as sudden, makes them exceedingly dangerous; more particularly near the north-west extremity of the group: and as seamen require information on these matters before entering a port, I will notice the tides, winds, and climate previous to other subjects.

The tides differ much as to strength and direction in different parts of the archipelago, but the times of syzigial high water only vary from five to eight o'clock; and the rise of tide is almost similar every where, about four feet at neap, and eight

feet at spring tides. The principal swell of the ocean, which causes the tidal streams about these islands, comes from the south-east. Scarcely any stream is perceptible on the south-east coast of East Falkland; but along the north, south, and west shores it increases in strength, until among the Jason Islands it runs six miles an hour, causing heavy and dangerous races. Off Berkeley Sound, across the entrance, and near Cape Carysfort, the tide runs about two knots, at its greatest strength; and thence westward it increases gradually. Into Falkland Sound the tide flows from both openings, and meets near the Swan Islands; shewing, I apprehend, that the principal wave or swell impinges upon the coast considerably eastward of south.

The tidal currents are stronger along the northern shores of the archipelago than they are along the south coasts; and the stream of flood is stronger than the ebb. At Port William, the easternmost harbour, the time of high water at full moon is five; and thence westward, the times increase gradually to half-past eight, at New Island, which is nearly the westernmost of the group.

Generally speaking, the sea is much deeper near the southern and western shores than it is near those of the north; and to those local differences I attribute the varying velocity of the minor tide streams.

Besides these movements of the surrounding waters, there is a current setting past the islands from south-west to north-east: a current which continually brings drift wood to their southern coasts, and has brought Fuegian canoes. On all parts of the southern shores that are open to the south-west, the beaches or rocks are covered with trees, which have drifted from Staten Land or Tierra del Fuego. Great quantities of this driftwood may be found between Cape Orford and Cape Meredith; upon the Arch, Speedwell, George, and Barren Islands: indeed, there are few places between Cape Orford and Choiseul Bay where a vessel may not find a good supply of fuel. On Long Island, and in the bay behind the Sea-Lion Islands, portions of Fuegian canoes have often been found; one consisted of an entire side (pieces of bark sewed together), which

could not have been made many years. At sea, when north-eastward of the Falklands, great quantities of drift kelp* are seen, besides water-worn trunks and branches of trees, near which there are generally fish, and numbers of birds. These sure indications of a current from the south-west have been met with upwards of two hundred miles to the northward of Berkeley Sound. There is not, however, reason to think that this current ever runs more than two knots an hour, under any circumstances, and in all probability its usual set is even less than one knot.

Wind is the principal evil at the Falklands: a region more exposed to storms, both in summer and winter, it would be difficult to mention.

The winds are variable; seldom at rest, while the sun is above the horizon, and very violent at times; during the summer a calm day is an extraordinary event. Generally speaking, the nights are less windy than the days, but neither by night nor by day, nor at any season of the year, are these islands exempt from sudden and very severe squalls; or from gales which blow heavily, though they do not usually last many hours.

It has been stated by Bougainville and others that in summer the wind generally freshens as the sun rises, and dies away about sunset: also, that the nights are clear and starlight. The information I have received, with what I have myself witnessed, induces me to agree to the first of these statements in its most general sense, and to a certain degree I can admit the second; but, at the same time, it is true that there are many cloudy and very many windy nights in the course of each year, I might almost say month. The Magellan was driven from her anchors, though close to a weather shore in the narrowest part of Berkeley Sound, and totally wrecked in Johnson Harbour about midnight of the 12th of January† 1833.

The prevalent direction of the wind is westerly. Gales, in general, commence in the north-west, and draw or fly round to the south-west; and it may be remarked, that when rain

* Sea-weed detached from the rocks and drifting with the current.

† The month which, in that hemisphere, corresponds to July in ours.

accompanies a north-west wind it soon shifts into the south-west quarter, and blows hard.

Northerly winds bring cloudy weather; and when very light, they are often accompanied by a thick fog: it is also worth notice that they almost always occur about the full and change of the moon.

North-east and northerly winds bring gloomy overcast weather, with much rain; sometimes they blow hard and hang in the N.N.E., but it is more common for them to draw round to the westward. South-easterly winds also bring much rain, they are not frequent, but they blow hard, and as the gale increases it hauls southward. During winter the winds are chiefly from the north-west, and in summer they are more frequently south-west. Though fogs occur with light easterly or northerly winds, they do not often last through the day.

Gales of wind, as well as squalls, are more sudden, and blow more furiously from the southern quarter, between south-west and south-east, than from other directions.

Wind from the east is rarely lasting, or strong; it generally brings fine weather, and may be expected in April, May, June, and July, rather than at other times, but intervals of fine weather (short indeed), with light breezes from E.S.E. to E.N.E., occur occasionally throughout the year.

Neither lightning nor thunder are at all common, but when the former occurs easterly wind is expected to follow. If lightning should be seen in the south-east while the barometer is low,* a hard gale from that quarter may be expected. South-east and southerly gales last longer than those from the westward, and they throw a very heavy sea upon the southern shores. In the winter there is not, generally, so much wind as in the summer, and in the former season the weather, though colder, is more settled, and considerably drier.

* A seaman may naturally ask here, and at other passages where reference is made to the barometer, "What is considered low for that place?" and as a reply may be obtained more satisfactorily by consulting the Meteorological Journal, in the appendix, than by receiving an answer in figures (barometers and direction of wind varying so much), I will beg him to look at that Journal.

In different years seasons vary so much, that those who have been longest about the islands hardly venture to predict what weather will be found during any particular month. All they say is, that January, February, and March, though warmest, are the windiest months, and that May, June, and July, though cold, are much less stormy.*

I must here add one word in favour of the barometer, or sympiesometer. Every material change in the weather is foretold by these invaluable instruments, if their movements are tolerably understood by those who consult them, and if they are frequently observed. Mr. Low said to me, "The barometer is worth any thing in these countries" (alluding to Tierra del Fuego, as well as the Falklands); "some say they dislike it because it is always so low, and foretelling bad weather; but how often do we have any other?" They must, somehow, think the barometer ominous, and overlook the use of the omen.

The temperature may be considered equable; it is never hot, neither is it ever very cold; but the average is low, and in consequence of frequent rain and wind, a really moderate degree of cold is much more noticed than would probably be the case if the weather were dry and serene.

Since 1825 Fahrenheit's thermometer has only once been observed so low as 22° in the shade, at mid-day, and it has been but once above 80° in the shade. Its ordinary range is between 30° and 50° in the winter, and from 40° to 65° in the summer. Ice has not been known to exceed an inch in thickness; snow seldom lies upon the low lands, or at any period exceeds two inches in depth. Although rain is so frequent, it does not continue falling for any considerable time; and as evaporation is rapid, in consequence of so much wind, there are no unwholesome exhalations; indeed, the climate is exceedingly healthy, and no disease whatever has been hitherto contracted, in consequence of its influence, excepting ordinary colds and coughs, or rheumatic affections, brought on by unusual expo-

* Mr. Low scarcely ever found two succeeding years alike, as to wind and weather, during the corresponding seasons.

sure to weather. It is said by those who have had the most experience there, that the climate of West Falkland is milder than that of the Eastern large island. Probably the west winds are chilled in passing over the heights, and upon reaching Port Louis are several degrees colder than when they first strike upon the western islands. In Tierra del Fuego, and many other places, the case is similar, the western regions having a milder climate than is found about the central or eastern districts. Excellent harbours, easy of access, affording good shelter, with the very best holding ground, abound among these islands, and, with due care, offer ample protection from the frequent gales.

In approaching the land, and especially while entering a harbour, a careful look-out should be kept for 'fixed kelp,' the seaweed growing on every rock in those places, which is covered by the sea, and not very far beneath its surface. Lying upon the water, the upper leaves and stalks show, almost as well as a buoy, where there is a possibility of hidden danger. Long stems, with leaves, lying regularly along the surface of the sea, are generally attached to rocky places, or else to large stones. Occasionally a few straggling stalks of kelp are seen in deep water, even in thirty fathoms: many of which are attached to stones, and so firmly, that their long stems will sometimes weigh the stone adhering to their roots. Such scattered plants as these need not be minded by a ship; but in passing to windward of patches or beds of kelp, or rather in passing on that side from which the stems stream away with the current, care should be taken to give the place a wide berth, because the only part which shows, when the tide is strong, lies on one side of, not over the rocks. Where the stream of tide is very strong this kelp is quite 'run under,' or kept down out of sight, and can no longer be depended on as a warning. When a clear spot is seen in the middle of a thick patch of fixed kelp, one may expect to find there the least water.

Drift kelp, or that which is floating on the surface of the sea, unattached to any rock or stone, of course need not be

avoided; it may be known at a glance, by the irregular huddled look which it has. Off the south-east shores of the Falklands there are several rocky shallows, on which the sea breaks heavily during south-east gales, though not at other times: all those shallows are marked by kelp, and in one place, thus indicated, not more suspicious in appearance than others, a rock was found, almost 'awash' at low water.

Many wrecks have occurred, even on the land-locked shores of harbours themselves, and in 1833-4, some of their remains served as a warning to strangers to moor their ships securely: but with good ground tackle, properly disposed, and the usual precautions, a vessel will lie in absolute safety, as the holding-ground is excellent: indeed, in many places so tenacious, that it is exceedingly difficult to weigh an anchor which has been some time down. Particular directions for making the land, approaching and entering harbours, and taking advantageous berths, will be found in another place: generally speaking, the local pilotage is very simple.

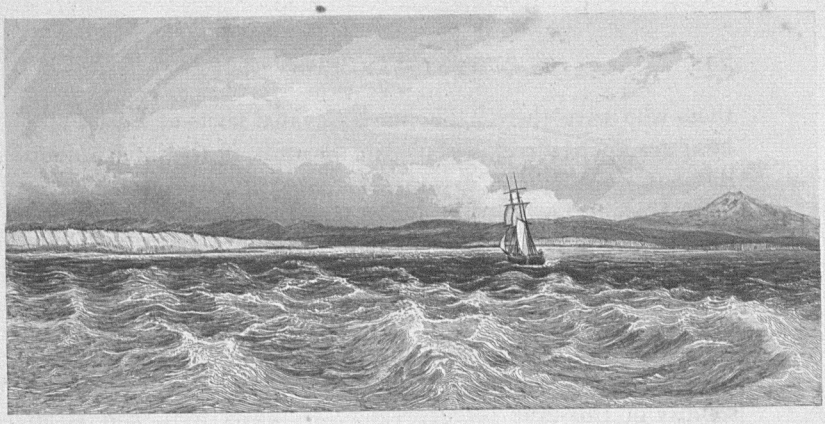
The country is remarkably easy of access to persons on foot; but half-concealed rivulets and numerous bogs, oblige a mounted traveller to be very cautious. There are no trees any where, but a small bush is plentiful in many vallies. Scarcely any view can be more dismal than that from the heights: moorland and black bog extend as far as eye can discern, intersected by innumerable streams, and pools of yellowish brown water. But this appearance is deceptive; much of what seems to be a barren moor, is solid sandy clay soil, covered by a thin layer of vegetable mould, on which grow shrubby bushes and a coarse grass, affording ample nourishment to cattle; besides which, one does not see into many of the vallies where there is good soil and pasture. Some tracts of land, especially those at the south of East Falkland, differ in character, being low, level, and abundantly productive of excellent herbage.

Mr. Darwin's volume will doubtless afford information as to the geological formation of the Eastern Falkland. He did not visit the western island, but obtained many notices of it from

those who were there. The more elevated parts of East Falkland are quartz rock; clay-slate prevails in the intermediate districts. Sandstone, in which are beautifully perfect impressions of shells, occurs in beds within the slate formation: and upon the slate is a layer of clay, fit for making bricks. Near the surface, where this clay is of a lighter quality, and mixed with vegetable remains, it is good soil, fit for cultivation. In some places, a great extent of clay is covered by a layer of very solid peat, varying in depth from two to ten feet. The solidity of this peat is surprising; it burns well, and is an excellent substitute for other fuel. To the clay and to the solid peat may be attributed the numerous bogs and pools of water, rather than to the total amount of rain. Is the peat now growing, or was the whole mass formed ages ago?

The settlement, now consisting only of a few huts, some cottages, and a ruinous house or two, occupies the place originally selected by Bougainville, close to Port Louis, at the head of Berkeley Sound. Standing in an exposed situation, scattered over half a mile of rising ground, without a tree or even a shrub near it, the unfortunate village has a bleak and desolate appearance, ominous of its sad history. Previous, however, to entering upon the affairs of the settlement, I will continue my sketch of the islands and their present produce, independent of the settlers now there.

By the French, and afterwards by the Spanish colonists, a number of black cattle, horses, pigs, and rabbits, were turned loose upon East Falkland; and, by considerate persons, engaged in whale or seal-fishery, both goats and pigs have been left upon smaller islands near West Falkland. These animals have multiplied exceedingly; and, although they have been killed indiscriminately by the crews of vessels, as well as by the settlers, there are still many thousand head of cattle, and some thousand horses, besides droves of pigs, perfectly wild, upon the eastern large island: while upon Carcass Island, Saunders Island, and others, there are numbers of goats and pigs. In 1834, the smallest estimate exceeded twelve thou-



ENTRANCE TO BERKELEY SOUND.

SETTLEMENT AT PORT LOUIS.

C. Martens. J. W. Cook.

BERKELEY SOUND FALKLAND ISLANDS.

Published by Henry Colburn, Great Marlborough Street, 1838.

sand cattle, and four thousand horses; but there were no means of ascertaining their number, except by comparing the accounts of the gaucho colonists, who were accustomed to pursue them, not only for ordinary food or for their hides, but even for their tongues alone, not taking the trouble to carry off more of the animal so wantonly slaughtered.* The wild cattle are very large and very fat, and the bulls are really formidable animals, perhaps among the largest and most savage of their race. At Buenos Ayres, the ordinary weight of a bull's hide is less than fifty pounds, but the weight of such hides in the East Falkland has exceeded eighty pounds. The horses look well while galloping about wild, but the gauchos say they are not of a good breed, and will not bear the fatigue of an ordinary day's work, such as a horse at Buenos Ayres will go through without difficulty. Perhaps their 'softness,' as it is there called, may be owing to the food they get, as well as to the breed. The wild pigs on East Falkland are of a long-legged, ugly kind; but some of those on Saunders Island and other places about West Falkland are derived from short-legged Chinese pigs. The only quadruped apparently indigenous is a large fox, and as about this animal there has been much discussion among naturalists, and the specimens now in the British Museum were deposited there by me, I am induced to make a few remarks upon it.

* "The settlers, when they abandoned the eastern island, left behind them several horses and horned cattle, which have increased so much, that, on going a few miles into the country, droves of both animals may be seen. I have taken several of the bullocks by shooting them. They are generally ferocious, and will attack a single person; and thus, those who hunt them are enabled to get within pistol-shot of them by the following stratagem. Four or five men advance in a line upon the animal, and, by appearing only as one person, it stands ready to attack, till within one hundred yards, when the hunters spread themselves, and fire, endeavouring to shoot the bullock either in the head or in the fore-shoulder. The horses will also attack a single person, and their mode of doing so is by forming a circle round him, and prancing upon him; but by means of a musquet they may be readily dispersed."—Weddell's Voyage, pp. 102, 103.

It has been said, that there are two varieties of this 'wolf-fox,' as it has been called,* one being rather the smaller, and of a redder brown; but the fact is, that no other difference exists between the two apparent varieties, and as the darker coloured larger animal is found on the East Falkland, while the other is confined to the western island, the darker colour and rather thicker furry coat may be attributed to the influence of a somewhat colder climate. The fox of West Falkland approaches nearer the large fox of Patagonia, both in colour and size, than its companion of East Falkland does; but allowing that there is one shade of difference between the foxes of East and West Falkland, there are but two, or at most three shades between the animal of West Falkland and the large fox of Port Famine. In Strong's voyage (1690), Simson describes these foxes as being twice as large as an English fox, but he does not say upon which island.†

* "Le loup-renard, ainsi nommé parce qu'il se creuse un terrier, et que sa queue est plus longue et plus fournie de poil que celle du loup, habite dans les dunes sur le bord de la mer. Il suit le gibier et se fait des routes avec intelligence, toujours par le plus court chemin d'une baie à l'autre; à notre première descente à terre, nous ne doutâmes point que ce ne fussent des sentiers d'habitans. Il y a apparence que cet animal jeûne une partie de l'année, tant il est maigre et rare. Il est de la taille d'un chien ordinaire dont il a aussi l'aboiement, mais foible. Comment a-t-il été transporté sur les îles?"—Voyage de Bougainville, seconde édition, tome i. p. 113.

† "They saw foxes on this land, which, Simson says, 'were twice as big as those in England. Having brought greyhounds with us, we caught a young fox alive, which we kept on board some months, but on the first firing our great guns in the South Sea, he was frighted overboard, as were also some St. Jago monkies. As to the antiquity of these foxes, as they cannot fly, and it is not likely they should swim so far as from America, nor again is it probable that any would be at the pains of bringing a breed of foxes so far as Hawkins' Island is from any other land, it will follow that there have either been two distinct creations, or that America and this land have been formerly the same continent.' There are means more within the common course of nature than those which occurred to Simson, by which foxes may have become inhabitants of this land. Islands of ice are met at sea in much lower southern latitudes,

All who have seen these animals alive have been struck by their eager ferocity and disregard of man's power. Byron says, "Four creatures of great fierceness, resembling wolves, ran up to their bellies in the water to attack the boat!" also, "When any of these creatures got sight of our people, though at ever so great a distance, they ran directly at them."—"They were always called wolves by the ship's company; but except in their size and the shape of the tail, I think they bore a greater resemblance to a fox. They are as big as a middle-sized mastiff, and their fangs are remarkably long and sharp." "They burrow in the ground, like a fox." The Beagle's officers, when employed in surveying the Falklands, were often annoyed, as well as amused, by the intrusion of these fearless animals. In size, the larger ones are about twice as bulky as an English fox, and they stand nearly twice as high upon their legs.* Their heads are coarser, and their fur is not only thicker as well as longer, but it is of a woolly nature.

Referring again to a resemblance between the Falkland and Patagonian foxes, I may remark, that there is as much difference in size, in coat, and in tail, between the guanaco of Port Desire and that of Navarin Island (near Cape Horn), as there is between the fox of West Falkland and that of Port Famine. What the Patagonian animal is which the Blanco Bay people called 'wolf,'† or to which Pigafetta alluded in his vocabulary of words used by the Patagonians at Port San Julian, as equivalent to 'ani,'‡ I cannot say: I was inclined to suspect an equivoque arising out of the word 'lobo,' which means seal as well as wolf; but Lieut. Wickham says he saw a wolf near the Colorado River.§ The Falkland foxes feed upon birds, rab-

tudes, many of which, no doubt, are formed in the bays and rivers of the continent. Seals and sea-birds repose on the edge of the shore, whether it is ice or land, and foxes, or other animals, in search of prey, will frequently be carried away on the large pieces of ice which break off and are driven out to sea."—Burney, vol. iv. pp. 331-332.

* The country they range over being open, without trees, does not require them to steal along under branches, like the foxes of a woody country.

† Page 107 of this volume.

‡ Burney, vol. i. p. 37.

§ Page 296.

bits, rats and mice, eggs, seals, &c., and to their habits of attacking king-penguins, if not seal, while alive, I presume that a part of their unhesitating approach to man may be traced.

Naturalists say that these foxes are peculiar to this archipelago, and they find difficulty in accounting for their presence in that quarter only.* That they are now peculiar cannot be doubted; but how long they have been so is a very different question. As I know that three hairy sheep, brought to England from Sierra Leone in Africa, became woolly in a few years, and that woolly sheep soon become hairy in a hot country (besides that their outward form alters considerably after a few generations); and as I have both seen and heard of wild cats, known to have been born in a domestic state, whose size surpassed that of their parents so much as to be remarkable; whose coats had become long and rough; and whose physiognomies were quite different from those of their race who were still domestic; I can see nothing extraordinary in foxes carried from Tierra del Fuego to Falkland Island becoming longer-legged, more bulky, and differently coated. But how were they carried there? In this manner:—In page 242, the current was mentioned which always sets from Staten Land towards the southern shores of the Falklands—icebergs or trees

* Forster, as an exception, saw no difficulty in accounting for their involuntary migration. "M. Forster, Anglais, de la Société Royale, qui a fait à cet ouvrage l'honneur de le traduire, a accompagné sa traduction de plusieurs notes."—"Je dois dire que toutes ses notes ne sont pas également justes; par exemple, dans le chapître de l'Histoire Naturelle des Iles Malouines, il est surpris de ce que je le suis d'avoir trouvé sur ces îles un animal quadrupède, et de mon embarras sur la manière dont il a été transporté. Il ajoute qu'ayant passé comme je l'ai fait plusieurs années en Canada, j'aurois dû savoir que des quadrupèdes terrestres se trouvant sur de grandes glaces au moment où elles sont détachées des terres, sont emportées à la haute mer, et abordent à des côtes fort éloignées de leur pays natal, sur lesquelles ces masses de glace viennent échouer. Je sais ce fait; mais M. Forster ne sait pas que jamais les voyageurs n'ont rencontré de glaces flottantes dans les environs des îles Malouines, et que dans ces contrées il ne s'y en peut pas former, n'y ayant ni grand fleuve ni même aucune rivière un peu considérable.—Voyage de Bougainville, séconde édition, tom. i. pp. xiv. et xv. (note).

drifted by that current and westerly winds afford the means of transport; and I appeal to the quotations already made from Forster's and Bougainville's works for proof that animals may be so carried.

Because we do not know that there are foxes at this time upon Staten Land, it does not follow that there are none, or that they have never been there; and as guanacoes, pumas, and foxes are now found on Eastern Tierra del Fuego, why might not foxes have been carried to Staten Land and thence to the Falklands, or, which is still more probable, drifted from Eastern Tierra del Fuego direct. I have heard somewhere, though I cannot recollect the authority, that a man in North America hauled a large old tree to the bank of a river in which it was floating towards the sea, and proceeded to secure it on the bank, when to his astonishment, out of a hole in the tree jumped a fine fox. Clusters of trees are often found floating, which have fallen off a cliff, or have been carried out of a river; and once in the ocean, they are drifted along partly by currents and partly by wind acting upon their branches or exposed surfaces.

Rats and mice were probably taken to the Falklands by the earlier navigators who landed there, whose ships were often plagued with their numbers.* That they have varied from the original stock in sharpness of nose, length of tail, colour, or size, is to be expected, because we find that every animal varies more or less in outward form and appearance, in consequence of altered climate, food, or habits; and that when a certain

* In Viedma's Diary of an Expedition to Port San Julian in 1780, he says, "El Bergantin San Francisco de Paula entrò en el riachuelo para descargarlo y dar humazo a las ratas." (The brig San Francisco de Paulo went into the creek to be unloaded and smoked, to kill the rats (or mice, ratas signifying either). In Magalhaens' voyage (1520) "Juan (a Patagonian) seeing the Spaniards throwing mice into the sea, desired he might have them for food; and those that were afterwards taken being given to him, he carried them on shore."—Burney, vol. i. p. 34. Perhaps some of those mice reached land alive, as the ships lay close to the shore. Many other vessels, however, afterwards staid some time in Port San Julian, particularly those of Drake.

change, whatever it may be, is once effected, the race no longer varies while under similar circumstances; but to fancy that every kind of mouse which differs externally from the mouse of another country is a distinct species, is to me as difficult to believe as that every variety of dog and every variety of the human race constitute a distinct species. I think that naturalists who assert the contrary are bound to examine the comparative anatomy of all these varieties more fully, and to tell us how far they differ. My own opinion is, judging from what I have gathered on the subject from various sources, that their anatomical arrangement is as uniformly similar as that of the dogs and of the varieties of man.

On East Falkland there are numbers of rabbits, whose stock is derived from those carried there by Bougainville or the Spaniards. Among them were some black ones (when I was there), which had been pronounced indigenous, or, at all events, not brought from Europe. A specimen of these pseudo-indigenous animals has been carefully examined by those to whom a new species is a treasure, but it turns out to be a common rabbit.

Sea-elephant and seal (both hair and fur-seal) were abundant along the shores of the archipelago in former years, and by management they might soon be encouraged to frequent them again;* but now they are annually becoming scarcer, and if means are not taken to prevent indiscriminate slaughter, at any time of year, one of the most profitable sources of revenue at the Falklands will be destroyed.

Whales frequent the surrounding waters at particular seasons, and they are still to be found along the coasts of Patagonia and Tierra del Fuego (within easy reach from the Falklands), though their numbers are very much diminished by the annual attacks of so many whale-ships, both large and small, which have made the Falklands their head-quarters during the last twenty years.

A valuable source of daily supply, and by salting, of foreign

* On the little island 'Lobos,' in the river Plata, passed and therefore to a certain degree disturbed daily by shipping, seals are numerous; being preserved like game, and destroyed only at intervals.

export, is the inexhaustible quantity of fish which swarm in every harbour during the summer. The description which most abounds is a kind of bass, from two to three feet long, and six inches in depth: it takes salt well, and has been exported by cargoes to the river Plata* and to Rio de Janeiro; and there are delicious small fish in such shoals, that our boats' crews were sometimes obliged to let a large portion escape from the net before they could haul it ashore without tearing.†

Mr. Vernet said, "We have a great abundance of fish in all the bays, where they come at the beginning of spring to spawn. In the winter season they retire. They enter regularly twice in the twenty-four hours, at about half-flood. They are caught in such numbers, that ten or twelve men salted about sixty tons in less than a month. Generally, they are caught with a net, but they will also take the hook; they are of a species between the mullet and the salmon, and become very fat towards the end of the summer. They are very good eating, and when salted, some prefer them to the cod-fish."—Vernet, MS. 1831. In the fresh-water ponds, so numerous on the large islands, there is a very delicate fish, somewhat resembling a trout, which may be caught by angling. The shell-fish are chiefly muscles and clams, both of which are very abundant, and easily gathered at low water.

It may here be remarked that the cod-fishery off Patagonia and Tierra del Fuego might be turned to very good account by settlers at the Falklands.

Of the feathered tribe there are numbers, but not much variety has been found—a natural consequence of the absence of trees. Three or four kinds of geese,‡ two kinds of snipe, several varieties of the duck, occasionally wild swans of two

* Where fish, though plentiful, does not take salt well.

† Many tons have been taken at a haul.

‡ One kind of goose, that which has erroneously been called a bustard, arrives in a tame condition, about April or May, with easterly winds. Perhaps these birds come from Sandwich Land, or even Enderby Land. Their tameness may be a consequence of being ignorant of man, or of the half-tired state in which they arrive.

kinds, a sort of quail (like that of Tierra del Fuego), carrion-hawks or vultures, albatrosses, gulls, petrel, penguins, sea-hens, shags, rooks, curlew, sandpipers, rock-hoppers, and a very few land-birds, are found about most of the islands.*

Although there are no trees, a useful kind of brushwood grows abundantly in vallies, to the height of three or four feet, and thickly set together. Over level plains it is but thinly scattered. The settlers use this brushwood for lighting their peat-fires. There are three kinds of bushes: one grows straight, from two to five feet high, with a stem from half an inch to an inch and half in diameter: this kind is found abundantly in most of the vallies. Another is common about the southern parts of the islands, and has a crooked trunk, as thick as a man's arm, growing to about three feet in height. The third is smaller still, being little better than heather; it grows almost every where, though scantily.

Peat is inexhaustible; and, if properly managed, answers every common purpose of fuel, not only as a substitute, but pleasantly.† It will not, however, in its natural state, answer for a forge; but if dried and subjected to heavy pressure for some time before use, a much greater heat might be derived from it.

There is but little difference in the quality of the grass, either on high or low land; but in sheltered valleys it is longer, softer, and greener, than elsewhere. The whole face of the country is covered with it; and in some places, especially over a peaty soil, its growth becomes hard and rank. In the

* 'Birds' eggs are so numerous at the proper season, that "eight men gathered at one place alone, in four or five days, upwards of sixty thousand eggs, and might have collected twice that number had they remained a few days longer."—Vernet, MS. 1831.

† "The want of wood on these islands would be a great inconvenience, were it not that good peat is very abundant. I have burned many tons, and found it an excellent substitute for coal. In order to get it dry, it is necessary to pull it from the sides of the pit, not very deep; and as there are several peat-holes, by working them alternately, the material may be procured in a state fit for use."—Weddell's Voyage, p. 88.

southern half of East Falkland, where, as I mentioned, the soil is good, there is abundance of long, but brownish grass over all the country, and at the roots of it there are sweet tender shoots, sheltered from the wind, much liked by cattle. In that district there are several varieties of grass growing on fine dark-coloured earth, mixed with light white sand; and, although, from never being cut, it has a rugged and brown appearance, its nutritive properties must be considerable, as the finest cattle are found feeding there. Mr. Bynoe remarked to me, that wherever the surface of the ground had been broken by cattle, he found a very dark-coloured earth mixed with sand or clay, or else clay mixed with gravel and sand. That the clay is good for bricks has been mentioned; but I have not said that there is stone of two or three kinds suitable for building, and that any quantity of lime may be obtained by burning fossil shells brought from the coast of Patagonia, where the cliffs are full of them, or by collecting the shells scattered upon the Falkland shores. Another natural production, of more value than it has hitherto been considered, is the common sea-weed or kelp;* and I am told by Sir Woodbine Parish that the archil or orchilla weed was obtained there by the Spaniards.

It is to be remarked, that the soil of East Falkland has been very much improved in the neighbourhood of the settlement, as well as around the estancia, or farm, where the tame cattle are kept, in consequence of the treading and manuring it has

* The manner of extracting potash from sea-weed is as follows:—When a sufficient quantity of kelp has been collected, it is spread out in a place where it will be dried by the sun and wind, and when dry enough to burn, a hollow is dug in the ground three or four feet wide; round its margin are laid stones, on which the weed is placed and set on fire. Quantities of this fuel being continually heaped upon the circle, there is in the centre a constant flame, from which a liquid substance, like melted metal, drops into the hollow beneath. This substance is worked, or stirred, with iron rakes, and brought to an uniform consistence while in a state of fusion; and when cool, it consolidates into a heavy, dark-coloured alkaline substance, which undergoes in the glass-houses a second vitrification, and then assumes a perfect transparency.

received. The grass is there as short and as sweet as horses could desire; and does not this show, that by folding, on a large scale, any extent of pasture land might, by degrees, be brought to a similar condition? Why sheep have not been carried there in greater numbers I am not aware, but judging from the climate, and the fur of the foxes, I should suppose that the long-woolled sheep would do well, and perhaps improve the staple of its wool, as the merino sheep has done in an opposite manner—by transportation to Australia. Pigs have increased in great numbers on the small islands, where their young are safer from the foxes, and where there is abundance of the sedgy grass called tussac, the roots and stalks of which are much liked by them.

The size and fatness of the wild cattle is a clear proof that the country is adapted for grazing. Of twenty wild bulls which were killed during one excursion of the settlers, shortly before the Beagle's arrival, the average weight of each hide was above seventy, and a few weighed eighty pounds. Some of these animals are so fat and heavy, that the gauchos say they cannot drive them across the marshy grounds which are passed by the other cattle, as well as by men on horseback. It has been also ascertained that meat takes salt remarkably well in that climate; and as salt of excellent quality, as well as saltpetre, abounds on the coast of Patagonia, there is no reason why large quantities of salt meat and salt fish should not be prepared there, and exported to the Brazils, to the East, to Chile, and Peru, besides supplying a number of the ships which would touch there.

But there are alleged disadvantages to contend against, which must not be overlooked for a moment. It is very doubtful whether corn will ripen. Fruit, which requires much sun, certainly will not, and culinary vegetables have been said to run to stalk and become watery. Nevertheless, Mr. Brisbane assured me that wheat had been tried in Vernet's garden, and that there it grew well, producing a full ear and large grain. The garden was small, slightly manured, and defended from wind by high turf fences. Potatoes, he said,

grew large, though watery; but it was easy to see that justice had not been done to them, whole potatoes having been put into holes and left to take their chance, upon a soil by no means so suitable for them as might have been found. Planted even in this rough way, Mr. Bynoe collected three pounds weight of potatoes from one root. By proper management, I think that they, as well as turnips, carrots, cabbage, lettuce, and other esculent plants, might be brought to great perfection, particularly on sheltered banks sloping towards the north-east. The turnips which I saw and tasted were large and well-flavoured: the largest seen there weighed eight pounds and a-half. Flax has been tried in a garden, and succeeded. Mr. Bynoe saw some of it. Hemp has never yet been tried. Currant bushes (*ribes antartica*) have been transported from Tierra del Fuego, and tried near the settlement, but their fruit did not ripen properly. It ought, however, to be remembered that those currants are wild, a bad sort of black currant, and that when ripe in Tierra del Fuego they are scarcely eatable.

We read in Bougainville and Wallis, that thousands of young trees were taken up by the roots in the Strait of Magalhaens, and carried to the Falkland Islands; but no traces of them are now visible either at Port Egmont or Port Louis. Perhaps they were taken out of their native soil at an improper period, exposed to frost or salt water, while their roots were uncovered, and afterwards planted by men who knew more of the main brace than of gardening. Bougainville, however, had industrious 'familles Acadiennes' with him, under whose care the young trees ought to have fared better than under the charge of Wallis's boatswain. Mr. Brisbane told me that he had brought over some young trees from Tierra del Fuego for Mr. Vernet; that some had died, but others (which he showed me) were growing well in his garden. From the opinions I have collected on the subject, and from what has been effected on waste lands, downs, and exposed hills in England and Scotland, by planting thousands at once instead of tens, I have no doubt whatever that trees may be

grown upon either Falkland, and that the more are planted the better they would grow—assisting and sheltering each other. At first, young plants or trees should have banks of earth raised near them, to break the fury of south-west storms, and the most sheltered situations, with a north-east aspect, should be chosen for a beginning.

Anti-scorbutic plants are plentiful in a wild state, such as celery, scurvy-grass, sorrel, &c.; there are also cranberries,* and what the settlers call strawberries, a small red fruit, growing like the strawberry, but in appearance and taste more like a half-ripe blackberry. I must not omit the 'tea-plant,' made from which I have drank many cups of good tea,† and the settlers use it frequently. It has a peculiar effect at first upon some people, which is of no consequence, and soon goes off.‡ This little plant grows like a heath in many parts of the Falklands as well as in Tierra del Fuego, and has long been known and used by sealers.§ The large round gum plant (*Hydrocelice gummifere*), common in Patagonia and Tierra del Fuego, is abundantly found, and, when dried, is useful for kindling fires, being extremely combustible. The gum which exudes from its stalks when cut or broken, is called by the settlers 'balsam,' and they use it quite fresh for wounds; at the least it answers the purpose of sticking-plaister. In summer it may be collected in considerable quantities, without injuring the plants, as it then oozes out spontaneously; even while green, the whole plant is very inflammable. The gauchos, when in the interior of the islands, tear it asunder, set it on fire, and roast their beef before it. Within the stems of the tall sedgy grass, called tussac, is a white sweetish substance, something like the kernel of an unripe nut; this is often eaten by the set-

* One reason for the arrival of flights of geese during April and May may be, that the cranberries are then ripe, of which they are very fond.

† At my own table I have seen it drank by the officers without their detecting the difference: yet the only tea I used at other times was the best that could be obtained at Rio de Janeiro.

‡ U———m ciens.

§ It produces a small berry, of very pleasant taste, which when ripe is eaten as fruit.

tlers, and is so much relished by cattle, horses, and pigs, that the plant itself is greatly diminished in quantity, and now can only be found in its former luxuriance upon islands where cattle or hogs have not access. These flags or rushes are more than six feet high; they make good thatch and a soft bed. There is a shrub, or rather creeper, of which the French made a kind of beer, thought to be wholesome and anti-scorbutic; and there are other vegetable productions which are of little consequence, perhaps, except to botanists,* and as most of them were long ago well described by Bougainville, I may beg the reader to refer to his fourth chapter (Détails sur l'histoire naturelle des Iles Malouines) for a very faithful and well-written account, to every statement in which, as far as my own knowledge goes, I can bear testimony.

Having mentioned the principal productions, it remains to say what more may be effected and what improvements may be made by an industrious colony. Land, which is now in a state of nature, might be surprisingly improved by ploughing and manuring with burned peat or with kelp, which is so abundant on every part of the shore. Walls, or rather mounds of turf, a few feet in height, would assist the slopes of the ground in sheltering cultivated soil from south-west winds, and where stones, as well as turf, are so plentiful, it would be worth while to make a number of small enclosures for fields as well as gardens, taking care always to select the sides of hills, or rather sloping grounds which incline towards the north-east. Fresh water being abundant everywhere, and the islands being so much cut into by the sea, that water carriage could be obtained to within a very few miles of any place, there can be no great preference for one locality rather than another, with a view to agriculture alone; but of course the principal settlement must be near the eastern extremity of the archipelago, because that part is most accessible to shipping, and even now frequently visited. A colony planted near Port William, or at Port Louis, with a small establishment to supply the wants of ship-

* "On a spot, twelve feet square, chosen indiscriminately on the rising grounds in the interior, twenty-seven different plants were counted."—(Vernet, MS.)

ping at Port William, could not fail to prosper, if a free port were offered there to ships of all nations. Homeward-bound ships from our rapidly growing colonies in Australia, as well as those from Mexico, Peru, and Chile, are often in want of a port to which they can resort about the middle of their voyage. The River Plata is out of the way and dangerous; Santa Catharina is almost as much out of reach, and deficient in many articles of supply; Rio de Janeiro and Bahia are also out of the line and very expensive, though they are often resorted to; St. Helena is too far east, scantily supplied, and more expensive than the Brazils. But almost every one of those ships 'sight' the eastern end of the Falklands as they pass by, to correct or verify their longitude, and how very little delay then would they experience, if the course were shaped so as to pass a little nearer Port William, and there heave to under the lee of the land, or let go an anchor, as might be most suitable. Water and fresh provisions might be speedily procured, at a price now moderate, and if a colony were once well organized, in a short time as low as in any part of the world. A few small vessels should be attached to the colony, and two small men of war, one of which should be always about the chief harbour, and the other visiting the various ports of the archipelago. I have alluded more than once to the fact of excellent fresh water being plentiful every where, and I may here add, that if a sailing tank-vessel were kept at Port William in readiness to supply ships without delay, that one convenience only, when generally known, would ensure the visits of almost every Australian and Mexican trader, besides many others. No one making a long voyage hesitates to take in an additional supply of good water during his passage, if he can do so without delay (of consequence) and without danger. It is the natural unwillingness to get in with the land—to be delayed in port—to pay heavy port dues, and to risk losing men—that generally induces seamen in command of vessels to avoid every port excepting that to which they are bound; but if you could ensure to a ship loading at Sydney a safe 'half-way house' at the Falklands, she would hardly prefer carrying a quantity of

water, no longer necessary, to the proportion of cargo that might be stowed in its place.

Local circumstances, such as the relative position of the land, the set of the tides and currents, the prevailing winds, and the accessibility of Port William or Berkeley Sound, contribute to make the easternmost part of the Falklands safer and more easy to approach than almost any place that I am acquainted with.

With the supply of shipping, and the establishment of a frequented free port in view, as the first source of prosperity, colonists should augment the number of animals, birds, and vegetables, which they see thrive so well there, and take little thought about corn, except for home consumption (unless indeed oats should be found to grow well). They should assiduously increase their stock of cattle, sheep, pigs, and poultry, make butter and cheese, rear calves, and breed horses; they should salt meat and fish; bring wood and lime from Tierra del Fuego and Patagonia, and turn their thoughts to supplying ships with water, fuel (perhaps dried peat), and provisions, in the quickest and cheapest manner. Hides, pig-skins, goat-skins, sheep-skins, wool, foxes' fur, rabbit-skins, bird-skins and down, horns, salt meat, salt butter, cheese, potash, orchilla weed, potatoes, salt-fish, seal-skins, seal-oil, whale-oil, and whale-bone, would form no indifferent return cargo for vessels carrying there implements of husbandry, stores of various kinds, flour and biscuit, clothing, lumber, furniture, crockery-ware, glass, cutlery, and household utensils. North American vessels, laden with flour or lumber, might make very profitable voyages.

I have always thought the Falklands an admirable place for a penal establishment, a thorough convict colony. A healthy, temperate climate, far removed from civilized countries, and (if used for such a purpose only) incapable of being injured by the presence of bad characters, as our mixed settlements have been—fully supplied with necessaries, yet without any luxuries—sufficiently extensive to maintain a large population, though small enough to be kept under the strictest martial law, and inspected every where, by water as well as by land—

it seems to me the very best situation for locating those bad characters who are unfit to remain at home. But to whomsoever it may happen to colonize these islands, there can be no doubt that industry will be well rewarded, that health, safety, and a frequent communication with the mother country, will be as certain as in any other colony, and that the only drawbacks to be anticipated are those likely to be caused by wind and deficiency of solar heat.

Animals increase rapidly, and the quality of their hides or fur improves. Cows give a large quantity of excellent milk, from which good butter and cheese may be made. Not long since, a letter was received from the Hon. George Grey, Captain of H.M.S. Cleopatra, in which he said that the milk and butter at Howick was not superior to that which he tasted at the Falklands. In the event of steamers engaging in the navigation of those seas,* a port of supply and repair, in short, a maritime depôt would be required, in or near Tierra del Fuego; but no such establishment could easily be formed there without a military force, and occasional hostilities with the natives, whereas, at the Falklands, the only native opponents would be foxes, horses, and bulls.† This immense advantage over most habitable and fertile countries—the having no aboriginal population—should be duly considered by those who may contemplate planting a colony there. Weddell says, "A settlement at this point of the South Atlantic would evidently afford great facilities to navigation. The extensive tracts of ground, well clothed with grass, and the quantity of fine cattle running wild on the island, are sufficient proofs of its being a country that might be settled to advantage. The winters are mild, the temperature being seldom so low as the freezing point. Several of my crew, indeed, went without

* From Concepcion (37° S.) to Elizabeth Island, near the eastern entrance of Magalhaens Strait, there is every where abundance of wood fuel for steamers.

† It is very dangerous for persons on foot to approach the wild horses or cattle, especially the bulls, unless they are armed with rifles or balls (bolas); and even then, no one ought to venture alone.

stockings during the greater part of the winters we spent there. The south wind, however, is cold and stormy, but it is not frequent; the prevailing winds are between S.W. and N.W., which, blowing from the coast of Patagonia, are comfortably temperate. This climate appears to be in general much more temperate now than it was forty years ago, the cause of which may probably be, that immense bodies of ice were then annually found in the latitude of 50°; this ice, between the Falkland Islands and South Georgia, would necessarily lower the temperature of both air and water, and consequently an unfavourable opinion of the climate was produced."—Weddell's Voyage, pages 94-95.

For much of the produce of the islands, such as salt-meat and fish, potatoes, oil, butter, cheese, tallow, &c. a ready market would always be found on the coasts of South America, while other articles, previously mentioned, would have a free sale in Europe and North America. Should any accident happen to a vessel in doubling Cape Horn, obliging her to make for the nearest port at which she can obtain supplies, where can she now go? To the River Plata on one side, or to Chilóe on the other—either of which is twelve hundred miles from Cape Horn!

A great temptation to shipping would be, the certainty of supplies, and freedom from harbour dues as well as pilotage. Twenty years after the first establishment of a colony would be quite soon enough to think of any port charges, and till that time, every encouragement ought to be given to vessels, by piloting them gratis, and charging for nothing but the supplies which they may choose to purchase, and for those, upon the lowest possible terms. As to pilotage, indeed, I may say that none is required, if a stranger has the chart now published by the Admiralty, for there is no danger in any of the Falkland harbours that is not distinctly buoyed by kelp. A few rocks in the offing are indeed to be guarded against, such as the Uranie Rock, and those near the Jason Isles; but a ship must have passed all those before a pilot could board her, under ordinary circumstances, and afterwards there would be no

danger, if a vigilant look-out and common skill were exercised.

Berkeley Sound (besides many other ports) would contain a large fleet in security, while around it are coves and basins in which any repairs might be carried on.

Probably some intercourse might be opened with the Patagonians, and, by them, with other roving tribes on the continent, who would exchange guanacoes, horses, cattle, poultry, hides, horns, tallow, and hair, for hardware, clothing, cutlery, ornaments, saddles, spurs, bridles, &c.; and as the guanaco is so warmly clothed in the high southern latitudes, and is capable of being domesticated,* it might be found a valuable animal to encourage among sheep and cattle at the Falklands. Mr. Brisbane told me, that some wool, sent by Mr. Vernet from East Falkland to Liverpool, sold for nearly double the price of Buenos Ayres wool; and this was the produce of sheep which had only been a few years on the island, of the Buenos Ayrean stock, unmixed with any superior breed. To show how well the little colony, established by Mr. Vernet, was succeeding, prior to its harsh and unnecessary ruin by Captain Silas Duncan, I will give an extract of a letter received from a brother officer who visited Port Louis.

"The settlement is situated half round a small cove, which has a narrow entrance from the sound; this entrance, in the time of the Spaniards, was commanded by two forts, both now lying in ruins, the only use made of one being to confine the wild cattle in its circular wall when newly brought in from the interior. The governor, Louis Vernet, received me with cordiality. He possesses much information, and speaks several languages. His house is long and low, of one story, with very thick walls of stone. I found in it a good library, of Spanish, German, and English works. A lively conversation passed at dinner, the party consisting of Mr. Vernet and his wife, Mr.

* "Magalhaens, in his voyage, saw Patagonians who had with them four young guanacoes, led about with a kind of halter."—Burney, vol. i. p.34, anno 1520.—And others on which they placed their wives. Pennant. At Mocha the natives had tame guanacoes, or alpacoes, in 1598. In Peru, the llama has been a domestic animal as long as we have any record.

Brisbane, and others; in the evening we had music and dancing. In the room was a grand piano-forte; Mrs. Vernet, a Buenos Ayrean lady, gave us some excellent singing, which sounded not a little strange at the Falkland Isles, where we expected to find only a few sealers.

"Mr. Vernet's establishment consisted of about fifteen slaves, bought by him from the Buenos Ayrean Government, on the condition of teaching them some useful employment, and having their services for a certain number of years, after which they were to be freed. They seemed generally to be from fifteen to twenty years of age, and appeared contented and happy.

"The total number of persons on the island consisted of about one hundred, including twenty-five gauchos and five Indians. There were two Dutch families (the women of which milked the cows and made butter); two or three Englishmen; a German family; and the remainder were Spaniards and Portuguese, pretending to follow some trade, but doing little or nothing. The gauchos were chiefly Buenos Ayreans; but their capataz or leader was a Frenchman."

Such was the state of Vernet's settlement a few months before the Lexington's visit; and there was then every reason for the settlers to anticipate success, as they, poor deluded people, never dreamed of having no business there without having obtained the permission of the British Government. They thought, naturally enough, that the Buenos Ayrean Government could not have sold the islands to Mr. Vernet, unless the state of La Plata had a right to them; they believed that the purchase-money had been paid;* but they were not aware that the British Government had protested formally against the pretended claim of Buenos Ayres, so quiet was that fact kept by the Argentine Government, although the solemn protest was made by Mr. Parish, the British consul-general, in November 1829.

* It is said that officers in the Buenos Ayrean army, relations of Mrs. Vernet, had claims upon their Government, which they agreed should be liquidated by receiving certain sums of money from Mr. Vernet; in consideration of which the Government made over to him their pretended right of property in the Falklands and Staten Land.

However unjustifiably Mr. Vernet may, in fact, have behaved towards vessels belonging to the United States of North America, it must be remembered that he had a commission from the Buenos Ayrean Government, empowering him to act as civil and military governor of the Falklands; that he believed the Buenos Ayrean authority valid; and had no doubt in his own mind that he was doing right. Mr. Vernet, therefore, was no robber—no pirate—as he was termed by Captain Duncan, because he tried to uphold his situation, and prevent his settlement being robbed by people who had no claim whatever upon any of the islands. However wrong Vernet's actions may have been, he was responsible to his Government for them; and those who acted under his order, he having a legal commission, certainly did not deserve to be seized as pirates, put into irons, and so carried to the Plata! Neither was it just (setting mercy quite aside) to destroy the infant colony, break open or tear down doors and windows, search houses, drawers, and chests, trample over gardens, break through fences, and ill-use the helpless, unarmed settlers to such a degree, that for many months afterwards whenever a man-of-war was seen approaching, the frightened inhabitants at once fled to the interior, not knowing how they might be treated. Poor Brisbane (of whom frequent mention has already been made, and of whom I have yet to speak), was taken, with others, in irons to Monte Video, where the British consul obtained his release; he had joined Vernet in a contract to take seal upon the Falklands, and was left in charge of the settlement at the period of Captain Duncan's hostility. At that time Vernet himself was absent, having gone with his family to Buenos Ayres, in order that he might attend at the ensuing trial of those sealing vessels which had been detained by him for repeatedly taking seal upon the Falkland Islands, after he had duly warned them off.

I have heard much of Mr. Vernet and his proceedings, from various quarters—from enemies as well as friends—and although I never met him, and therefore cannot be partial from friendship, I do sincerely pity his misfortunes; and it is my belief that he has been much misrepresented.

CHAPTER XIII.

Anchor in Berkeley Sound—Le Magellan—British flag hoisted—Ruined Settlement—Mr. Hellyer drowned—Burial—French Whalers—Unicorn—Adventure—Squall—Flashes—Fossils—Killing Wild Cattle—Sail from Falklands—River Negro—Maldonado—Constitucion—Heave down, copper and refit Adventure—Signs of weather—Sound banks—Los Cesares—Settle with Harris and part company—Blanco Bay—Return to Maldonado—Monte Video.

March 1. The Beagle anchored at the south side of Berkeley Sound (near the beach where Freycinet was obliged to run l'Uranie ashore, in 1820, after striking on the detached rock off Volunteer Point), and remained there till I had ascertained the state of affairs on shore: for seeing a French flag flying near some tents behind Johnson Cove or harbour, and knowing that, in 1831, the flag of Buenos Ayres was hoisted at a settlement in the sound, it was evident a change of some kind had occurred. Directly our anchor had dropped, a whale-boat belonging to the wrecked whale-ship, 'Le Magellan,' came alongside; and from her chief mate (who was also whaling-master), we learned that his ship had parted from her anchors during a tremendous squall on the night of the 12th of January, and was totally wrecked. He then informed me that the British colours had been hoisted on these islands by H.M.S. Clio; and that H.M.S. Tyne had since visited the port and saluted the flag; that the white flag was hoisted at the French tents only as a signal to us; and that he was sent by M. le Dilly, his captain, to entreat us to render them assistance. Two of our boats were forthwith manned; one was sent to the settlement at Port Louis, and in the other I went to the Frenchmen at Johnson Cove. I found them very comfortably established in large tents made from the sails of their lost ship; but they manifested extreme impatience to get away from the islands, even at the risk of abandoning the vessel and cargo. After due inquiry, I promised to carry as many of them as I

could to Monte Video, and to interest myself in procuring a passage for the rest.

Their ship was lying upon a sandy beach, one bilge stove in, and her hold full of sand and water; but as there was no surf, and at high spring-tide the sea rose only to her deck, all the stores and provisions, if not the ship herself, might have been saved by energetic application of proper means soon after she was stranded. When I saw her it was not too late, but I had too many urgent duties to fulfil to admit of my helping those who would not help themselves. Returning on board, I met Mr. Chaffers, who had been to Port Louis, and heard that there was no constituted authority whatever resident on the islands, but that the British flag had been left by Captain Onslow in charge of an Irishman, who had been Mr. Vernet's storekeeper. This man at first declined answering Mr. Chaffers's questions, because his uniform buttons were (as he thought) different from those of the Tyne's officers; however, being a simple character, he soon became more loquacious than was wished. He told Mr. Chaffers that he was ordered to 'hoist the flag up and *down*' when vessels arrived, and every Sunday: that there was 'plenty of beef,' and as for rabbits and geese, only the 'poor people eat them.'

2d. Weighed and shifted our berth to Johnson Cove. 3d. We got on board all the new rope, bread, salt meat, and small stores, which the Frenchmen had saved and wished us to embark for the benefit of their owners. Meanwhile, surveying operations were begun, and an officer despatched to the settlement, who informed me of the arrival of a merchant schooner (Rapid), fourteen days from Buenos Ayres, with Mr. Brisbane on board (as Vernet's agent as well as partner), who was delighted to meet our officer, finding in him one of those who helped to save his life when wrecked in the Saxe Cobourg in 1827.

No sooner had Mr. Brisbane landed than the master and crew of the Rapid hastened to make themselves drunk, as an indemnification for the fatigues of their exceedingly long and hazardous voyage: and in that state they were found by the

Beagle's officer. Next morning Brisbane came on board with his papers, and I was quite satisfied with their tenor, and the explanation which he gave me of his business. Some misapprehension having since arisen about his being authorized by Vernet to act in his stead, I may here mention again (though no longer of any material consequence), that Brisbane's instructions from Vernet authorized him to act as his private agent only, to look after the remains of his private property, and that they had not the slightest reference to civil or military authority. This settled, I went to Port Louis, but was indeed disappointed. Instead of the cheerful little village I once anticipated finding—a few half-ruined stone cottages; some straggling huts built of turf; two or three stove boats; some broken ground where gardens had been, and where a few cabbages or potatoes still grew; some sheep and goats; a few long-legged pigs; some horses and cows; with here and there a miserable-looking human being,—were scattered over the fore-ground of a view which had dark clouds, ragged-topped hills, and a wild waste of moorland to fill up the distance.

"How is this?" said I, in astonishment, to Mr. Brisbane; "I thought Mr. Vernet's colony was a thriving and happy settlement. Where are the inhabitants? the place seems deserted as well as ruined." "Indeed, Sir, it was flourishing," said he, "but the Lexington ruined it: Captain Duncan's men did such harm to the houses and gardens. I was myself treated as a pirate—rowed stern foremost on board the Lexington—abused on her quarter-deck most violently by Captain Duncan—treated by him more like a wild beast than a human being—and from that time guarded as a felon, until I was released by order of Commodore Rogers." "But," I said, "where are the rest of the settlers? I see but half a dozen, of whom two are old black women; where are the gauchos who kill the cattle?" "Sir, they are all in the country. They have been so much alarmed by what has occurred, and they dread the appearance of a ship of war so much, that they keep out of the way till they know what she is going to do." I afterwards interrogated an old German, while Brisbane was out of sight,

and after him a young native of Buenos Ayres, who both corroborated Brisbane's account.*

At my return on board, I was shocked by the sad information that Mr. Hellyer was drowned. He had walked about a mile along the shore of a creek near the ship, with one of the Frenchmen, who then left him† (having recollected that he would be wanted for a particular purpose). Mr. Hellyer, anxious to shoot some ducks of a kind he had not before seen, walked on with his gun, saying he would return in half an hour.

About an hour after this, the capataz of the gauchos, Jean Simon by name, riding towards the French tents to learn the news, saw clothes, a gun, and a watch, lying by the water side; but, as no person was in sight, he thought they must have belonged to some one in the boats which were surveying, so rode on quietly; and not until another hour had elapsed, did he even casually mention to the Frenchmen what he had seen. They, of course, were instantly alarmed and hastened to the spot, with those of our party who were within reach. Some rode or ran along the shore, while others pulled in whale-boats to the fatal spot, and there, after much searching, the body was discovered under water, but so entangled by kelp that it could not be extricated without cutting away the weed. Mr. Bynoe was one of those who found it, and every means that he and the French surgeon could devise for restoring animation was tried in vain. A duck was found dead in the kelp not far from the body, and his gun was lying on the beach, discharged, with which the bird had been shot.

To me this was as severe a blow as to his own messmates; for Mr. Hellyer had been much with me, both as my clerk and because I liked his company, being a gentlemanly, sensible young man. I also felt that the motive which urged him to strip and swim after the bird he had shot, was probably a

* The German told me, among other things, that he had collected rabbit-skins at his leisure hours, and had made, at different times, above two hundred dollars by them.

† It was a positive order on board the Beagle, that no one should make any excursion, in such places, alone.

desire to get it for my collection. Being alone and finding the water cold, he may have become alarmed, then accidentally entangling his legs in the sea-weed, lost his presence of mind, and by struggling hastily was only more confused. The rising tide must have considerably augmented his distress, and hastened the fatal result.

5th. This day we buried the body of our lamented young friend, on a rising ground near Johnson Cove, in sight of our ship. All the French attended the melancholy ceremony, as well as all our own party, excepting the very few who were obliged to stay on board.

6th. An agreement was brought about, and witnessed by me, between M. le Dilly and the master of the Rapid schooner, by which the latter bound himself to convey to Monte Video those of the Magellan's crew whom the Beagle could not carry: and next day another French whaler arrived (the fourth we had lately seen), belonging to the owners of the Magellan, so there was no longer any want of help for M. le Dilly.

A few days afterwards a sealing schooner, the Unicorn, arrived, Mr. William Low being sealing master and part owner; and, although considered to be the most enterprizing and intelligent sealer on those shores, perhaps anywhere, the weather had been so much against him that he returned from his six months' cruise a ruined man, with an empty ship. All his means had been employed to forward the purchase and outfit of the fine vessel in which he sailed; but having had, as he assured me, a continued succession of gales during sixty-seven days, and, taking it altogether, the worst season he had known during twenty years' experience, he had been prevented from taking seal, and was ruined. Passengers with him were the master and crew of a North American sealing schooner, the Transport, which had been wrecked on the south-west coast of Tierra del Fuego, in Hope Harbour; and he told me of two other wrecks, all occasioned by the gale of January 12-13th.

At this time I had become more fully convinced than ever that the Beagle could not execute her allotted task before she, and those in her, would be so much in need of repair and rest,

that the most interesting part of her voyage—the carrying a chain of meridian distances around the globe—must eventually be sacrificed to the tedious, although not less useful, details of coast surveying.

Our working ground lay so far from ports at which supplies could be obtained, that we were obliged to occupy whole months in making passages merely to get provisions, and then overload our little vessel to a most inconvenient degree, as may be supposed, when I say that eight months' provisions was our usual stock at starting, and that we sailed twice with ten months' supply on board.*

I had often anxiously longed for a consort, adapted for carrying cargoes, rigged so as to be easily worked with few hands, and able to keep company with the Beagle; but when I saw the Unicorn, and heard how well she had behaved as a sea-boat, my wish to purchase her was unconquerable. A fitter vessel I could hardly have met with, one hundred and seventy tons burthen, oak built, and copper fastened throughout, very roomy, a good sailer, extremely handy, and a first-rate sea-boat; her only deficiencies were such as I could supply, namely, a few sheets of copper, and an outfit of canvas and rope. A few days elapsed, in which she was surveyed very carefully by Mr. May, and my mind fully made up, before I decided to buy her, and I then agreed to give six thousand dollars (nearly £1,300) for immediate possession. Being part owner, and authorized by the other owners to do as he thought best with the vessel in case of failure, Mr. Low sold her to me, payment to be made into his partners' hands at Monte Video. Some of his crew being 'upon the lay,' that is, having agreed to be paid for their work by a small proportion of the cargo obtained, preferred remaining at the Falklands to seek for employment in other vessels, others procured a passage in the Rapid, and a few were engaged by me to serve in their own vessel which, to keep up old associations, I named 'Adventure.' Mr. Chaffers and others immediately volunteered to go

* Excepting water, of which we only carried six weeks.

in her temporarily (for I intended to place Mr. Wickham in her if he should be willing to undertake the responsibility), and no time was lost in cleaning her out thoroughly, loading her with stores purchased by me from M. le Dilly and from Mr. Bray (lately master of the Transport), and despatching her to Maldonado, to be prepared for her future employment.

This schooner was built at Rochester as a yacht for Mr. Perkins, and, as I have reason to believe, cost at least six thousand pounds in building and first outfit. Soon afterwards, she was armed and used by Lord Cochrane in the Mediterranean; then she was fitted out by a merchant to break the blockade of Buenos Ayres; but, taken by a Brazilian man-of-war, and carried into Monte Video, she was condemned as a prize and sold to Mr. Hood, the British Consul, who went to England and back again in her with his family; after which, she was fitted out for the sealing expedition I have mentioned. At the time of my purchase she was in want of a thorough refit, and her internal arrangements required alteration; but it happened that Mr. Bray and M. le Dilly had each saved enough from their respective vessels to enable me to load the Adventure on the spot with all that she would require; from the former I bought anchors, cables, and other stores, amounting to £216: and from M. le Dilly rope, canvas, and small spars, for which £187 were paid. Those who were conversant in such matters, the master, boatswain, and carpenter of the Beagle, as well as others, assured me that these articles were thus obtained for less than a third of their market prices in frequented ports.

While the Beagle lay in Johnson Cove, we witnessed a memorable instance of the strength with which squalls sometimes sweep across the Falklands. Our ship was moored with a cable each way in a land-locked cove, not a mile across, and to the south-westward of her, three cables' length distant, was a point of land which, under ordinary circumstances, would have protected her from sea, if not from wind. Our largest boat, the yawl, was moored near our eastern anchor, with a long scope of small chain. At six in the evening of a stormy

day (10th March), the wind increased suddenly from the strength of a fresh gale to that of a hurricane, and in a few minutes the Beagle brought both anchors ahead, and was pitching her forecastle into the sea. Topgallant-masts were on deck, and yards braced sharp up all day; but we were obliged to let go a third anchor, and even then had some anxiety for the result. Till this squall came, the water had been smooth, though of course covered with white crests ('horses'); but it was then changed into a short sea, such as I should have been slow to believe wind could have raised in that confined cove. The yawl, an excellent sea-boat, and quite light, was swamped at her moorings; but I think that the chief cause of her filling was a quantity of kelp which drifted athwart hawse and hindered her rising easily to the sea.

During the month we remained in Berkeley Sound, I had much trouble with the crews of whaling or small sealing vessels, as well as with the settlers, who all seemed to fancy that because the British flag was re-hoisted on the Falklands, they were at liberty to do what they pleased with Mr. Vernet's private property, as well as with the wild cattle and horses. The gauchos wished to leave the place, and return to the Plata, but as they were the only useful labourers on the islands, in fact, the only people on whom any dependance could be placed for a regular supply of fresh beef, I interested myself as much as possible to induce them to remain, and with partial success, for seven staid out of twelve.

While walking the deck after dark, I sometimes saw flashes of light on the distant hills, which it was difficult to account for as 'ignes fatui,' because they were seen only on the heights, and momentarily, long intervals intervening between each faint flash. I once remarked similar instantaneous glimpses of feeble light, like the flashing of a distant pistol, near Pecket Harbour, in Magalhaens Strait, during a rainy night, but on the hills, at the south side of Berkeley Sound, I witnessed such lights repeatedly. They were never bright or lasting—merely a faint sudden glimmer—exactly as I have said, like the flash of a pistol, fired at a great distance. It has

since occurred to me, that the phosphoric light spoken of by Bougainville in the following passage may be of a nature similar to that which I saw, and that those momentary flashes might have been caused by the occasional fall of stones among ravines, near the summits of hills. "Des voyages entrepris jusqu' au sommet des montagnes (pour chercher des calcaires), n'en (de pierre) ont fait voir que d'une nature de quartz et de grès non friable, produisant des étincelles, et même une lumière phosphorique, accompagnée d'une odeur sulphureuse." —(Bougainville, Voyage autour du Monde, 1766-69, tome I., p. 100).

The shattered state of most summits of mountains in these regions* has often struck me, many of them being mere heaps of rocks and stones, over which it is extremely difficult to climb. Mount Skyring may be cited as one remarkable instance; there, the stones gave out a very sulphureous smell when struck together, and were strongly magnetic.† Lightning, electricity, and magnetism being intimately related, one is led to think that, if the above conjecture is incorrect, there may be some connexion between these sudden glimpses of faint light and the transmission of the electric fluid. This much I am certain of, that they were not lights made by man, and that they were different from the will-o'-the-wisp, or ignis fatuus.

My own employment obliged me to remain near the ship, but some of the officers made excursions into the interior, and to them and Mr. Brisbane I am indebted for most of the following notices of these islands.

Some very large bones were seen a long way from the seashore, and some hundred feet above the level of high water, near St. Salvador Bay. How they got there had often puzzled Mr. Vernet, and Brisbane also, who had examined them with attention; Brisbane told me they were whale's bones.‡ The rocky summits of all the hills are amazingly broken up,

* Falklands and Tierra del Fuego. † Vol. 1., p. 382.

‡ Bougainville says, "D'autres ossemens enormes, placés bien avant dans les terres, et que la fureur des flots n'a jamais été capable de porter si loin, prouvent que la mer a baissé, ou que les terres se sont elevées."—Vol. 1., pp. 112-113.

like those of far higher elevations in Tierra del Fuego, and the fragments—some very large—have rolled down the nearest ravines, so that they look like the beds of dried-up torrents. The sand-stone, which is abundant, offers beautifully perfect impressions of shells, many of which were brought to England. In these fossils the minutest portions of delicate shells are preserved, as in a plaster of Paris cast, though the stone is now very hard. There are fine stalactites in some large caverns, but they are known only to a few sealers. The large muscles produce pearls of considerable size, though inferior quality, perhaps; Mr. Brisbane had a small bottle full. In one of the cottages I saw a heap of good whalebone, and was informed that some hundred pounds worth had been picked up on the coasts, and sold to whalers for a tenth part of its European value, in exchange for clothes, spirits, ammunition, and biscuit. On West Falkland there are beautiful pebbles, and on the heights fine crystals have been found.

Although the climate is so much colder than that of Buenos Ayres, the gauchos sleep in the open air, when in the interior, under their saddles, just as they do in the latitude of 35°. While idling at the settlement they gamble, quarrel, and fight with long knives, giving each other severe wounds. With their loose ponchos, slouched hats, long hair, dark complexions, and Indian eyes, they are characters fitter for the pencil of an artist than for the quiet hearth of an industrious settler. Besides these gauchos, we saw five Indians (p. 267), who had been taken by the Buenos Ayrean troops, or their allies, and allowed to leave prison on condition of going with Mr. Vernet to the Falklands. Including the crews of some thirty whale-ships, hovering about or at anchor among the islands; the men of several American vessels, all armed with rifles; the English sealers with their clubs, if not also provided with rifles; these cut-throat looking gauchos; the discontented, downcast Indian prisoners, and the crews of several French whalers—who could not or would not see why they had not as good a right to the islands as Englishmen—there was no lack of the elements of discord; and it was with a

heavy heart and gloomy forebodings that I looked forward to the months which might elapse without the presence of a man-of-war, or the semblance of any regular authority.

Our tender, the Adventure, sailed on the 4th of April, under the charge of Mr. Chaffers, who was desired to call off the River Negro, and thence go to Maldonado, moor his vessel close to Gorriti Island, land every thing, and commence her thorough refit.

About this time one of the officers went to see some wild cattle taken. After riding far beyond the hills seen from Port Louis, a black speck was discerned in the distance—instantly the three gauchos stopped, adjusted their saddle-gear, lassoes, and balls, and then cantered off in different directions. While stopping, my shipmate saw that the black spot moved and doubled its size. Directly afterwards, he perceived five other black things, and taking it for granted they were cattle, asked no questions of his taciturn, though eager, companions, but watched their movements and galloped on with the capataz (Jean Simon), the other two making a détour round some hills. Having got down wind of the herd, Simon slackened his pace, and, lying along his horse's back, gradually ascended a slight eminence, beyond which the cattle were feeding. For a moment he stopped to look round :—there was a monstrous bull within a hundred yards of him ; three hundred yards further, were about twenty cows ; and in a valley beyond, was a large herd of wild cattle. Just then the heads of the other two men were seen a quarter of a mile on one side, also to leeward of the cattle, which were still feeding unsuspiciously. With a sudden dash onwards, such as those horses are trained to make, Simon was within twenty yards of the overgrown, but far from unwieldy brute, before he could 'get way on.' Whirling the balls around his head, Simon hurled them so truly at the bull's fore-legs, that down he came, with a blow that made the earth tremble, and rolled over and over. Away went Simon at full gallop after a fine cow ; and at the same time, each of the other men were in full chase of their animals. The herd galloped off almost as fast as horses ; but in a few moments, another bull was bel-

lowing in impotent rage, and two cows were held tightly by lassoes—one being caught by Simon alone, and the other by his two companions. One of the men jumped off, and fastened his cow's legs together so securely, that she could only limp along a few inches at a time; his horse meanwhile keeping the second lasso tight, as effectually as if his master had been on his back. Both lassoes were then shaken off, and one thrown over Simon's cow, which had been trying in all kinds of ways to escape from or gore her active enemy, who—go which way she would—always kept the lasso tight; and often, by checking her suddenly, half overset and thoroughly frightened her. Leaving his horse as soon as the cow was secure, Simon hamstrung the bulls, and left them where they fell, roaring with pain and rage. He then remounted, and all four cantered back towards the 'estancia' (or farm), where the tame cattle are kept. Simon was asked to kill the poor brutes before he left them; but he shook his head, with a sneer, and remarked, that their hides would come off easier next day! At daybreak, the following morning, half-a-dozen tame cattle were driven out to the place of slaughter, and with them the frightened and already half-tamed cows (which had been left tied in a place where they had nothing to eat), were easily driven in to the farm. The two bulls were at last killed, skinned, cut up, and the best parts of their carcases carried to the settlement. The hides of those two animals weighed seventy-three and eighty-one pounds.

Speaking to Simon myself one day about the indiscriminate slaughter of cattle which I had heard took place occasionally, he told me that the gauchos used sometimes to kill them for their tongues only, and, perhaps, a steak or two, for 'asado' (meat roasted on a stick), without taking the trouble to skin them; being too great epicures in their way to feast twice upon the same animal.

In 1834, while surveying the sea-coast of these islands, in the Adventure, Lieutenant Wickham, Mr. Low, and Mr. Johnson had many a bull hunt; but though there was as much or more risk in their encounters, being on foot, with

rifles, assisted only by a good dog, their adventures were individually rather than generally interesting. They used to land in unfrequented harbours, very near herds of wild cattle or horses, creep quietly along behind tussac or bushes, till they got within rifle-shot, take good aim at the fattest, and after firing, do their best to kill the animal, in general only wounded by a first shot. They had an excellent dog, who always seized the creatures by the lower lip, and diverted their attention from Mr. Johnson or Low, who otherwise might have lost their lives, on more than two occasions.

The report of a gun usually alarmed the whole herd of cows, and off they went at a gallop; but the lordly bulls were not to be hurried, they would stand and face their enemies, often charge them; when a precipitate retreat behind a rock, or to the boat, or across a boggy place, which the bull would not try, was the only resource, if their hardy dog was not by, to seize the angry animal, and give time for a well-directed shot. In those excursions, also, while ashore at night in small tents, the foxes used to plague them continually, poking their unpleasant heads into the opening of the tent (while the man on watch was by the fire), stealing their provisions, and breaking their rest, after a fatiguing day's work. What with the foxes, the wild bulls, and the wild horses, it is thoroughly unsafe for a person to walk alone about the unfrequented parts of the Falkland Islands—even with the best weapons for self-defence against either man or beast. Several unfortunate people have been missed there, who wandered away from their parties.

April 6.—Having embarked M. le Dilly, with some of his officers and crew, and lumbered our little ship with the spars and stores purchased from him, we sailed from the Falklands. Our passage to within sight of the river Negro was short, though stormy, a south-east gale driving us before it, under a close-reefed fore-topsail. As the sea ran high, it might have been more prudent to have 'hove-to;' but time was precious, and our vessel's qualities as a sea-boat, scudding as well as 'by the wind,' were well known.

Early on the 12th, we were off the river Negro; but baffling winds and a heavy swell (raised by the late gale), prevented our anchoring near the bar, or sending in a boat.

Soon after noon on the 14th, while standing off and on, waiting for the swell to go down, and allow of a boat crossing the bar, a sail seen in the horizon was made out to be the Adventure. We steered for and spoke her, found all well, sent her on to Maldonado, and again stood towards the bar. Our tender, as I mentioned, sailed from Berkeley Sound on the 4th; but was obliged to heave-to during the gale in which we were able to scud.

Next day (15th), a decked boat, like the Paz, with some difficulty crossed the bar, and brought me letters from Lieutenant Wickham, by which I learned that he and his party had sailed from the river, intending to visit the Gulf of San Matias, only a few days before we arrived, having previously examined all the coast, from Port Desire to Valdes Creek.* I was sorry to hear that Corporal Williams, a very worthy man, in every sense of the words, had been drowned in the river Negro. Williams had been in two polar voyages, and under Captain King, in H.M.S. Adventure, from 1825 to 1830. The rest of the party were well, and making rapid progress with their task. Wind favouring, we made all sail for the Bay of San José, hoping to meet the little vessels under Lieutenant Wickham, but could not find them;† so concluding that they had run further south than was intended at their departure from the Negro, we steered out of the Gulf of San Matias, and made sail for the Plata.

At daylight on the 26th, land was seen near Maldonado, and at two, we anchored off Monte Video. In a few hours the French passengers were landed; next day our anchor was again weighed, and at noon on the 28th we moored the Beagle in Maldonado Bay, close to the little island of Gorriti. Our tender, the Adventure, had arrived on the 23d. My thoughts

* Or port, as it has been called, though improperly, because it is at times almost blocked up by a bar.

† They were in Port San Antonio.

were at this time occupied by arrangements connected with her, besides the usual routine observations. I was extremely anxious to fit the schooner properly, and to set her to work, but at the same time to keep all our other operations in active progress. A decked boat was lying in Maldonado, just built, which her owner, Don Francisco Aguilar, offered to lend me for two months, if I would rig her for him, and this proposal exactly suited my views, as it would enable me to send for Lieutenant Wickham, and supply his place by Mr. Usborne, leaving Mr. Stokes to continue the survey about San Blas and the Colorado. Accordingly, the Constitucion, as this little craft was named by her owner, was hauled alongside, and Mr. Usborne with a party, set to work in preparing her for a trip to the River Negro. On the 1st May Mr. Usborne sailed, having with him Mr. Forsyth and five men; he was to go to the River Negro, join and assist Mr. Stokes, and inform Lieutenant Wickham that he was wanted at Maldonado, to take charge of the Adventure. The Constitucion was about the size of the Liebre, a craft I should hardly have thought fit for such a voyage had I not heard so much from Mr. Harris and his companion, Roberts, of the capital weather those decked boats make in a gale. With their hatches secured, tiller unshipped, a storm try-sail—or no sail at all set, and nobody on deck, they tumble about like hollow casks, without caring for wind or sea.

Next day (2d) the Beagle returned to Monte Video, to procure carpenters, plank, and copper for the Adventure. I found that she was so fine a vessel, and so sound, that it was well worth while to copper her entirely afresh, with a view to her future operations among islands in the Pacific, where worms would soon eat through places on a vessel's bottom from which sheets of copper had been torn away. At this time the Adventure's copper was complete, but thin, and as the carpenters said it would not last above two years more with certainty, I determined to copper her forthwith, and make one substantial refit do for all. Here, to my great regret, Mr.

Hamond decided to return to England,* and we consequently lost a valuable member of our small society.

On the 17th, having engaged men and purchased plank, copper, provisions and other necessaries, we sailed from Monte Video, and next morning anchored in Maldonado. As soon as a part of our cargo was landed—all that was then wanted by the working party on Gorriti, under Mr. Chaffers—we proceeded up the river to fill water, anchored again off Monte Video for a short time, and returned to our future consort at Gorriti (24th). Preparations were then commenced for heaving the schooner down to copper her. We hauled her alongside, and on the 28th hove her 'keel out,' for a few hours, and righted her again at dark. While standing on her keel, examining the state of her copper and planking, I saw a sail in the offing, which was soon made out to be the Constitucion, and just after we righted the schooner Lieut. Wickham came alongside. He brought good tidings—without drawback—and those who know what it is to feel anxiety for the safety of friends whose lives are risked by their willingness to follow up the plans of their commanding officer—however critical those plans may be—will understand my sensations that night. The Constitucion anchored off the Negro on the 11th, entered it next day, found the Paz and Liebre there, and on the 17th sailed again. Six knots and a-half an hour was the most she could accomplish under any circumstances, yet her passages were very good, considering the distance. During June we remained in Maldonado, employed about the Adventure, and refitting as well as painting our own ship. Meanwhile Mr. Darwin was living on shore, sometimes at the village of Maldonado, sometimes making excursions into the country to a considerable distance; and my own time was fully occupied by calculations and chart-work, while the officers attended to heaving down the Adventure. This process, in a place partly exposed to south-west winds, was extremely tedious,

* Provided that the Commander-in-Chief approved of his doing so—a sanction which I had no doubt of his receiving.

and had it not been for the great advantages Maldonado and Gorriti offered in other respects, the situation might have been deemed exceedingly ill-chosen for such a purpose. Only when there was no swell could we haul her alongside and heave her down (an operation under any circumstances difficult, as she was one hundred and seventy tons in burthen, and we were but two hundred and thirty-five) and many days sometimes intervened on which no progress could be made. Every morning, at dawn of day, Lieut. Sulivan and I used to watch the sky most anxiously, in order to know whether it would be worth while unmooring, and warping the vessels together, and as the indications we looked for never deceived us, I will here mention them. Though familiar to all who lead a country or seafaring life, and often rise before the sun, they may be of use to others, whose attention has not been drawn to 'weather wisdom.'

When the first streak of light appeared close to the horizon, and the sun's rising was preceded by a glow of faint red, not extending far, a fine day succeeded, whether the sky were then overcast or clear; but if the first gleam of light appeared high above the horizon, behind clouds, and there was much red, not only near the sun, but visible on clouds even near the zenith, wind, if not rain, was sure to follow. Between the extremes of course there may be many varieties of appearance as well as of succeeding weather; but as I have found such signs followed by similar weather, in most parts of the world, and as I have often profited by them, with reference to making or shortening sail, &c.; I do not like to pass over this occasion for a hint to the inexperienced. I have always found that a high dawn (explained above) and a very red sky, foretold wind—usually a gale; that a low dawn and pale sun-rise indicated fine weather; that the sun setting behind a bank of clouds, with a yellow look, was a sign of wind, if not rain, and that the sun setting in a clear horizon, glowing with red, was an unfailing indication of a coming fine day. I have already said (page 50), that hard-edged, oily-looking clouds, foretell, if they do not accompany wind, and that soft clouds—clouds which have a watery rather than an oily look—are signs of

rain; and if ragged, or streaky, of wind also. Light foggy clouds, rising early, often called the 'pride of the morning,' are certain forerunners of a fine day.

On the 8th of July the Beagle sailed from Maldonado, and anchored off Monte Video for a few days, waiting for the arrival of a packet from England. Directly the letters were received she returned to Maldonado.

On the 18th, my survey work being finished, and our help no longer required at Gorriti, we sailed to sound eastward in the latitude of the English Bank, and then returned to make a few arrangements with Lieutenant Wickham, and obtain observations for the chronometers, previous to making an excursion towards the south.

On the 24th we sailed to Cape San Antonio, and thence along the coast, close by Cape Corrientes, and skirting the San Blas banks, till we anchored off the river Negro. There we found the Paz and Liebre just returned from their examination of those intricacies which surround the ports between Blanco Bay and San Blas. The Liebre came out to meet us with a satisfactory report of progress, as well as health; and, at her return, Mr. Darwin took the opportunity of going into the river, with the view of crossing overland to Buenos Ayres, by way of Argentina: after which, he proposed to make a long excursion from Buenos Ayres into the interior, while the Beagle would be employed in surveying operations along sea-coasts uninteresting to him. We then got under sail and began our next employment, which was sounding about the outer banks off San Blas and Union Bays, and examining those parts of Ports San Antonio and San José which the Paz and Liebre had been prevented doing by wind and sea; besides which, I wished to see them myself, for many reasons, more closely than hitherto. The accumulation of banks about San Blas, and near, though southward of the river Colorado, is an object of interest when viewed in connection with the present position of the mouth of that long, though not large, river, which traverses the continent from near Mendoza, and which may have contributed to their formation; at least, so think geologists.

Be this as it may, there is now a mass of banks extending far to seaward, which make the coast from Blanco Bay to San Blas extremely dangerous; more particularly, as the adjoining shore is almost a dead flat, and so low, that in many parts it can only be seen when the observer is among, or upon, the shoals. The space between Union Bay and San Blas was very appropriately named by the Spaniards Bahia Anegada (dried up bay), because it is so shallow, and the inner parts are rather drowned land than actual water, being only covered at half tide. Falkner says (p. 77), that a Spanish vessel was lost in this bay, the crew of which "saved themselves in one of the boats, and sailing up the river arrived at Mendoza." Whether this ship was called 'Los Cesares' I am not aware, but as there is an islet in the 'Bahia Anegada' named in the old Spanish charts, 'Isla de los Cesares,' I suspect that such was the fact, and incline to connect this story with the many rumours of a settlement, 'de los Cesares,' somewhere in the interior of Patagonia. Falkner says, that "the crew saved themselves in one of the boats;"* but there were few Spanish vessels about that coast in the early part of the eighteenth century whose whole crew could have been saved in one of their boats.† If the remainder had formed even a temporary encampment about San Blas, or near the river Negro, it would have been described, with much exaggeration, by Indians of the west, as well as by those of the East country. A few men might have been admitted into a tribe of Indians who improved their habits and dwellings, so far as to have given rise to the curious reports so much circulated in South America, during the last century and even in this—of a colony of white people, with houses and gardens, in the interior of the continent, somewhere about the latitude of forty degrees; according to some

* "In the year 1734, or thereabouts (within how many years after or before that time?), the masts and part of the hulk were seen," (Falkner, p. 77.) The so-called 'Isla de los Cesares' is closely attached to, if not a part of the main land at the west side of Anegada Bay.

† Reports of the Cesares began to be circulated in the early part of the eighteenth century.

between two ranges of the Cordillera; others said it was in the plains; but all appeared to think there was no doubt of the existence of such a settlement.

In Villariño's Diary of his Exploration of Anegada Bay, I find that he was much assisted by horses and mules, which he carried on board his vessels, and landed as often as he had occasion to make a journey by land. At the river Negro I heard that some of these animals became so tame, and accustomed to landing and embarkation, that they would leap quietly into or out of the boats, when required.*

On the 19th of August, we anchored near the bar of the Negro, to meet the Paz and Liebre, take our officers and men on board, and pay Mr. Harris the money to which he was entitled, not only by contract, but by the uniform attention, activity, and thorough kindness, which he and his partner had shown to their temporary companions; by their knowledge as pilots, and by the useful information which they had readily given, to the full extent of their abilities. The complete success of that enterprize was greatly owing to the conduct of those two worthy men. Before dark all was settled, our party was safely on board; we quitted Harris and Roberts, with their useful little craft, mutually satisfied; and made sail for Blanco Bay, where there was still work to be done; intending to add to our already numerous soundings, while following the seaward edges of the banks.

On the 24th, we moored off the Wells, in Port Belgrano.

Next day, Lieutenant Sulivan went with a party to explore the furthest extreme of the inlet, while others were occupied, as usual, in the various duties always necessary on board a ship, in addition to those of a survey.

Mr. Darwin was at Argentina, and hearing of our arrival, rode to the Wells. He had met General Rosas on the Colorado, who treated him very kindly; and he was enjoying his shore-roving without any annoyance, the old major being no longer afraid of a 'naturalista.'

* Viedma and other Spaniards were similarly assisted in their expeditions.

On the 7th of September, we finally left Blanco Bay;* but again sounded along the dangerous banks of Anegada Bay, determined to do our utmost to prevent vessels from getting ashore there in future, as many have done already, especially during the blockade of Buenos Ayres, when several prizes, which had been taken from the Brazilians, were wrecked and totally lost.

In these surveying trips along-shore we always anchored when we could, in order to preserve our station and connect triangles; but, of course, we were often obliged to weigh again at short notice, during the night; therefore every preparation was made for any change of wind or weather, and a careful look-out always kept upon the deep-sea lead (invariably attended throughout the night), as well as upon the sympiesometer, the sky, and the water. I mention the deep-sea lead particularly, because however shallow the water may be, mistakes are often made with the hand-lead, especially at night, when a tide or current is running, in consequence of the lead being drifted by the action of the water upon it and the line, and deceiving even a moderate leads-man; who sometimes thinks the water much deeper than it really is—sometimes the reverse; and never can tell exactly, under such circumstances, how a ship is moving over the ground, or whether she is dragging her anchors.

Off Starve Island we were obliged to weigh in a hurry, one night, owing to a gale coming on from the south-east, and during the 10th and 11th, we carried a press of sail, to get off the land; the wind then drew round by the south, and a succession of baffling weather ensued, which prevented our doing any thing on the coast, and also hindered our reaching the Plata until the 16th, on which day we ran up to Monte Video, and anchored.

On the 18th we weighed, hearing that H.M.S. Snake had brought stores and letters for us, and was at Maldonado, but had hardly lost sight of the town, when the Snake hove in

* Mr. Darwin had previously departed on his road to Buenos Ayres.

sight. Knowing her to be one of the new build, I altered course, to sail a few miles with her, and see how much she would beat us; but, to my surprize, she gained on us but little while running free with a fresh breeze, just carrying topmast studding-sails; and I was afterwards told by her officers, that though she sailed uncommonly well on a wind, and worked to windward wonderfully, she did nothing remarkable with a flowing sheet. I did not like her upper works; they 'tumbled home' too much (like some old French corvettes); narrowing her upper deck, giving less spread to the rigging, and offering a bad form to the stroke of a heavy sea, whether when plunging her bow into it, or receiving it abeam. However good such a form may be for large ships, which carry two or three tier of guns, I cannot think it advantageous for flush-decked vessels or small frigates, and am quite certain that it is bad for boats. I here allude particularly to that 'tumbling home' of the upper works, which some persons approved of a few years ago. This is not the place, however, for a discussion upon naval architecture (even if I were qualified to deal with the subject, which assuredly I am not); but I cannot pass over an opportunity of adding my mite of praise to the genius and moral courage of Sir William Symonds and Captain Hayes, who, undeterred by opposition, and difficulties of every description, have succeeded in infusing (if the metaphor may be allowed) so large a portion of Arab blood into the somewhat heavy, though stalwart coursers of our native breed. Amidst the natural contention of eager candidates for an honourable position, to which they have been accustomed to aspire, and for which some are doubtless admirably qualified, it is not surprising that due credit has not always been given to that originality and justifiable daring, of which the merits are attested by the Vanguard and Inconstant. Neither has it always been recollected, however men may have differed in their opinions of this or that individual, as a naval architect, that the two best ships built of late years were constructed by naval officers, self-educated chiefly during the practice of their profession. I am quite aware, that some of those eminent architects who have con-

structed good ships since 1810—Sir Robert Seppings, Professor Inman, Mr. Roberts, and Mr. Fincham, were very much restricted as to dimensions allowed with respect to guns to be carried; and that, therefore, no one can pretend to say what degree of excellence the ships might have attained, had their architects been unshackled; but taking things as they are —not as they might have been—to Symonds and Hayes (if not chiefly to the former) belongs the merit of having improved our navy materially. We are so apt to forget, during the heat of controversy, that even an approach to perfection is unattainable, and the utmost any one can hope for is to have fewer faults than his rivals—that we should not hastily condemn, in any case, only because we can detect deficiencies or errors.

Many persons have remarked, that notwithstanding all the competition, all the trials of sailing, and all the reported improvements, which have taken place since the peace, our fastest ships have not excelled some of those built by France, England, or other countries, during the war. My own knowledge of those ships is only derived from the descriptions of persons who sailed in or chased them: but the conclusion I am led to draw from their accounts is that, with few exceptions,* those ships were very slightly built, often of unseasoned timber, and that their rapid rate of sailing only lasted so long as their frames would yield to the fluid, and were not water-sodden. Recently launched, light, and elastic, confined by few beams, knees, or riders, held together by trunnions more than by metal, and intended only to sail swiftly—for a short existence —those greyhound vessels were as different in their construction from the solid, heavy, durable ships of this day, as a light, active youth is from a well-set man trained to labour.

A man-of-war requires strength, solidity, capacity; great

* The Malta (Guillaume Tell), Norge, and a few others, were splendid exceptions, but even in the construction of those ships far less iron and copper were used than is now customary in vessels of their class. By substituting so much metal in place of wood, for knees, braces, and bolts, solidity, strength, and capacity are acquired in modern ships at the expense, in most instances, of elasticity, and swift sailing.

buoyancy for supporting her heavy metal, durability, and tenacity; besides easiness as a sea-boat, and superiority of sailing. Vessels may easily be built to excel in any of these qualifications; but to excel in all is the climax, only to be obtained by genius, aided by extraordinary study and experience.

After running a few miles with the Snake, and finding that she steered towards Buenos Ayres, we altered our course to resume our easterly route, and early next morning were anchored alongside the Adventure.

As it was evident that another month must elapse before the schooner would be ready for her work, notwithstanding the zealous exertions of Lieut. Wickham and his crew, I decided to finish myself the survey, which I had intended he should begin with, namely, of the south shore of the Plata and a reported bank off Cape Corrientes—and defer the second visit to Tierra del Fuego until December or January. Accordingly, the Beagle sailed on the 23d, and after a close examination of Cape San Antonio and the great mud-bank, called Tuyu, which lies within it, we went to the neighbourhood of Cape Corrientes, and there looked about and sounded in every direction, but could find no shoal. We then returned to the river, and sounded Sanborombon Bay, laying its shores down on the chart as accurately as we could, considering that the water was every where so shoal, that even a boat could not get within half a mile of the land, except at particular times, for which we could not wait. The distance at which the Beagle was obliged to keep, varied from four miles to three (seldom less), and then she was sailing in about a foot more water than she drew.*

On the 6th of October we returned to Maldonado; to prepare for a long excursion southward, and to hasten the equipment of the Adventure. By the 19th she was almost ready, so we weighed in company, ran up the river to water, and on the 21st moored off Monte Video, to take in our final supplies previous to quitting the River Plata for the last time. Here, to my surprise, I found people talking about the English having

* The Beagle's draught of water was eleven feet and a half forward, and thirteen feet aft, when in ordinary loaded trim.

taken possession of the island of Gorriti, and built houses upon it. This, I knew, must in some way have arisen out of the temporary encampment of the Adventure's crew; and enquiring further, I found that columns of the Monte Video newspapers had been filled with discussions on the subject.* The local authorities at Maldonado having been told (incorrectly) that the English had hoisted British colours upon the island—had repaired several old buildings—and had erected a house with glass windows, for the commanding officer's residence—became alarmed; and as stories seldom lose by repetition, the good people of Monte Video were soon in commotion. However, the affair was easily explained; but not without many a laugh at the absurdity of my little observatory (made of ninety small pieces of wood, so as to be stowed in a boat), having 'loomed' so large. Had our colours ever been displayed on shore, there might have been some foundation for their alarm; but it so happened that the only flag that was on the

"Monte Video, Octubre 22 de 1833.

* "El infrascripto Ministro Secretario de Estado en el departamento de Relaciones Exteriores, tiene órden del Gobierno para dirigirse al Sr. Cónsul General de S.M.B. y manifestarle, que á consecuencia de varios sucesos que han tenido lugar en la Isla de Gorriti, donde se halla la tripulacion de la Escuna de S.M. Adventure, los cuales constan de los documentos que en copia autorizada se acompañan; y deseoso el Gobierno de satisfacer la ansiedad publica que han producido aquellos sucesos, y quitar todo pretexto de interpretaciones, espera que el Sr. Cónsul tendrá á bien manifestarle los motivos que dieron mérito á que los individuos pertenecientes á aquel Buque pasasen á la Isla, como igualmente las causales de su permanencia en ella.

"El Ministro que subscribe reitera al Sr. Cónsul General de S.M.B. los sentimientos de su mayor consideracion y aprecio.

(Firmado) "FRANCISCO LLAMBI."

"Monte Video, Octubre 28 de 1803.

"El abajo firmado Cónsul General de S.M.B. cerca de la República Oriental del Uruguay ha tenido el honor de transmitir al Sr. Fitz-Roy, comandante de la barca descubridora de S.M.B. Beagle, la comunicacion y copias

island, at any time while our party was there, was an old Monte Video (Banda Oriental) ensign, which belonged to the schooner when I bought her from Mr. Low. This incident, trifling as it is, may be worth notice, as showing how necessary it is to be more circumspect and explanatory in every dealing with a small State, than in similar transactions with the Authorities of old established governments.

The month of November was passed at Monte Video: laying down chart-work, computing observations, and writing; procuring and stowing provisions; painting the vessels outside and blacking their rigging; and occasionally giving the crews leave to go ashore. Mr. Darwin returned at the end of the month; and the first week in December both vessels sailed from the river: but before I go on with them to Tierra del Fuego and the Falklands, some pages shall be devoted to the proceedings of our enterprizing and hard-working labourers, who were employed so zealously during twelve months without intermission, in the little vessels Paz and Liebre.

y copias inclusas que S. E. el Sr. D. Francisco Llambi, Ministro Secretario de Negocios Extrangeros le hizó el honor de dirigirle en 22 del corriente; y el infrascripto se halla autorizado para decir que ni el 3 de Octubre, de 1833, ni otro dia alguno del presente año se ha enarbolado o desplegado en la Isla de Gorriti la Bandera de la nacion Britanica. El 3 de Octubre de 1833, y muchos días anteriores, la de este Estado fuè izada como un señal para D. Francisco Aguilar, avisándole que se iva á embiar un bote en busca de carne y comestibles. La casa de madera con vidriera que se dice ser habitada por el comandante, es un observatorio portatil hecho en Inglaterra, que ahora se halla en la Isla de Ratas de este Puerto; y ninguno de los edificios de la Isla de Gorriti, ha sido reparado por persona alguna bajo las órdenes del Comandante Fitz-Roy: lo que el abajo firmado comunica á S.E. saludándole con su particular consideracion y aprecio.

(Firmado) "Tomas Samuel Hood."

CHAPTER XIV.

Paz and Liebre begin work—Chronometers—Fish—Animals—San Blas—Wrecks—River Negro—Del Carmen—Inhabitants—Indians—Trade—Williams drowned—Port Desire—Gale—Salinas—Lightning—Bones in Tomb—Trees—Dangers—New Bay—Cattle—Seals—Soil—River Chupat—Drift Timber—Fertility—Wild Cattle—Valdes Creek—Imminent danger—Tide Races—Bar of the Negro—Hunting—Attack of Indians—Villarino—Falkner.

THE Paz and Liebre parted company with the Beagle on the 18th of October 1832, and commenced their undertaking by a cursory examination of the entrance to False Bay, Green Bay, and Brightman Inlet. Lieut. Wickham and Mr. King, with Roberts and four men, were in the Liebre.* Messrs. Stokes, Mellersh, and Forsyth, with Harris and five men, were on board the Paz.† While they were northward of the Colorado, true bearings of the Ventana Mountain, and observed latitudes, made them independent of their five chronometers; but it was soon found that the rates of those useful machines were not injured even by the continual as well as sudden motions of so small a vessel. They were bedded in sawdust, wool, and sand,‡ within a large tub, which was secured to the deck under the cabin table of the Paz, not far from the centre of least motion.

In Brightman Inlet great quantities of fish were caught, by stopping up the mouths of small creeks with a net at high water, and when the tide ebbed many more were left ashore than were wanted. On Green Island they found good water by digging wells seven or eight feet deep. The island itself was overrun by deer and cavies: and on the main land the wild pig of the country (javali) was seen. On the 23d they entered the river Colorado, but had much trouble in warping to a safe berth, on account of the water being very shoal at the entrance which they had chosen. The principal mouth was a

* Nine tons burthen. † Fifteen tons.

‡ Sawdust alone would have been better.

quarter of a mile further south, the stream being there "broad and rapid," with two fathoms water when the tide was out; but beset, to seaward, by sandbanks, which shift with every south-east gale. Quantities of drift-wood, a kind of willow (sauci), lay about every where, indicating that the river sometimes overflowed its banks to a great distance, and brought down these trees from the interior country, as none grow within three leagues of the mouth. The river hereabouts is divided into many streams, forming a great number of small islands, which are nearly all of clay covered with rushes. From one of these streams or channels, the Cañada, there are creeks communicating at high-water with Union Bay. Here Lieut. Wickham's party saw a wolf.

On the 27th they met a whale-boat (at Creek Island in Anegada Bay) from the River Negro, in search of sea-elephants. Next day they reached a snug creek in San Blas Bay, where they heard that the Indians had lately driven off all the cattle from the San Blas Estancia, had destroyed the houses, dismounted the guns, and broken the carriages. They were accompanied by a number of desperate criminals who had fled from justice at Buenos Ayres, and idle gauchos, who preferred robbery to work, and were unquestionably the most savage of the troop. On the 29th the Liebre was hauled ashore, to extract a piece of sauci wood that had run through her bottom: and a party was afterwards employed in erecting a conspicuous mark upon Hog Island; a very difficult task, because the loose sand, of which that island wholly consists, flies in clouds at every gust, and nowhere affords a solid foundation. By the help of casks filled with it, and spare anchors, they at length succeeded in securing an old spar upright, which was large enough to be seen ten miles round, in that low half-drowned country.

Deer were very numerous on Javali Island; but on the place called Deer Island, there was not one, though they were so plentiful there a few years before. Some dogs had been left there by a whale-ship, which have increased very much in numbers and are very savage: these dogs have exterminated the deer.

Any quantity of fresh water may be obtained in San Blas Bay, by digging wells six or eight feet deep; and fish are abundant: but it is no place for a ship to enter unless under favourable circumstances of weather, wind, and tide; and decidedly dangerous with a south-easter, because there is then a sea on the banks outside which confuses the pilot's eye, and prevents his distinguishing the proper channel; besides which, thick weather, if not rain, is the general accompaniment to that wind.

On the 3d of December the Beagle anchored off San Blas (as formerly mentioned). Both schooners went out to her, and in returning at night into San Blas Bay, working to windward with a strong flood tide, they passed close to an unknown rock which would have made an end of their cruise had they touched it. The least water they had, however, was eight feet;* but both vessels were close to it, while the tide was running four or five knots. This rock is in the middle of the entrance to San Blas Bay. At midnight they reached their anchorage, without a dry article in either vessel.

On the 6th, Lieutenant Wickham remarked, while at anchor between San Blas and the River Negro, off Point Rasa, that the stream of tide began to set northward at half flood, and continued to run in that direction until half ebb, by the shore. "It is not at all uncommon on this coast," he says, "to see wrecks of vessels above high-water mark, and spars strewed along the beach where the sea does not touch them." These wrecks took place during south-east gales, when the sea was raised above its usual level in fine weather; and were the vessels spoken of in the previous chapter, as having been entrusted to ignorant or careless prize-masters, who ran for San Blas or the River Negro, not then knowing that so fine a port as Blanco Bay existed. Strong tides, shoals, a low coast, and bad weather would have perplexed professed seamen; but those difficulties were insurmountable to such unpractised craftsmen as those who were in charge of them, and most of the prizes were lost. One large ship of four or five hundred

* The Paz drew five feet and a half, the Liebre four feet.

tons was taken, by a wiser master, to Port Melo, and there her cargo was discharged into small craft, which landed it safely in the River Negro. Many of these ill-fated vessels were never afterwards heard of; but from the numerous wrecks seen along the coast between the Colorado and the Negro, it may be inferred that they and their unfortunate crews perished in the surf occasioned by south-east gales, or were capsized by sudden pamperoes.

Running up the River Negro (on the 7th December), Lieut. Wickham found the 'freshes'* strongly against him. The banks of the river afforded a pleasing contrast, by their verdure, to the arid desert around Anegada Bay. Most part of these banks was cultivated, and great quantities of fine corn was seen growing. Here and there were country houses (quintas) surrounded by gardens, in which apple, fig, walnut, cherry, quince, and peach trees, vines, and vegetables of most kinds were abundantly plentiful.

Although the banks of the river are so fit for cultivation, it is only in consequence of floods, which take place twice a-year—once during the rainy season of the interior, and once at the time when the snow melts on the Cordillera. These floods swell the river several feet above its banks, bringing a deposit of mud and decayed vegetable matter, which enriches the soil and keeps it moist even during the long droughts of that climate.

The plough used there is wooden, and generally worked by oxen, but it does not cut deeply. Manure is never used, the soil being so fattened by alluvial deposits.

The town of Nuestra Señora del Carmen, is about six leagues up the river, on its northern bank, upon a slightly-rising ground about forty feet above the water. It is irregularly built: the houses are small, one only having two stories; and glass windows are seldom seen: each house has a large oven. A square enclosure of some extent, formed by walls of unbaked bricks (adobes), is called the fort, and within it are the church, the

* Showing that this was the period of one of the two floods to which the Negro is annually subject.

governor's house, lodgings for the officers, and public stores. This fort commands the neighbourhood, as well as the houses (or cottages) surrounding it; and of the hundred buildings which compose the town of Carmen, exclusive of about thirty huts on the south bank of the river, the fort is the oldest. It was built about 1763. Some houses, forty years old, are as fresh in outward appearance, as if built only a few years ago. In a population of 1,400, there are about 500 negroes. Altogether there may be in the town about two thousand inhabitants, but many of the poorer families and negroes live in caves, which were dug out of cliffs on the river's bank by the first Spanish settlers. It is said that they served the Spaniards as a secure refuge from the Indians, who could only approach them by one path, easily secured. These caves, dug out of earthy clay, are not despicable dwellings, while there is a fire in them to expel damp.

About a league from the entrance of the river are the ruins of a large house, which was the "Estancia del Rey." In former days 100,000 head of cattle were attached to that establishment, now there is not even a calf.

Some of the first settlers were living at Carmen in 1833, staunch royalists, every one looking back with regret to former times. One of them belonged to the crew of the Spanish launch that first entered the river. He said, that the Indians were then living in detached tribes along both banks of the river, and were very friendly to the Spaniards. This same old man afterwards made one of the exploring party, under Villarino, in 1786, when the natives were not only inoffensive, but gave them assistance. How different from the present day! when if a Christian is seen by the natives, he is immediately hunted, and his safety depends upon the fleetness of his horse. It has sometimes happened, that persons riding along near this river, have been surprized by a marauding party of Indians, and obliged, as their only resource, to leap off the banks (barrancas), whether high or low, and swim across to the other side. The Indians have never followed; hence this, though requiring resolution, is a sure mode of escape.

Prior to the conclusion of the war between Brazil and Buenos Ayres (1828), the settlers at Carmen lived tranquilly—undisturbed by Indian aggression (retaliation?) but since that time, they have been kept in continual alarm. Prisoners are often brought to Carmen to be ransomed, whom the Indians have taken from other places. They are generally women or children; and as the Indians often find out who their prisoners are, the ransoms asked are proportionably exorbitant. Men are usually put to death, if they do not die of their wounds. There is a tribe of friendly Indians living near Carmen, at the outskirts of the town, who do much hard work for the inhabitants for very trifling remuneration; but they are shamefully abused, cheated in every way by shopkeepers and liquor-venders, and harshly treated by other persons, who seem to consider them inferior beings—unworthy of any kind or humane consideration. Should one of these poor creatures fall by the knife of a passionate white man, no notice is taken of it by the authorities; the murderer boasts of his deed, and the poor relations suffer patiently the loss and the insult, which they dare not avenge. Having quitted the free tribes, seduced by promises never fulfilled, they would not be received among them again; and their own numbers, originally small, are reduced daily by disease and abominable drugs, which the publicans sell them in what is said to be spirituous liquor (agua ardiente). Mr. Wickham saw a poor Indian woman, between forty and fifty years of age, almost killed by a blow on the head from an ox's skull (with the horns), given by a wretch, who had drawn his knife upon her husband for preventing his kissing a pretty girl, their daughter, who was walking with her. This scoundrel was seen by Mr. Wickham, a few days afterwards, betting at the race-course with the principal people of the place.

Thanks to the influence of Harris and Roberts, and their connections (both being married to daughters of Spanish settlers), our officers and men were exceedingly well treated. Every door was open to them; and the fruit in every garden was freely, as well as sincerely offered. Letters had been for-

warded to the commandant or governor, from Buenos Ayres, desiring that we might have every facility and freedom in our operations; but the disposition towards us was such, that those letters were not required.

From the remains of former buildings, and accounts of the old men, Lieutenant Wickham thought that the Spanish settlers must have been far more industrious and ingenious than their creole descendants, who are idle, indolent, and ignorant. The height of their ambition is to make a show at the Sunday races, where they deceive, drink, wrangle, gamble, and quarrel. These Sabbath occupations are always attended by the female part of the population, who take that opportunity of displaying their finery; and though seated upon handkerchiefs on the sandy ground, without any defence from sun, wind, dust, or rain, every damsel displays silk stockings and a gaudy dress upon these occasions. The men do not go near them, notwithstanding their attire: they can beat a poor woman almost to death, upon occasion; but they cannot defer a bet, or risk losing a dollar, for the sake of female society.

The climate is so healthy, that illness of any kind is scarcely known; and the inhabitants, in general, live to a good old age. There is a stirring trade carried on in small vessels, between Buenos Ayres and this place. Salt, of excellent quality, hides, peltry, seal or sea-elephant oil, and skins, are the principal exports, in return for which are received manufactures, sugar, spirits, tobacco, &c.

The Indians, who live at the outskirts of the town in 'toldos,' which are neither wind nor water-tight, load vessels with salt; but the price of their labour is usually spent in some kind of spirituous liquor, which is made and drugged expressly for them—the publicans often saying, "that it is a sin to give an Indian good spirits." When drunk, the howling of these poor wretches is quite frightful. Some of them are almost skeletons—the result, probably, of drinking.

Some leagues up the river coal is obtained, I was informed, but I did not see a specimen myself. Probably Mr. Darwin had an opportunity of examining its quality.

On the 12th, Lieutenant Wickham sailed for Blanco Bay, to deliver some letters from me (which I had received from Buenos Ayres) to the commandant Rodriguez.

13th. Off the banks in Anegada Bay there was too much sea (during a S.W. gale) for the Liebre to keep on her course any longer, having run as long as was prudent, and already shipped several seas. When hove-to, under a balance-reefed foresail, with the tiller unshipped, she was dry and easy, and lay about five points from the wind.

Mr. Wickham arrived at Argentina on the 16th, and left it on the following day. In sailing out of Blanco Bay, along the south shore, while it was dark, the Liebre grounded frequently; but her crew got overboard, and hauled her over the banks as often as she was stopped by them, and at midnight she was at sea. A south-east gale on the 18th drove her into the Colorado, where Lieutenant Wickham found a strong outset, owing to the 'freshes,' even during the flood-tide.

On the 22d, the Liebre entered the river again, and anchored near Carmen.

At daylight on the 24th, Corporal Williams was missed, supposed to have fallen overboard in the night, while asleep. He slept on deck sometimes, when tormented by musquitoes; and as the Liebre's weather-cloth rail was but a few inches above the deck, he might possibly have rolled overboard into the stream, which would immediately have carried him away. His body was found, about three miles down the river, at sun-set the next evening (Christmas day). The governor (though a Roman catholic) allowed the burial to take place in the consecrated ground of the church, and the curate himself was present.

While the Liebre was absent, Mr. Stokes, in the Paz, surveyed many miles of the river, as well as the bar. No vessel drawing more than eleven feet water can enter without much danger: if at a favourable time any person should be induced to risk crossing the bar with a ship of greater draught, he should bear in mind that it is much more difficult to get to sea than it is to enter, because wind which is fair for approach-

ing, raises the water; and the reverse. Although ships drawing fourteen feet have passed the bar, at unusually favourable times, others of only ten feet draught have been detained forty days in the river.

29th. Both our little vessels sailed, and on the 4th of January they anchored safely in Port Desire:—this was a bold stroke, but success attended it. They were thus placed at the southernmost point of the coast they were to survey, while the sun was farthest south; and as the days shortened, they would work along the coast northward. Recent traces of Indians were found; and the master of an American sealer told Mr. Wickham that they had been there in considerable numbers, about two months previously. The wells were all full; therefore much rain must have fallen during October, November, or December. I have mentioned elsewhere that although the eastern coast of Patagonia is usually an arid desert, there are periodical times, of short duration, at which rain falls abundantly.

11th. Having rated their chronometers, the little vessels stood out to sea, in company with the North American sealer; but they had not sailed many miles before the wind increased to a gale, and still becoming stronger, bringing clouds of dust and sand off the land, they were reduced to bare poles, and drifted fast off-shore, as well as northward. When the fury of the gale was over, their balance-reefed foresails were set, and with their tillers unshipped they made very good weather, until they were driven near the tide-races off Cape Blanco, where some anxious hours were passed, half-buried in foam, and the wind again almost a hurricane. Towards evening, the storm abated; our water-soaked explorers succeeded in regaining a position under shelter of the land; and anchored next morning under Cape Blanco, to dry themselves and take observations. In this severe gale, the North American schooner split two close-reefed foresails, lost a boat, and was otherwise damaged.

Lieutenant Wickham and Mr. Mellersh walked a long way

from Cape Blanco, to trace the coast, and look out for shoals in the offing; in doing which, they found numerous 'salinas' (extensive hollow places filled with salt), where the solid mass of very white and good salt was several feet in thickness. Guanacoes were numerous, but shy. On the rocks some fur-seal were seen; too few, however, to be worth a sealer's notice. The following week was passed in examining St. George Bay. Scarcely any stream of tide was found in its western part, though the rise amounted to nearly twenty feet. About Tilly road, where they landed, the mass or principal part of the soil, where visible in cliffs or ravines, is loose sandy clay (diluvium), with immense quantities of large fossil oyster shells imbedded in it. These shells were found every where, even on summits seven or eight hundred feet above the sea, and some of them weighed eight pounds.

A place honoured by the Spaniards with the name of Malaspina, and described as a port, was found to be a wretched cove, full of rocks, hardly safe even for the Liebre. While moored there, our party witnessed lightning set fire to bushes and grass. The flames spread rapidly, and for two days, the face of the country continued to blaze. Near Port Arredondo, Mr. Wickham went to the tops of several hills; he found the country unproductive, except of a few bushes, and yellow wiry grass. There were no traces of natives. Very heavy rain fell during the night of the 28th. I mention it thus particularly, because some persons have said that rain never falls on the east coast of Patagonia, in any quantity.

The cove called 'Oven' is a singular place, being a parting (as it were) in the solid rock, nearly a mile in length, but very narrow, with four fathoms water in it at low tide. Surrounded on all sides by precipitous hills, it is, indeed, an oven; and would injure a ship seriously, even more than other ports on this arid coast, if she were to lie long in it; as her seams would all be opened, and her planks split by the heat and drought. The water found here was so strongly impregnated with salt-petre, that it was not drinkable; but probably better

might have been procured had they dug fresh wells. On the summit of South Cape an Indian tomb was found. The stones had been displaced, and some bones were lying about, a few of which were taken on board, but none could be got in a perfect state. Mr. Bynoe afterwards examined them, and informed me that they had belonged to a female of small stature.*

Off Ship Island, and thence to Cape Dos Bahias, the tide-stream was again felt strongly, running two, three, or, in some places, four knots an hour. At a little creek, in Camarones Bay, near Cape Dos Bahias, abundance of small wood, fit for fuel, was found; and plenty of fresh water in hollows of the rocks. A guanaco was shot, which weighed upwards of two hundred pounds. Not only is small wood plentiful about Camarones Bay, but the country is sufficiently covered with grass of good quality. Several Indian tombs were seen on the hills, whence it may be inferred that natives at times frequent the neighbourhood, although no recent traces were met with by our party. Unfortunately, not one of these tombs, simply irregular piles of stones, was found in an undisturbed state, neither were any more bones discovered: they are all similarly situated upon the most conspicuous, smooth, and round-topped hills.

At Port Santa Elena many tons of excellent water were procured from hollows in the rocks. (7th Feb.) Approaches to trees were found at this place, which though stunted as to height, much like thorn-trees in exposed situations, were of respectable dimensions. One measured more than three feet round the trunk, but its fellow was not seen.

After dusk, on the 10th, while endeavouring to enter New Bay, with a fresh wind and strong flood-tide, the Liebre got into a 'race,' and was hustled within a fathom of a rock, over which the tide was boiling furiously. Fortunately, the Paz saw the Liebre alter course and make more sail, and by imme-

* I gave them to Sir Francis Chantrey, by whom they were shown to several persons.

diately following her example, avoided the danger. They then hauled off, and passed the night at sea.

Next day (11th), they stood towards the bay again, the wind increasing fast, till it blew a gale from W.S.W., which being against a flood-tide stream, running at the rate of four knots through the entrance, raised a short hollow sea, dangerous for small craft. Battening down the hatches securely, and close-reefing, the little vessels worked through gallantly, though frequently obliged to lower their sails in squalls, or as they dived into a sea heavier than usual. The tide soon swept them beyond the narrow part, and then they were comparatively in safety.

Part of the west shores of New Bay seemed to be fit for cultivation, being covered with a fine dark soil; and there is abundance of fire-wood. Some small ponds of excellent water were found, over a clayey bed, in which were tracks of cattle. A guanaco shot here was superior to any killed elsewhere, as to condition. Many thousand seals were seen on the rocks, which did not take to the water as soon as disturbed—therefore they could not have been much molested by man.

On the 24th, Lieutenant Wickham discovered the river Chupat, and after waiting for the tide, anchored half a mile within the entrance. Next day he went a few miles up it in a boat, and found that, though free from drift-timber, it was shoal and narrow, few places being deeper than six feet at low-water, or wider than a hundred yards. The stream ran down two or three knots an hour. Many tracks of cattle were seen, but none of natives. As the river seemed to be free from sunken trees, and to have but few banks in it, Mr. Wickham decided to move the Liebre as far up as he could, and then make another excursion in his little two-oared skiff. Between pulling* and sailing, the Liebre was moved twelve miles up in one day, and was moored in the middle of the stream, lest Indians should be near.

Next morning, Mr. Wickham went in his boat, about eight

* Both the vessels had oars.

miles further; but in a direct line he was then not more than twelve miles from the entrance. Along the banks on each side, as he had advanced, both he and those with him, were much struck by the richness of the alluvial land (caused doubtless by the river overflowing its low banks), and by the quantities of drift-timber, which actually looked like the stores in immense timber-yards. Among the drift-wood there were many large and sound trees left several hundred yards from the banks, therefore the periodical floods must be great.

At Mr. Wickham's westernmost point "the river and the country round had a beautiful appearance, as seen from a rising ground on the south side—an excellent position for a settlement." From this elevation the stream was traced to the westward, running with a very serpentine course, through level meadow land, covered with rich herbage. Several herds of wild cattle were seen, and their traces were observed every where in such numbers as to indicate a great abundance of animals.

Mr. Wickham returned on the 26th to the entrance, and found that a store of fish had been salted by the cook, while Mr. Stokes and others were going about, surveying the neighbourhood. These fish were a kind of bass, nearly as good as salmon.

I have no doubt that this is a river whose existence has been many years known by Spaniards, but of which the situation was intentionally concealed, on account of the lucrative trade some individuals hoped to carry on by means of hides and tallow obtained from the herds of wild cattle. The Spaniards used to anchor their vessels in Port San José, and thence ride in large parties to the Chupat; there they surrounded numbers of cattle, and drove them across the peninsula between San José and New Bay, where they slaughtered them at leisure. Numbers were probably killed nearer the river; but all that could be driven, had doubtless the privilege of conveying their own hides to the neighbourhood of their hunters' ships. There was still living at the River Negro (in 1833) an old man, who was one of the few individuals that escaped

during a dreadful massacre of Spanish settlers at Port San José. He said that the Indians were jealous of their encroachments, and seized an opportunity, while the Spaniards were attending the performance of mass, to fall upon them, and indiscriminately slay all, except three or four who were taken alive and kept as slaves.

That the Spaniards should have chosen San José for the place of their settlement instead of New Bay, or the Chupat itself, is easily accounted for, by mentioning that small vessels can generally run from the River Negro to Port San José without much risk and in a short time, whereas there are strong tides and dangerous 'races' off the peninsula of San José, and the entrance of the Chupat will not admit a vessel drawing more than seven feet: even this only at high-water. I think that the Chupat is the river alluded to by Falkner, as being in the "country of Chulilaw."* He was told that it traversed the continent as far as the Andes, and judging from the drift-timber, as well as volcanic scoriæ brought down by it, there is ground for thinking that the Chupat† rises in the Cordillera. There is also reason to suppose that the river described and placed variously by different geographers, under the name of Camarones, is this Chupat, chiefly because the Indians who frequent the country bordering upon the south bank of the Negro, say that there is no river of consequence between that and the Santa Cruz, excepting the Chupat.

With this river so near at hand, the west side of New Bay would be an excellent situation for a settlement. There ships of any burthen might anchor in safety, and a communication be carried on with the interior by means of flat-bottomed boats, or barges, so constructed as to admit of being towed, or tracked, in the river, and capable of running up to New Bay before a fair wind. In the River Negro similar boats go a long way up the river for salt; they are towed by horses or oxen; and such vessels, even of thirty tons burthen, might enter the Chupat, if constructed so as to draw but little water. I need not dwell upon the possible advantages to be derived from opening a

* Falkner, p. 87. † Chupat is the Indian name.

communication across the continent with Chilóe, which might be a means of diffusing Christianity, civilization, and commercial intercourse.

On the 3d, Lieut. Wickham and his party left the Chupat. Early on the 5th they entered Valdes Creek (by the Spaniards styled 'port'), with the flood tide running nearly six knots into the narrow entrance: and on its shores found heaps of horns and bones, besides the wreck of a vessel.* These were indications of one of the temporary settlements maintained on the peninsula of San José for the purpose of obtaining hides. The carcases of the animals were invariably left to decay; a few delicate portions only being selected for food.

Until the 12th our little vessels were unable to quit this singular place, for the ebb tide set so strongly against the swell outside, raised by a S.E. gale, that they could not attempt to cross the bar. Sometimes the very narrow entrance of Valdes Creek is almost stopped up for a time by shingle and sand, after a S.E. gale has been blowing for a few days, therefore at such a time no vessel ought to run for it.

During the war between Brazil and Buenos Ayres (1825-9), Mr. Adams, of Carmen, was master of a merchant vessel hired by Vernet to convey settlers to the Falkland Islands. In returning thence, short of water and provisions, he thought to put into Valdes Creek, knowing that some people were there employed in collecting hides. He ran in for the land, with a fresh S.E. wind, and did not discover, until almost too late, that the bar was not passable. When close in he perceived a heavy sea breaking at the entrance, where he expected smooth water, and directly hauled off; but it was only by carrying a heavy press of sail that he cleared the land; and at the expense of passing through 'races,' which tore off the vessel's bulwarks and otherwise damaged her materially. As our cock-boats crossed this bar, they had ten feet water, but on each side of it there were five fathoms. The Liebre, sharp built, plunged into each short swell; while the Paz, with her bluff bow, did not

* Of about two hundred tons burthen.

take in a single sea. The bar is a continuation of the long shingle spit, or bank, which forms the seaward side of the harbour; and is about nine miles long, though in some places not a hundred yards broad.

Towards noon the wind fell light, and the vessels were swept by a strong tide-stream towards a 'race,' whose noise might have appalled the crews of much larger and stouter barks. No bottom could be struck with the deep-sea lead, and no efforts of the crews at the oars had much effect in arresting their progress towards apparently inevitable destruction. Even at this awful time, habitual familiarity with danger, and zeal for the service, shewed their effects strongly in Mr. Stokes, who eagerly watched for the sun's meridian altitude, with his sextant to his eye, while every now and then he caught a hasty glimpse of the foaming and roaring race towards which the little craft were fast approaching. At this crisis a breeze sprung up which just enabled them to pass clear; but no one who was in those vessels can ever forget that day, neither do I think they attribute their preservation to blind chance. Sailors see too many of these 'chances' to think of or reflect upon them lightly, and those who have had experience are not wont to forget, that to direct and to preserve are among the least efforts of Omnipotence—so far, at least, as our limited intelligence enables us to discern.

At five that afternoon the Paz and Liebre were about eighteen miles off shore, out of soundings with their lead-lines, and yet were only a mile and half from the eastern part of the race; therefore they still stood to seaward, to get as far as possible from a neighbourhood so dangerous at any time, but especially so at night. For two hours they passed through a rippling, but could strike no soundings with sixty fathoms of line.

In 1830 Mr. Harris (owner of the Paz) sailed from the River Negro in a vessel of about ninety tons, with some horses on board, which he had engaged to convey to a party of gauchoes who were employed on the peninsula of San José, in killing cattle for their hides. Within the Bay of San Matias, about six

leagues N.W. of the port (San José), he got into one of these races,* and could not extricate his vessel. No soundings could be obtained: the sails were useless in consequence of the violent motion and want of wind, where the water was breaking so furiously, though elsewhere a fresh breeze was blowing; and nothing could be done. The crew took to the rigging, to avoid being washed overboard; and for almost three hours they were tossed about, like an empty bottle in a ripple, before the race abated, with the turn of tide, so as to admit of their sails acting enough to draw them a-head out of the commotion. The vessel, though a strong one, was so much shaken and damaged, the horses so much injured, and all hands so much 'scared,' as Harris honestly told me, that he steered back direct for the Negro, forfeited his agreement, and refused to go again.

On the 14th March the Paz and Liebre again crossed the bar of the River Negro, and next day they anchored a-breast of the town (Carmen). Lieut. Wickham found that an expedition had been sent from Buenos Ayres for the purpose of obliging the Indians to retire beyond (southward of) the Negro; and, if possible, deprive them of their horses. Bad weather and a heavy sea on the bar, caused by south-east gales, prevented the Paz and Liebre from sailing again until the 11th of April, when they went to Port San Antonio, and afterwards into Port San José. Plenty of firewood, and abundance of fish, were found at San Antonio; but no fresh water, except by digging wells. The tide-stream rushes into and out of Port San José in a violent manner, especially when opposed by wind; but after the narrow part of the entrance is passed, all agitation of the water ceases, except what may be caused by wind. It is a barren and desolate place, without wood or fresh water, and too large for a harbour. Our party saw proof of this assertion in the wreck of a small vessel at the north-east part of the port, which had been driven from her anchors and

* The tide-races within the bay are less formidable than those off Point Norte, near which our vessels were.

totally lost, though she was lying in a land-locked bay, or rather gulf.

On the 6th of May, while returning from San José to the River Negro, our little vessels got into a ripple, which did not break, but had almost the appearance of a whirlpool. There was a hollow short swell, and an irregular motion in every direction, exactly like the boiling of a pot, on a great scale. Here again they could touch no bottom with fifty fathoms of line and a heavy lead. These races and ripplings in such deep water, about the peninsula of San José, are very remarkable; chiefly because there are none such on any other part of the coast. They will be recurred to in a future page of this volume.

May 7th. The Paz and Liebre returned to the Negro, but could not reach an anchorage off Carmen until late the next day, owing to the 'freshes.'* The next occupation for our party was examining and sounding the entrance and bar of the Negro, a task purposely deferred, as being of minor consequence. The mouth of a rapid river like this, subject to floods, and disemboguing at a place exposed to the full force of such a heavy sea as is raised on that coast by a south-east gale, must be frequently changed, as to the detail of its shoals and channels; therefore no plan, however exact at one time, can be depended upon after the lapse of a few years; and no vessel larger than a boat would be justified in attempting to enter without a local pilot, if one can be obtained. In one spot, near Main Point, where a small battery stood in 1826, there were two fathoms water in 1833; and within the same period the deepest water for a few miles within the entrance, changed gradually from the south side to the north. Mr. Darwin was told that the river was called Negro after a cacique of that name; but Falkner asserts that it was so called by the Spaniards, because the aborigines knew it by the name of 'Cusu Leuvu,' which means black river.†

* There are two floods annually: one about December or January, caused by snow melted on the Cordillera; and the other about May or June, occasioned by heavy rains in the interior country. These inundations are very variable.

† Falkner, p. 79.

In May, June, July, and August, the neighbourhood of this river swarms with wild fowl, which migrate from the south, for the winter, and return there to breed about September. The old people foretell a severe winter when they arrive early, and in greater numbers than usual. In 1833-4 they formed the staple article of food for the inhabitants of Carmen during the winter, as the Indians had deprived them of their cattle; in the summer cavies and ostriches supplied their tables. Hunting is a favourite amusement of the Carmenites. They sally forth in large parties on horseback, attended by a motley crowd of dogs, inclose a large extent of country, contract the circle gradually,* and at last drive a great number of ostriches, wolves, cavies, deer, foxes, and pumas, into a comparatively small space, when the indiscriminate attack commences—balls and lassoes flying in every direction. Many accidents happen to the horses in these hunts, owing to the ground being so undermined, in some places, by the 'tucu-tucu,'† a little animal like a small rabbit; but the riders are so skilful, that they generally save themselves, however awkwardly their horses may fall. Pumas are an especial object of attack, not only for the risk attached to encountering them, but because they do so much damage to the young animals of all kinds: they have a peculiar method of instantly killing a young colt by breaking its neck with an adroit blow of one paw, while the poor creature is held fast between the other and a most formidably armed mouth. In 1779 there were numerous herds of cattle and horses near the town of Carmen, but incursions of the Indians have diminished them to but few.

During the time of the old Spaniards, after 1783, more than a thousand Indians attacked the settlement at one time. The inhabitants retreated to their caves,‡ where, defended by strong doors, with loop-holes for musketry, they were safe; but their

* As in eastern countries.

† This Indian name, gutturally pronounced, expresses the curious sound made by these creatures while under ground—a noise somewhat like the blow of a distant hammer.

‡ Mentioned in p. 299.

houses were ransacked and burned, and all their animals driven away. Since that time the frequent predatory excursions of minor parties of Indians have prevented the settlers from again attempting to collect animals in large numbers, seeing that they would assuredly tempt the aborigines to repeat their attacks on a greater scale than ever. The old man, who was one of Villarino's party,* gave Mr. Darwin some information about that expedition, which entirely corroborates the interesting account of Basilio Villarino himself, who made his way, by excellent management, and extreme perseverance, to the foot of the Cordillera, though surrounded by Indians suspicious of his intentions. He managed so dexterously as to make one tribe become his firm friends and assistants; and behaved so well himself, in his own enterprises, as well as in his conduct to those under him, as to have obtained their hearty co-operation during eight long months. But he was soon afterwards savagely murdered by the natives during another exploring expedition.† The old man said that Villarino was much guided by the account of an Englishman,‡ whose description of the river and Indian country was found to be very accurate. Mr. Darwin heard several anecdotes of the Indians, and their attacks upon the Christians (so they term all white men) which interested me very much; but as I suppose they will be found in his volume, it is unnecessary here to do more than allude to them.

On the 12th May Mr. Usborne, in the Constitucion, anchored in the river, and next day put himself under Mr. Stokes's orders; to whom Lieut. Wickham gave up the charge of this branch of the survey, and then went on board the Constitucion to hasten towards Maldonado. On the 17th all three little vessels sailed, Lieut. Wickham steering for the Plata, and Mr. Stokes for San Blas.

From this time till the Paz and Liebre were discharged, in

* Bowman of his boat (lancha).

† Sir Woodbine Parish has given an abridged translation of Villarino's Diary in the Journal of the R. Geogr. Society for 1836, vol. vi, part ii, pp. 136—167.

‡ Falkner evidently.

August,* Mr. Stokes and his party were most zealously occupied between the Negro and Blanco Bay; but time was too fully occupied in the uninteresting, though useful works, of sounding, measuring, observing, and chart-making, to admit of many notices of the country being obtained in addition to those already mentioned; indeed the nature of the coast, almost flat, uninhabited, without trees, and fronted by extensive sand-banks, precluded the possibility of acquiring much information not of a technical nature.

* Already mentioned, p. 288.

CHAPTER XV.

Beagle and Adventure sail from Monte Video—Port Desire—Bellaco Rock—Refraction—Port San Julian—Viedma—Drake—Magalhaens—Patagonians—Port Famine—San Sebastian Bay—Woollya—Jemmy—Story—Treachery—Oens-men—Improvement—Gratitude—Falklands—Events—Captain Seymonr—Search for Murderers—Lieutenant Smith—Brisbane—Wreck—Sufferings—Lieutenant Clive—Sail from Falklands.

Dec. 6th, 1833. With a supply of provisions and coals,* sufficient for at least nine months, the Beagle and her tender sailed together from Monte Video.

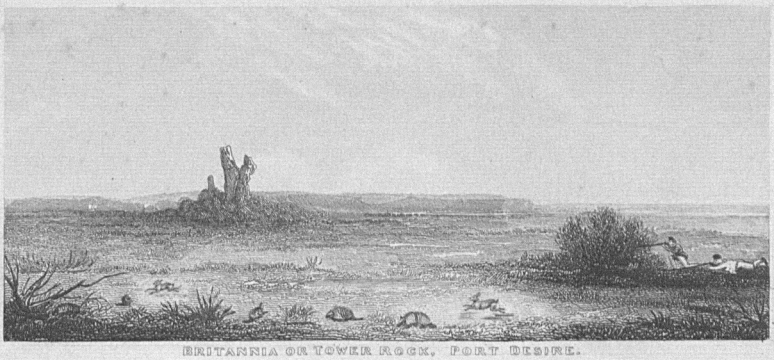
We first touched at Port Desire (23d Dec.), and after passing a very cheerful Christmas-day,† and exploring the inlet to its extremity, the Adventure was left to complete some alterations in her masts and rigging, while the Beagle would survey the coast between Sea Bear Bay and Port San Julian.

The party who went up the inlet were much struck by the wildness and height‡ of the rocky cliffs which they saw on each side of what appeared to have been the bed of a former river; but could go no further with the yawl than I had been in 1829. This I had foreseen, and therefore Mr. Chaffers, who was in charge of the party, took with him a small dinghy, in which he went on after the yawl was stopped by the mud. Having proceeded two miles further, the prospect changed suddenly; instead of wild glens and precipitous heights of porphyritic rock, low flat banks were seen, covered with rushes near the water, and, further from the stream, with luxuriant pasture. It was almost high water when the dinghy reached this spot and entered a fresh water river about a hundred

* Wood and water being easily procured in the regions we were going to visit, we carried only a month's store of those essentials.

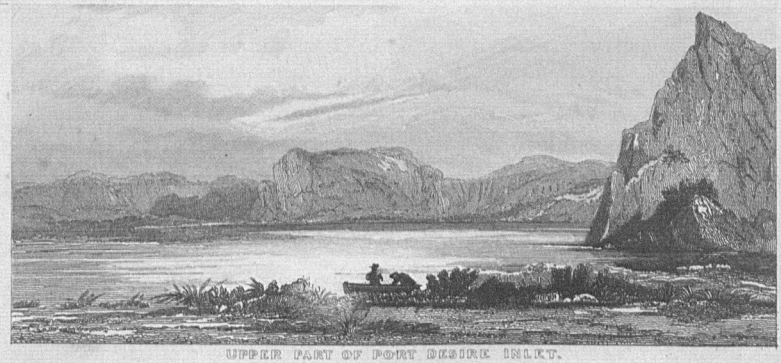
† After noon on the 25th, both crews amused themselves on shore in wrestling, racing, jumping, and various games.

‡ About three hundred feet.

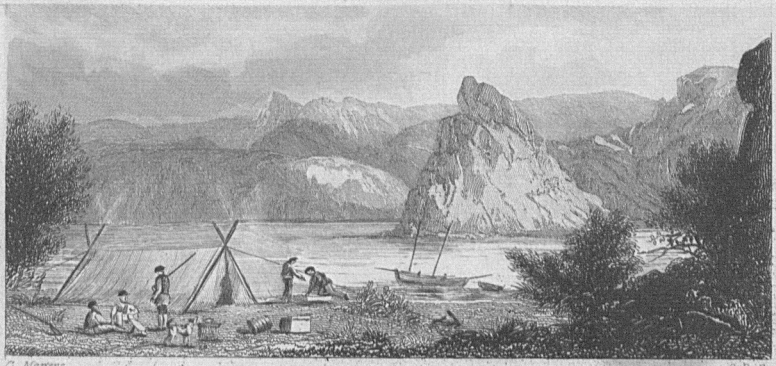


BRITANNIA OR TOWER ROCK, PORT DESIRE.

ANCHORAGE, AND SPANISH RUINS, PORT DESIRE.



UPPER PART OF PORT DESIRE INLET.



G. Martens. S. Bull.

BIVOUAC AT THE HEAD OF PORT DESIRE INLET.

Published by Henry Colburn, Great Marlborough Street. 1836.

yards wide, but so shallow that there was only three feet water in the middle. The river narrowed considerably as they ascended, till at the spot where Mr. Chaffers stopped to take sights of the sun, the stream was but forty yards across. In that place the deepest water was three feet at the top of high tide, over a gravelly bottom; but from the level space between the stream and the foot of the nearest hills, about three quarters of a mile, there was reason for supposing that during floods all the valley might be inundated. From a neighbouring hill, four hundred feet in height, the river could be traced several miles further, making a distance of about eight miles seen by our party, in which the water was quite fresh. It was lost to the westward, winding along an irregular break, or cliff-bounded valley, in the distant hills. The only living creature seen, of any size, was a lame horse, feeding near the river. There were no traces whatever of Indians. Having hastened back with the little boat before the river dried* (at half-ebb), Mr. Chaffers ascended another hill; but saw little more excepting an appearance of water to the southward, about which he could not clearly distinguish whether it was a lake, part of a river, or a salt-pond. I have no doubt, that during particular seasons a large body of fresh water is brought down this valley, but I do not think the river rises near the Andes, because there is no drift-wood on its banks, and the Indians say nothing of it when enumerating the rivers which cross the continent.

Jan. 4th, 1834. In working out of Port Desire, the Beagle struck her fore-foot heavily against a rock, so as to shake her fore and aft; but on she went with the tide, and as she made no water, I did not think it worth while returning into port. I was instantly convinced that we had hit the very rock on which the Beagle struck in 1829, in the night—a danger we never again could find by daylight till this day, when I was, rather imprudently, going out with the last quarter-ebb.

* The tide fell more than fourteen feet perpendicularly; but a small brook remained, perhaps a foot deep, winding its course between the uncovered banks.

At low-water there are but eight feet on this rock, which is not far from mid-channel, just without the entrance.

We anchored near Watchman Cape, and in other places along the coast, before reaching Port San Julian, and some time was devoted to an examination of the Bellaco Rock and its vicinity, as there is a dangerous reef extending from Watchman Cape towards, but not quite out to the Bellaco.

In my own notes I find this rock mentioned as "almost covered at times, but occasionally showing above water as high as the hull of a ship!" In Mr. Stokes's journal, left with me, it is mentioned in these words: "Passed between the Bellaco Rocks, close to the eastern one, nearly a-wash;" and in the diary of the Nodales' voyage (in 1619), it is spoken of as "una baxa que lababa la mar en ella," which means, a rock a-wash. The rise of tide there is about twenty feet, which explains the various appearances it had to my eye; for at high water I saw it almost covered, or a-wash; and as the Nodales described it similarly in 1619, there can have been extremely little, if any, change in the relative heights of sea and land in this place during the last two hundred and fifteen years.* Some time ago I thought differently, having formed a hasty opinion upon the fact of my having seen the rock as high out of water as a ship's hull. I did not then consider how much the tide falls, nor did I recollect, till I referred to notes, that I had also seen it a-wash (the top almost level with the water), at times during the many days we were in the neighbourhood.

On the day that Mr. Stokes and myself made our respective notes on the Bellaco (without any communication of opinion), an extraordinary effect of refraction was remarked. The meridian altitude of the sun (then far south) observed at opposite horizons, differed no less than sixteen miles! Similar effects had been noticed before, especially on the Patagonian coast, therefore we generally observed both ways; but to nearly

* As the larger and eastern rock is about a hundred yards long and eighty wide, with kelp growing on most parts of it, I do not think the top can wear away while so protected by sea-weed.

such an extent as this we never either before or afterwards witnessed an error arising wholly from the state of the atmosphere near the horizon; causing the visible water-line to be apparently raised several minutes of a degree. On these occasions we always used the mean of the two results, which agreed closely with the latitude resulting from triangular connection with points on the shore, whose latitude we knew by observations made with the artificial horizon.*

7th. Mr. Stokes and I landed some leagues northward of Port San Julian, near Cape Look-out, and ascended a level-topped range of hills about 300 feet above the sea. The view we obtained was similar to those so tiresomely common in eastern Patagonia. Level, arid, desert-like plains extended to the horizon: a few irregular hills were seen in the distance; some guanacoes and a few ostriches were here and there discerned; a fox crossed our path, and a condor wheeled overhead; nothing more was noticed.

We returned to the low ground near the sea, and there we found plenty of small wood, stunted shrubby trees, fit for fuel; as well as several ponds of fresh-water. The rise of tide on the shore was considerably more than twenty feet, but we had not time to ascertain it accurately.

9th. Mount Wood,† that excellent land-mark for Port San Julian, was seen at daylight: and about noon the Beagle anchored off the bar of the harbour. Mr. Stokes went with me to examine the passage, and before evening our ship was safely moored in the port. This was one, among numerous instances I could mention, where the good qualities of the Beagle, as to sailing and working, saved us days of delay, trouble, and anxiety. All hands immediately set-to about the plan of the port, and such efficient officers as were with me made short work of it. One day Mr. Darwin and I undertook an excursion in search of fresh-water, to the head of the inlet, and towards a place marked in an old Spanish plan,

* Bellaco rocks are the same as Estevan shoal. There are at least two distinct masses of rock. A ship may pass between them.

† Nine hundred and fifty feet high.

"pozos de agua dulce;" but after a very fatiguing walk not a drop of water could be found. I lay down on the top of a hill, too tired and thirsty to move farther, seeing two lakes of water, as we thought, about two miles off, but unable to reach them. Mr. Darwin, more accustomed than the men, or myself, to long excursions on shore, thought he could get to the lakes, and went to try. We watched him anxiously from the top of the hill,* saw him stoop down at the lake, but immediately leave it and go on to another, that also he quitted without delay, and we knew by his slow returning pace that the apparent lakes were 'salinas.' We then had no alternative but to return, if we could, so descending to meet him at one side of the height, we all turned eastward and trudged along heavily enough. The day had been so hot that our little stock of water was soon exhausted, and we were all more or less laden with instruments, ammunition, or weapons. About dusk I could move no farther, having foolishly carried a heavy double-barrelled gun all day besides instruments, so, choosing a place which could be found again, I sent the party on and lay down to sleep; one man, the most tired next to myself, staying with me. A glass of water would have made me quite fresh, but it was not to be had. After some hours, two of my boat's crew returned with water, and we were very soon revived. Towards morning we all got on board, and no one suffered afterwards from the over-fatigue, except Mr. Darwin, who had had no rest during the whole of that thirsty day—now a matter of amusement, but at the time a very serious affair.

Sir Woodbine Parish intends to publish a description of the Spanish settlements on these shores, in which no doubt Viedma's, at Port San Julian, will have place. A full account of it, in the original language, may be found in the diary of Antonio de Viedma, published at Buenos Ayres, in 1837, by Don Pedro de Angelis. Finding no water near the harbour except after rain, which is there rare, Viedma pitched

* Named in the plan 'Thirsty Hill.'

his tents some leagues inland, near a spring frequented by the Indians, but their doubtful friendship, the progress of scurvy among his own people, their discontent at such a situation, and other reasons, inclined the Spanish viceroy to withdraw the settlement. This dreary port, difficult of access and inhospitable even when the stranger is within its entrance, is well known to readers of early voyages as the place where Magalhaens so summarily quelled a serious mutiny, and conspiracy against his own life, by causing the two principal offenders, captains of ships in the squadron, to be put to death:* and as the scene of the unfortunate Doughtie's mock trial and unjust execution.† That two such remarkable expeditions as those of Magalhaens and Drake should have wintered at Port San Julian, and that two such tragedies should have occurred there is remarkable. In the plan of that port we now see Execution Island, Isle of True Justice, (injustice?) and Tomb Point: the two former being names given by Drake.‡ One naturally asks how their ships obtained water, and the answers occurring to me are,—that they were there in the winter season, when the rain which falls is not soon dried up; and that they may have dug wells, which we did not think it worth while to do, having no time to spare.

15th. A French whaler came in over the bar, at high water, without having sounded it, or knowing what depth she would find. The only instance of similar folly I have witnessed was that of a sealing schooner which I met near Port Famine, whose master had taken her through Possession Bay and both Narrows, without knowing that the tide rose and fell there more than six or seven feet, and without a chart of the Strait. When I told this man that the tide rose six or seven fathoms at the First Narrow, he certainly did not believe me. The bar of San Julian is shingle (or gravel), and often altered in form by south-east gales or unusual tides. Under ordinary circumstances the tide rises thirty feet at full moon.

* 1520. † Drake's Voyage, 1578.

‡ And the latter a memento of Lieut. Sholl, of the Beagle, (vol. I.)

19th. Sailed, and, for once during our experience of these shores, found a heavy swell setting in from the east.*

On the 20th we anchored again in Port Desire, and our first employment was to look for the rock whose top (Mr. May assured me with a grave face) we had knocked off with our keel.

22d. Both vessels sailed, and at sunset the Adventure parted company, steering for New Island in the Falklands. Lieutenant Wickham was to make a connected survey of the coast of that archipelago, while the Beagle was in other places.† After giving some time to sounding and examining portions of ground in the neighbourhood of Cape Virgins and the eastern entrance of Magalhaens Strait, we passed the First Narrow and anchored in Gregory Bay. There, of course, we had an interview with old Maria and her party. They received us kindly, but with some form, being assembled and seated on the ground near our landing place, with two men standing up in the midst of them, who looked immoveably grave and stupidly dignified. These men were acting as caciques, Maria said, the real chiefs being absent. They were stripped to the waist, and the upper parts of their bodies spotted with white paint.‡ The rest of the people were dressed as usual. An active barter commenced, but the portly actors in the middle did not take part in it, they remained in their solemnity till we left them.

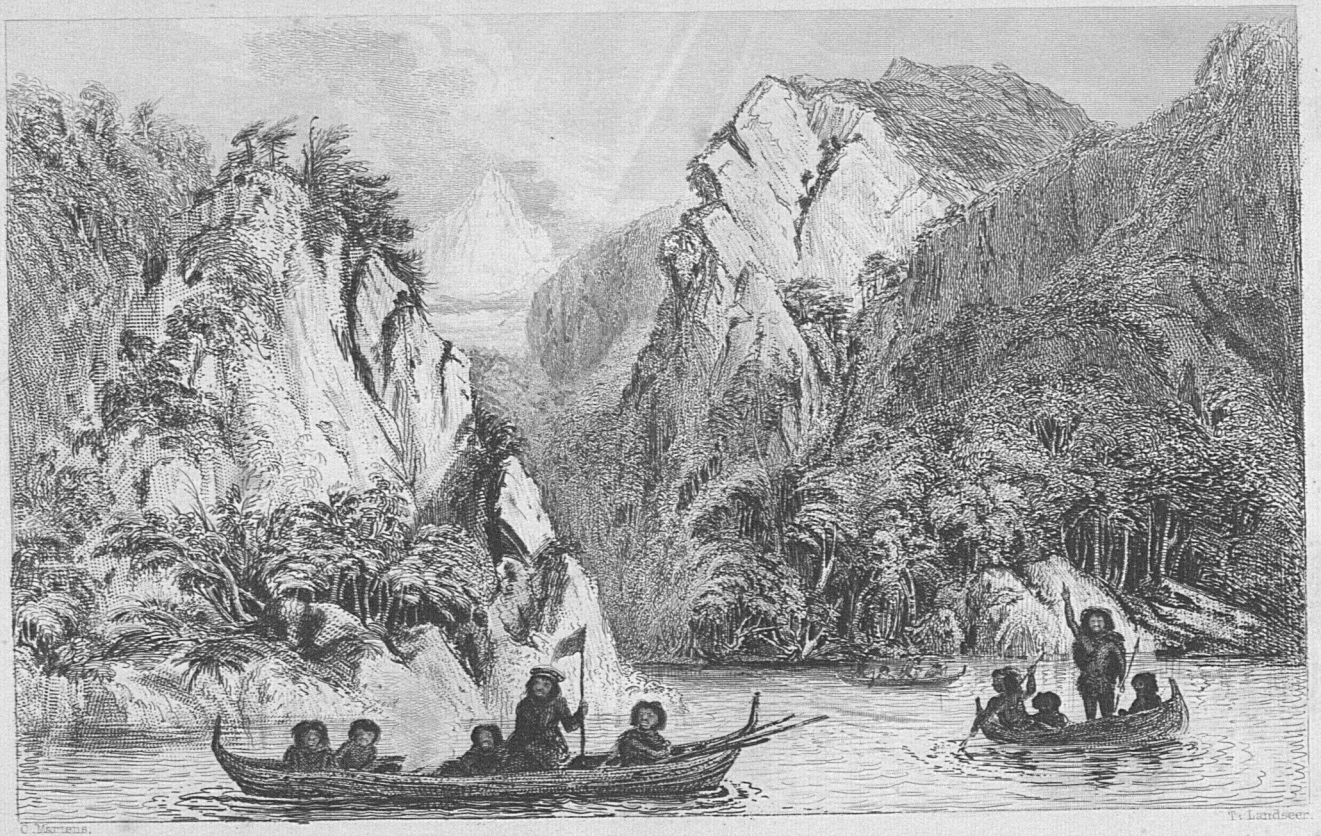
On the 2d of February we anchored in Port Famine, and on the 10th, having obtained chronometric observations for which I went there, we sailed for the neighbourhood of the First Narrow and Lomas Bay (near Point Catherine). We often anchored thereabouts in the prosecution of our work.

On the 17th, as we ran along the curious spit or bank of shingle that fronts San Sebastian Bay, I really could not tell, though I had been in that bay before, whether I had not been

* I think that this easterly swell must have been caused by a south-east gale, though it came to us from the east.

† Appendix, No. 18.

‡ Much as a piece of new knotty wood is spotted with white lead before it receives a coat of paint.



C. Martens. T. Landseer.

BUTTON ISLAND, NEAR WOOLLYA.

Published by Henry Colburn, Great Marlborough Street. 1838.

deceived as to no channel existing,* so well defined and distinct did a wide opening appear. A few more minutes, however, undeceived me: I discerned low flat land stretching along the western horizon: and soon afterwards we anchored in the bay. The following week was occupied in surveying the north-eastern shore of Tierra del Fuego, which, except San Sebastian Bay, does not contain a port. San Vicente Cove is not worth notice as a harbour.

On the 25th, we anchored at the Hermite Islands, on the north-east side of Wollaston Island. Thence, on the 27th, we crossed Nassau Bay to Goree Road, and the following day entered the Beagle Channel.

The 1st of March passed in replenishing our wood and water at a cove, where we had an opportunity of making acquaintance with some Yapoo Tekeenica natives, who seemed not to have met white men before.

Till the 5th the Beagle was actively occupied, by day, in working to windward (westward) through the channel, and then she anchored at Woollya. But few natives were seen as we sailed along: probably they were alarmed at the ship, and did not show themselves. The wigwams in which I had left York, Jemmy, and Fuegia, were found empty, though uninjured: the garden had been trampled over, but some turnips and potatoes of moderate size were pulled up by us, and eaten at my table, a proof that they may be grown in that region. Not a living soul was visible any where; the wigwams seemed to have been deserted many months; and an anxious hour or two passed, after the ship was moored, before three canoes were seen in the offing, paddling hastily towards us, from the place now called Button Island. Looking through a glass I saw that two of the natives in them were washing their faces, while the rest were paddling with might and main: I was then sure that some of our acquaintances were there, and in a few minutes recognized Tommy Button, Jemmy's brother. In the other canoe was a face which I knew yet could not name. "It must be some one I have seen before," said I,—when his sharp eye

* Vol. I. p. 457-8.

detected me, and a sudden movement of the hand to his head (as a sailor touches his hat) at once told me it was indeed Jemmy Button—but how altered! I could hardly restrain my feelings, and I was not, by any means, the only one so touched by his squalid miserable appearance. He was naked, like his companions, except a bit of skin about his loins; his hair was long and matted, just like theirs; he was wretchedly thin, and his eyes were affected by smoke. We hurried him below, clothed him immediately, and in half an hour he was sitting with me at dinner in my cabin, using his knife and fork properly, and in every way behaving as correctly as if he had never left us. He spoke as much English as ever, and, to our astonishment, his companions, his wife, his brothers and their wives, mixed broken English words in their talking with him. Jemmy recollected every one well, and was very glad to see them all, especially Mr. Bynoe and James Bennett. I thought he was ill, but he surprised me by saying that he was "hearty, sir, never better,"* that he had not been ill, even for a day, was happy and contented, and had no wish whatever to change his way of life. He said that he got "plenty fruits,"† "plenty birdies," "ten guanaco in snow time," and "too much fish." Besides, though he said nothing about her, I soon heard that there was a good-looking‡ young woman in his canoe, who was said to be his wife. Directly this became known, shawls, handkerchiefs, and a gold-laced cap appeared, with which she was speedily decorated; but fears had been excited for her husband's safe return to her, and no finery could stop her crying until Jemmy again showed himself on deck. While he was below, his brother Tommy called out in a loud tone—"Jemmy Button, canoe, come!" After some time the three canoes went ashore, laden with presents, and their owners promised to come again early next morning. Jemmy gave a fine otter skin to me, which he had dressed and kept purposely; another he gave to Bennett.

* A favourite saying of his, formerly.

† Excrescences on the birch trees, and berries.

‡ For a Fuegian.

FUEGIA BASKET. 1833.

JEMMY'S WIFE 1834.

JEMMY IN 1834.

JEMMY BUTTON IN 1833.

YORK MINSTER IN 1832.

T. Landseer sc.

YORK IN 1833.

FUEGIANS.

Published by Ackermann, Strand, London, 1835.

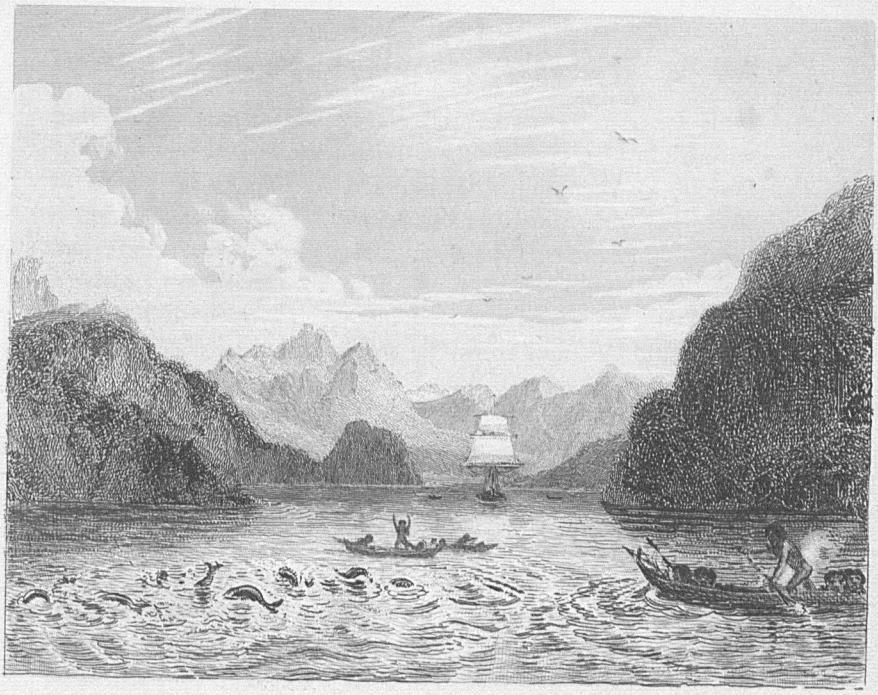
Next morning Jemmy shared my breakfast, and then we had a long conversation by ourselves; the result of which was, that I felt quite decided not to make a second attempt to place Matthews among the natives of Tierra del Fuego. Jemmy told me that he knew very little of his own language; that he spoke some words of English, and some Tekeenica, when he talked to his family; and that they all understood the English words he used. York and Fuegia left him some months before our arrival, and went in a large canoe to their own country; the last act of that cunning fellow was to rob poor Jemmy of all his clothes; nearly all the tools his Tekeenica 'friends' had left him; and various other necessaries. Fuegia was dressed as usual, and looking well, when they decamped: her helpmate was also well clothed, and had hardly lost anything I left with him. Jemmy said "York very much jaw," "pick up big stones," "all men afraid." Fuegia seemed to be very happy, and quite contented with her lot. Jemmy asserted that she helped to "catch (steal) his clothes," while he was asleep, the night before York left him naked.

Not long after my departure in Febuary 1833, the much-dreaded Oens-men came in numbers, overland, to Woollÿa; obliged Jemmy's tribe to escape to the small islands, and carried off every valuable which his party had not time to remove. They had doubtless heard of the houses and property left there, and hastened to seize upon it—like other 'borderers.' Until this time York had appeared to be settled, and quite at ease, but he had been employed about a suspiciously large canoe, just finished when the inroad was made. He saved this canoe, indeed escaped in it, and afterwards induced Jemmy and his family to accompany him "to look at his land." They went together in four canoes (York's large one and three others) as far west as Devil Island, at the junction of the north-west and south-west arms of the Beagle Channel: there they met York's brother and some others of the Alikhoolip tribe; and, while Jemmy was asleep, all the Alikhoolip party stole off, taking nearly all Jemmy's things, and leaving him in his original condition. York's fine canoe was evidently not

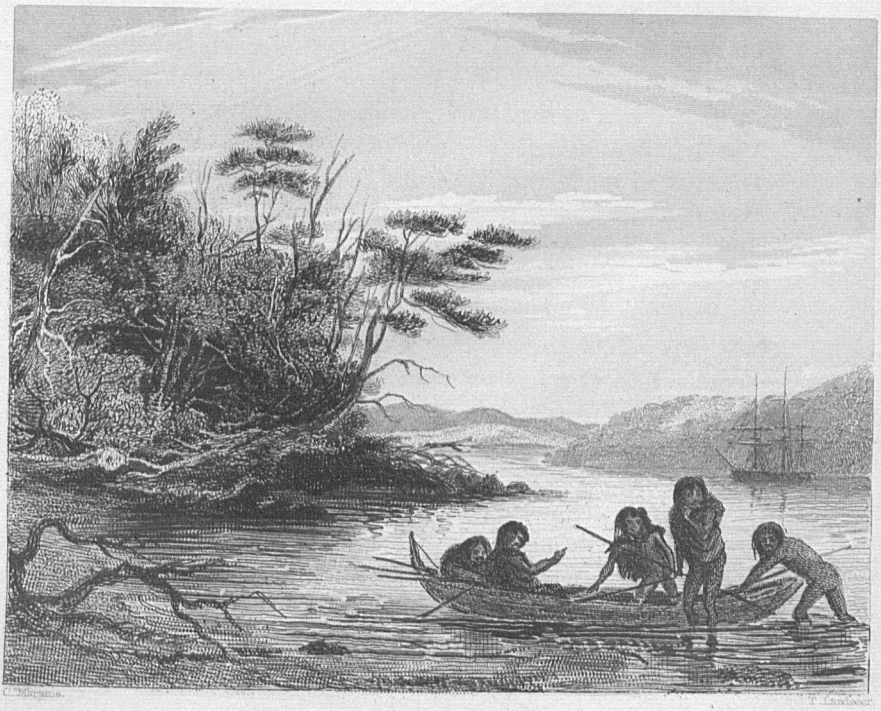
built for transporting himself alone; neither was the meeting with his brother accidental. I am now quite sure that from the time of his changing his mind, and desiring to be placed at Woollÿa, with Matthews and Jemmy, he meditated taking a good opportunity of possessing himself of every thing; and that he thought, if he were left in his own country without Matthews, he would not have many things given to him, neither would he know where he might afterwards look for and plunder poor Jemmy.

While Mr. Bynoe was walking about on shore, Jemmy and his brother pointed out to him the places where our tents were pitched in 1833, where the boundary line was, and where any particular occurrence happened. He told Mr. Bynoe that he had watched day after day for the sprouting of the peas, beans, and other vegetables, but that his countrymen walked over them without heeding any thing he said. The large wigwams which we had erected with some labour, proved to be cold in the winter, because they were too high; therefore they had been deserted after the first frosts. Since the last depredations of the Oens-men, he had not ventured to live any longer at Woollÿa; his own island, as he called it, affording safer refuge and sufficient food.

Jemmy told us that these Oens-men crossed over the Beagle Channel, from eastern Tierra del Fuego, in canoes which they seized from the Yapoo Tekeenica. To avoid being separated they fastened several canoes together, crossed over in a body, and when once landed, travelled over-land and came upon his people by surprise, from the heights behind Woollÿa. Jemmy asserted that he had himself killed one of his antagonists. It was generally remarked that his family were become considerably more humanized than any savages we had seen in Tierra del Fuego: that they put confidence in us; were pleased by our return; that they were ready to do what we could explain to be for their interest; and, in short, that the first step towards civilization—that of obtaining their confidence—was undoubtedly made: but an individual, with limited means, could not then go farther. The whole scheme, with respect



MURRAY NARROW - BEAGLE CHANNEL.



C. Martins. T. Landseer

COVE IN BEAGLE CHANNEL.

(PORTRAIT COVE)

Published by Henry Colburn, Great Marlborough Street, 1836.

to establishing a missionary with the Fuegians who were in England, among their countrymen, was on too small a scale, although so earnestly assisted by Mr. Wilson,* Mr. Wigram, Mr. Coates, and other kind friends.

I cannot help still hoping that some benefit, however slight, may result from the intercourse of these people, Jemmy, York, and Fuegia, with other natives of Tierra del Fuego. Perhaps a ship-wrecked seaman may hereafter receive help and kind treatment from Jemmy Button's children; prompted, as they can hardly fail to be, by the traditions they will have heard of men of other lands; and by an idea, however faint, of their duty to God as well as their neighbour.

That Jemmy felt sincere gratitude is, I think, proved by his having so carefully preserved two fine otter skins, as I mentioned; by his asking me to carry a bow and quiver full of arrows to the schoolmaster of Walthamstow, with whom he had lived; by his having made two spear-heads expressly for Mr. Darwin; and by the pleasure he showed at seeing us all again.

As nothing more could be done, we took leave of our young friend and his family, every one of whom was loaded with presents, and sailed away from Woollya.

On the 9th of March we were off Beauchesne Island.† Many persons have fancied that there are two islands near together in that place, having been deceived by two hummocks on the only island, which from a distance show just above the horizon like two islets. Next day we anchored in Berkeley Sound; first in Johnson Cove, and afterwards in Port Louis.

We found a state of affairs somewhat different from that of March 1833; but though more settled, in consequence of the presence of an established authority, resident at Port Louis (a lieutenant in the navy), my worst forebodings had not equalled the sad reality.

In a note to page 240, I alluded to the murder of the Buenos Ayrean commanding officer; and to that of Mr. Brisbane. A few weeks before the Clio arrived in 1833, there was a small

* Of Walthamstow. † Near the Falklands.

garrison at Port Louis, consisting of a sergeant's guard of soldiers, a subaltern, and a field officer. The men mutinied because their superior was thought to be unnecessarily severe, and occupied them unceasingly in drill and parade, to the prejudice of their obtaining food sufficient for health. They were obliged, in consequence of his system, to live upon worse fare than the settlers, because they could not go about to forage for themselves; and the result was that, after many threats, they murdered him. A small armed schooner* arrived a few days afterwards from Buenos Ayres, by whose officers and crew, assisted by some French sailors, the principal mutineers, nine in number, were taken and put into confinement on board. They were afterwards carried to Buenos Ayres.

On the 26th of August 1833, three 'gauchos' and five Indians† (the prisoners before mentioned), set upon and murdered Mr. Brisbane; Dickson, the man in charge of Vernet's store;‡ Simon, the capataz; the poor German; and another settler; after which atrocious acts they plundered the settlement and drove all the cattle and horses into the interior. Only that morning Mr. Low, who was then living with Mr. Brisbane, left Port Louis on a sealing excursion, with four men. Hardly was his boat out of sight, when the deceitful villains attacked Brisbane in Vernet's house: suspecting no treachery, he fell at once by the knife of Antonio Rivero. Simon defended himself desperately, but was overpowered; the others, overcome by fear, fell easy victims. The rest of the settlers, consisting of thirteen men, three women, and two children, remained with the murderers two days, and then escaped to a small island in the Sound; where they lived on birds' eggs and fish, till the arrival of the English sealer Hopeful,§ on board which was an officer of the navy, || who in some measure relieved their immediate distress, but could not delay to protect them from the assaults which

* Sarandi.

† Antonio Rivero, J. M. Luna, M. Godoy,—J. Brasido, M. Gonzales, L. Flores, F. Salazar, M. Lattore.

‡ P. 240. § Nov. 1833.

|| Mr. Rea. The Hopeful belonged to Messrs. Enderby.

they anticipated. About a month after the Hopeful sailed, H.M.S. Challenger, Captain M. Seymour, arrived, having a lieutenant of the navy and four seamen on board, who had volunteered from H.M.S. Tyne, and were duly authorized to remain at the Falklands. The following extract from a letter will show what took place on Captain Seymour's arrival.

"Captain Seymour, and the consuls, being anxious to visit the settlement of Port Louis, landed some distance from it (the wind being strong from S.S.W.), intending to walk there. About a mile from the houses they were met by an Englishman named Channon, sent by the gauchoes to see who they were, and whether the ship was a whaler in want of beef, or a man-of-war. He informed them that the gauchoes and Indians had murdered Mr. Brisbane: Dickson, who had been left in charge of the flag by Captain Onslow: Simon; and two others: and had pillaged the houses, destroying every thing in their search for money. He then pointed them out, sitting under a wall, with their horses behind the remains of the government house, ready saddled for a start on our nearer approach. They had two gauchoes, prisoners, who had not been concerned in the murders, and whom they threatened to kill, if he, Channon, did not return. He also stated that one of them was willing to turn king's evidence, and would bring back all the horses, if possible, provided Captain Seymour would ensure his pardon. The whole of them, nine in number, retreated into the interior as soon as they found out it was a ship of war, taking all the tame horses, between fifty and sixty.* As his party were not armed, Captain Seymour thought it right to return on board; but after dark, Lieutenant Smith was sent with a party of marines, and two boats, to try and take them, if they should be still about the houses, and to leave with Channon a bottle containing a crucifix, as a signal for Luna.† On their landing, Lieutenant Smith took all necessary precautions, left six men in charge of the boats, and proceeded cautiously with the

* Thirteen men and three women had escaped to an island in the Sound, as they could do nothing against the murderers, who had all the arms.

† The gaucho who offered to become king's evidence.

rest. He carefully searched every building in the place, without seeing even a trace of them. All was desolation; yet he learned afterwards from the two innocent gauchoes, that Antonio Rivero and another, suspecting who the party were, had watched them closely: that at one time Lieut. Smith was near treading on them; which seemed hardly credible, until the arrangements made on landing, the marching in Indian file to hide his men, &c. were mentioned. Mr. Smith left with Channon Luna's pardon, who, on the fourth day, brought in two horses—not having been able to obtain more, as the murderers were very watchful and fearful of each other, so much so, that one of them had fallen a sacrifice to suspicion; and Luna's desertion reduced their number to six. With Luna for their guide, on the sixth day Lieut. Smith, four midshipmen and twelve marines, were despatched into the interior. They were absent four days, and marched more than a hundred miles, enduring much fatigue, which was increased by the boisterous state of the weather, and by continual rain for three out of the four days. Water in ravines, which on going out hardly rose above their ankles, on their return had increased to torrents: in crossing them some nearly lost their lives, and on the bleak moors they sunk at every step knee-deep in bog. Without sleep or shelter, they lived for the last two days on beef just warmed through, by fires that it took hours to kindle. They were not successful in capturing any of the murderers, but at one time were so near, that they had the mortification to see them drive their horses away at a gallop, and having all the tame ones but two, they were quickly out of reach of musket-shot. So hasty however was their retreat, that they left their provisions behind them. Captain Seymour finding that capturing the Indians would be a tedious and uncertain task, made one of the ruined houses habitable, and leaving six marines as an additional protection to Lieut. Smith and his boat's crew, proceeded as ordered. The lieutenant endeavoured to make his abode comfortable, by clearing away rubbish and bones, and putting a garden into some order. With the two horses he succeeded in catching and taming two cows,

which gave about two gallons of milk daily, besides fourteen others, five or six of which were in calf. By one means or other all but one of the murderers were taken, and a cutter was hired to remove them to the flag-ship at Rio de Janeiro."

Before the Beagle's arrival Lieut. Smith had succeeded in capturing the principal murderer, and transporting him to an islet in the Sound, where he was watched, and furnished with provisions by the boat's crew. The lieutenant applied to me for assistance, and knowing that he was not safe while such a desperate character as Rivero was at large, though on an islet, and that the life of Luna (the king's evidence) was still more risked, I took those men, and one named Channon, who was said to have been an accomplice in the plot, though not an active agent, on board the Beagle. Rivero was put in irons, Channon confined to the ship, and Luna left at liberty, though watched.

When Mr. Low returned from his sealing expedition he found that his life was sought, as a friend of Mr. Brisbane; and as he could do nothing on foot against the mounted gauchoes, he retired to Kidney Islet, at the entrance of Berkeley Sound, to await the arrival of some ship. Tired, however, of inaction, he set out to go westward, in search of some whaler, and on the 6th of February, when in great distress, he fell in with our tender, the Adventure, and immediately offered his services as a pilot: they were accepted, provisionally, by Lieut. Wickham, and afterwards by me, trusting that the Admiralty would approve of my so engaging a person who, in pilotage and general information about the Falklands, Tierra del Fuego, Patagonia, and the Galapagos Islands, could afford us more information than any other individual, without exception.

Mr. William Low is the son of a respectable land-agent in Scotland; he was brought up as a sailor, and possesses strong common sense, quick apprehension, a readiness at description, and an extraordinary local memory.

On the 13th the Adventure arrived: she had almost completed her examination of the west, south, and south-east outer coasts, in a very satisfactory manner, having been greatly forwarded

and helped by Mr. Low's minute acquaintance with every port, and almost every danger. Our tender sailed to continue her coasting examination on the 21st. She returned on the 26th, and sailed again on the 30th. Meanwhile our own boats were constantly occupied in and near Berkeley Sound and Port William.

When I visited the settlement it looked more melancholy than ever; and at two hundred yards' distance from the house in which he had lived, I found, to my horror, the feet of poor Brisbane protruding above the ground. So shallow was his grave that dogs had disturbed his mortal remains, and had fed upon the corpse. This was the fate of an honest, industrious, and most faithful man: of a man who feared no danger, and despised hardships. He was murdered by villains, because he defended the property of his friend; he was mangled by them to satisfy their hellish spite; dragged by a lasso, at a horse's heels, away from the houses, and left to be eaten by dogs.

Besides my own acquaintance with him and opinions derived from the personal knowledge of the Beagle's officers, some of whom had known Brisbane when his vessel, the Saxe Cobourg, was wrecked in Fury Harbour (owing to no fault of his), Mr. Weddell bears testimony to his character on many occasions, particularly by an observation in page 48 (Weddell's Voyage), where he says, "I had full confidence in the care and ability of Mr. Brisbane." (1823.)

In 1830 Mr. Brisbane was wrecked on the eastern coast of Tierra del Fuego, near Policarpo Cove, (54° 38′ S.), when sealing there in partnership with Mr. Bray, who afterwards commanded the sealing schooner 'Transport,' lost in 1833, at Hope Harbour. I have a copy of their log in my possession, from which the following extracts are selected, to show with what enduring patience some of those hardy sealers bear misfortune and distress.

"Feb. 23d. Employed saving things from the wreck: six Indians came to us. 24th. Twenty-five Indians came, with their women and children. 25th. Another visit from natives: men, women, and children. 26th. Indians began to be very trou-

blesome. 27th. Forty Indians came to us, all armed with bows, arrows, and slings, without women or children. Some of our people employed in building a shallop out of the wreck. 28th. More Indians, with twelve strong women and eighteen children: but unarmed on this day.

"March 1st. More Indian visitors. 2d. Fifty-one natives, armed." To the 9th the crew continued to build their shallop, and were almost daily visited by natives, whom two-thirds of the party were obliged to watch with arms in their hands. On the 21st sixty-one natives visited them (these Indians always went away before dusk). On the 23d the time of high-water was observed to be $4^h. 40^m$, and the rise seventeen feet, during moderate westerly wind and settled weather. Mr. Brisbane made the latitude, by observation, 54° 38′ S. and the longitude he estimated at 65°. 30′. W. "29th. Much troubled every day by natives, who tried to steal our tools; and hard pressed by hunger. No supper(*a*) the last three days.

"2d April. Four long guns were found to the eastward, lying on a piece of the forecastle of some large ship, supposed to be a large frigate(*b*), also two leaden hawse pipes attached to the woodwork. 8th. A large party of Indians, who were plaguing us, quarrelled among themselves, and had a severe fight. 9th. Our last remainder of provisions finished. 15th. Employed caulking the shallop's deck, and getting limpets from the rocks. N. B. Almost starving. 17th. Not being troubled to-day by natives, and the sea being smooth, went out in a little boat which we had saved, and caught eleven skate."

After this day several fish were caught at times, which, with shell-fish, afforded a scanty subsistence; but before this time they had been reduced to eating hide, and half putrid blubber, which they got by barter from the Indians. Mr. Bray, as well as Brisbane, told me that hunger and anxiety so wore and excited them, that they could seldom sleep more than an hour

(*a*) Supper was their principal meal; as during the day, while the Indians were about, they had no time to cook or eat. R. F.

(*b*) Perhaps the O'Higgins—(Chilian). R. F.

or two at night, though working all day, while they were so hard pressed for food.

"22d. Launched the shallop, or rather, hauled her down at low water, and let her float. 24th. Indians more troublesome than ever; obliged to fire at them repeatedly. 27th. Almost starved, eating bullock's hide. 30th. Nothing to eat but bullock's hide and berries. Could not get the shallop over the reef because of a heavy surf.

"May 1st. Got out to sea; found the shallop leak very much: nothing to eat but hide. 2d. Lat. 54°. 00′. Long. east. 63°. 50′. 5th. Made Cape Meredith (in the Falklands), but could not get near for want of wind. 6th. Two men gave out (c) for want of food: they had gone six days with but one pound of hide. 7th. A heavy gale; the shallop under bare poles, and almost sinking; sea making a clear breach over her; men quite worn out by constant pumping and baling, and by want of food: we had a very hard job to keep her from sinking: at dusk saw land through the rain and spray, half a mile to leeward; showed the head of the jib, and bore away right before the wind for the nearest part: saw a cove, ran into it, and anchored. Killed numbers of geese; thanked God for our safety. 11th. Many of our men ill from the sudden change. 17th. Went ashore in Pleasant Harbour; saw a great number of cattle; the dog caught two of them, and held them for us to kill.(d) 30th of May. Anchored in Port Louis, landed, and hauled the shallop ashore at high-water."

The vessel in which Brisbane and Bray were wrecked, was driven ashore in a northerly gale, while sealing near Policarpo Cove. Their crew consisted of about twenty men, most of whom had fire-arms, and plenty of ammunition. Though it will swell yet more the catalogue of his disasters, I must add that Brisbane was once wrecked on South Georgia, and escaped thence to Monte Video in a shallop, which he and his companions in distress built out of the wreck of their sealing vessel.

(c) Could work no longer. R. F.

(d) Seized them by the lip. He was a large, strong animal, between a bull-dog and a mastiff. R. F.

I have now by me two of the tools, almost the only ones, which they had to use: one is a cooper's adze, nearly worn down to the middle; and the other a saw, made out of a piece of iron hoop, fixed to a wooden frame.

6th April. While the Beagle was preparing for sea the body of Lieut. Clive,* late of H. M. S. Challenger, was found lying at high-water mark, in an unfrequented part of Berkeley Sound; and the following morning I buried it in a grave on shore, not far from the tomb of our regretted shipmate Hellyer. After noon, on the same day, we sailed from the Falklands, depressed more than ever by the numerous sad associations connected with their name.

* Lieut. Clive was drowned accidentally, by the upsetting of a small boat:—his body could not then be found.

CHAPTER XVI.

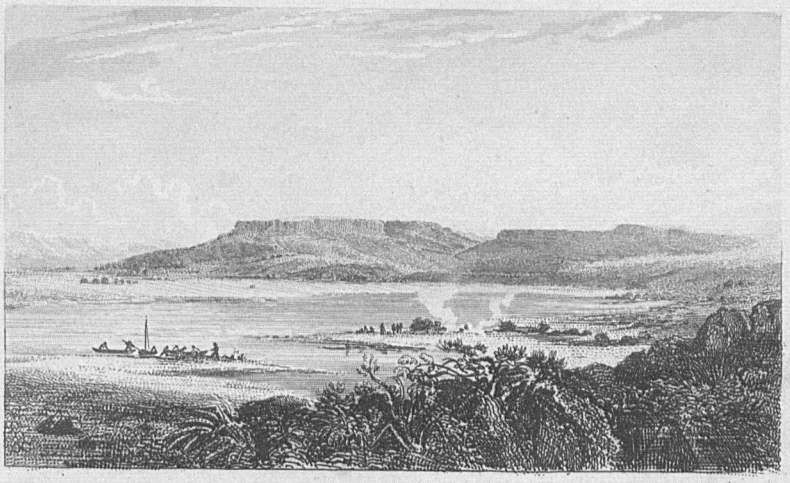
Soundings—Anchor in Santa Cruz—Lay Beagle ashore for repair—Prepare to ascend River—Set out—View of surrounding country—Rapid stream—Cold—Ostriches—Guanacoes—Indians—Fish—Cliffs—Firewood—Lava Cliffs—Difficulties—Chalia—See Andes—Farthest West—View round—Return—Danger—Guanaco hunters—Puma—Cat—Tides—Sail from Santa Cruz.

In working to the westward from Berkeley Sound to the River Santa Cruz, we sounded frequently, and found that the depth is nowhere much above one hundred fathoms between those places. But the water is not of so little depth between the Falklands and Cape Virgins, or Tierra del Fuego; for there we could not strike soundings in some places, towards the islands, with one hundred and fifty fathoms of line.

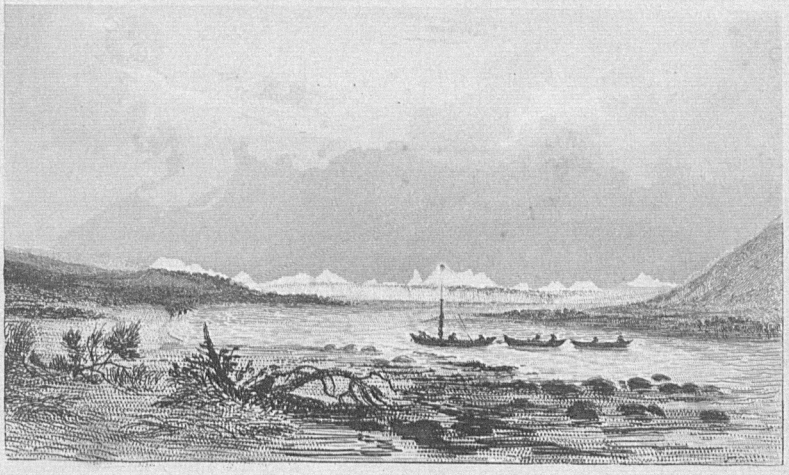
On the 13th we anchored in the Santa Cruz, and immediately prepared to lay our vessel ashore for a tide, to ascertain how much injury had been caused by the rock at Port Desire, and to examine the copper previous to her employment in the Pacific Ocean, where worms soon eat their way through unprotected planks. (16th.) When on the beach, at a place we afterwards called 'Keel Point,' it was found that a piece of the false keel under the 'fore-foot,' had been knocked off, and that a few sheets of copper were a good deal rubbed. By Mr. May's exertions all was repaired in one tide; and the following day we were making preparations for an excursion up the river.

17th. An examination, or rather a partial exploring, of the River Santa Cruz had long been meditated. During the former voyage of the Beagle, Captain Stokes had ascended the rapid current as far as a heavy boat could be taken; but his account served only to stimulate our curiosity, and decided my following his example.

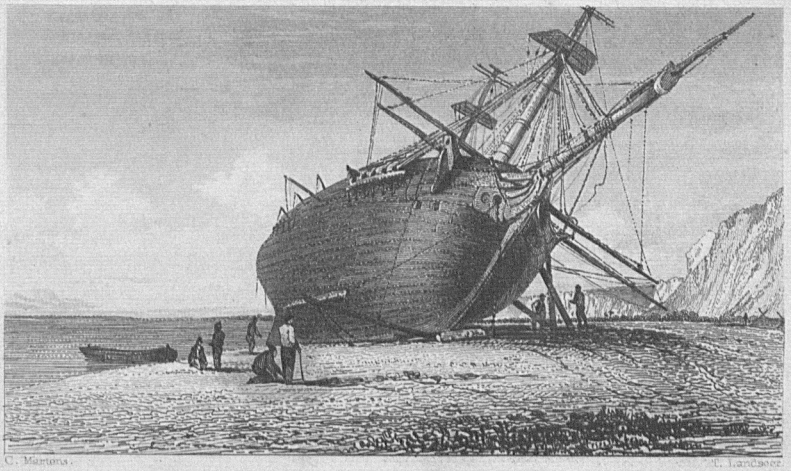
Three light boats were prepared (whale-boats strengthened): as much provision as they could stow with safety was put into them, and a party of officers and men selected. Lieut. Sulivan,



REPAIRING BOAT.



DISTANT CORDILLERA OF THE ANDES.



C. Martens. T. Landseer

BEAGLE LAID ASHORE, RIVER SANTA CRUZ.

Published by Henry Colburn, Great Marlborough Street 1838.

having to take charge of the ship during our absence, could not go; neither could Mr. Stewart, or Mr. King, who were required to attend to duties on board; but Mr. Darwin, Mr. Chaffers, Mr. Stokes, Mr. Bynoe, Mr. Mellersh, Mr. Martens, and eighteen seamen and marines prepared to accompany me.

Early on the 18th we left the Beagle, and with a favouring wind and flood tide sailed up the estuary, into which the river flows. This wide and turbid estuary receives a torrent which rushes through a confined opening into the ocean, during seven hours, and is opposed and driven back by the flood tide during about five hours of the twelve. On each side of both the estuary and river lie extensive plains of arid desert land: these plains are not, however, on the same level; for, on the northern bank the land is very little raised above the level of high spring tides; while, on the southern side of the river, high, perpendicular cliffs form a striking contrast: but after ascending these heights, by any of the ravines which intersect them, one finds a dead level expanse, similar in every respect to that on the northern shore. In the horizon, another 'steppe,' or parallel plain, at a higher elevation, is seen; which, at a distance, appears like a range of hills of equal height.

Excepting in the porphyry districts, all the eastern coasts of Patagonia, and the little of the interior which I have seen, seemed to me to be a similar succession of horizontal ranges of level land varying in height, intersected here and there by ravines and water-courses. There are, certainly, hills in many places which appear when one is passing at sea, or in the distance, conical, or at all events peaked; but even those hills are but the gable ends, as it were, of narrow horizontal ridges of land, higher than the surrounding country.

The cliffs on the south side of the river have a whitish appearance; and are similar to those on the outer coast, which were said by Sir John Narborough to resemble the coast of Kent. Their upper outline, when seen from a distance, is quite horizontal. Brownish yellow is the prevailing colour, lighter or darker, as the sun shines more, or becomes obscured. Here and there, in hollow places and ravines, a

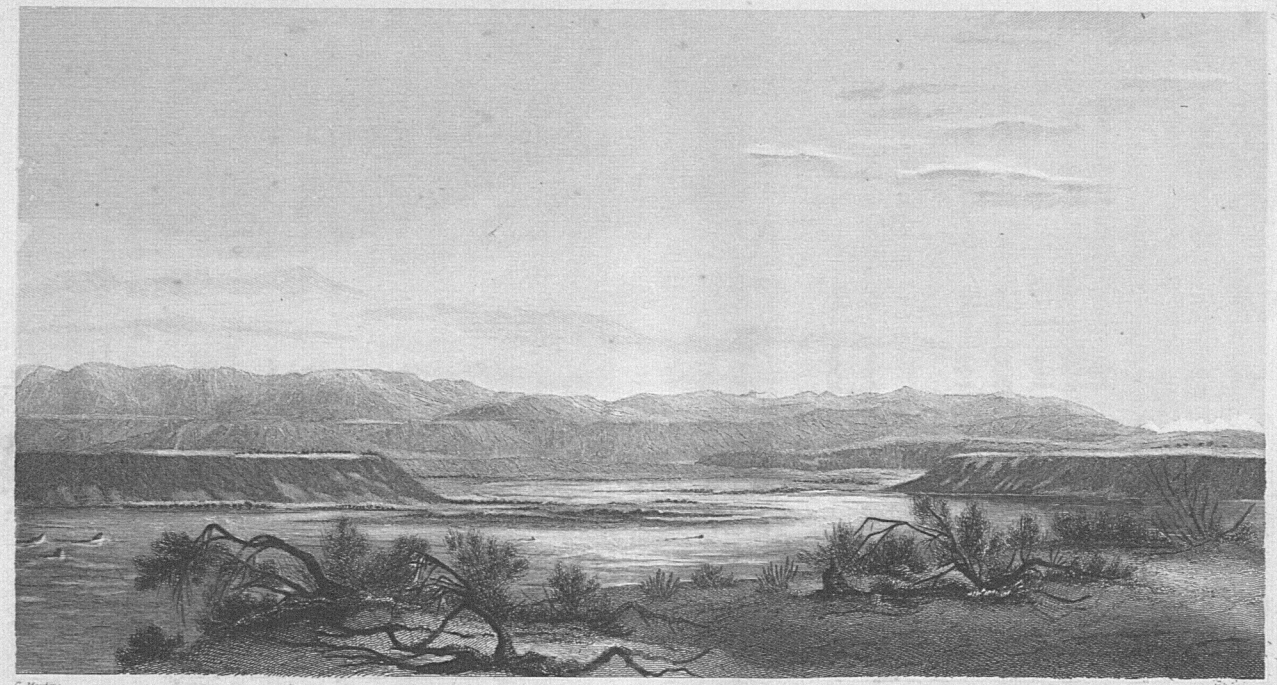
few shrubby bushes are seen. But over the wide desolation of the stony barren waste not a tree—not even a solitary 'ombu'*—can be discerned. Scattered herds of ever-wary guanacoes, startled at man's approach, neighing, stamping, and tossing their elegant heads; a few ostriches striding along in the distant horizon, and here and there a solitary condor soaring in the sky, are the only objects which attract the eye. Certainly, upon looking closely, some withered shrubs and a yellow kind of herbage may be discerned; and, in walking, thorns and prickles assure one painfully that the plain is not actually a desert: but I am quite sure that the general impression upon the mind is that of utter hopeless sterility. Is it not remarkable that water-worn shingle stones, and diluvial accumulations, compose the greater portion of these plains? On how vast a scale, and of what duration must have been the action of those waters which smoothed the shingle stones now buried in the deserts of Patagonia.

Fresh water is seldom found in these wastes; salinas† are numerous. The climate is delightful to the bodily sensations; but for productions of the earth, it is almost as bad as any, except that of the Arabian, or African deserts. Rain is seldom known during three quarters of the year; and even in the three winter months, when it may be expected, but little falls excepting on rare occasions, when it comes down heavily for two or three days in succession. Sea winds sometimes bring small misty rain for a few hours, at any time of year, but not enough to do good to vegetable productions. The only animals which abound are guanacoes, and they care little for fresh water, for they have often been seen drinking at the salinas. The puma probably quenches its thirst in their blood; of other animals, supposed to require much liquid, there are none in these regions.

The climate is healthy and pleasant; generally a bright, sunny day is succeeded by a cloudless and extremely clear night. In

* A kind of elder, growing here and there in Patagonia and the Pampas. See page 93.

† Salt depositions or incrustations.



C. Martens S. Bull

SANTA CRUZ RIVER, AND DISTANT VIEW OF THE ANDES.

Published by Henry Colburn, Great Marlborough Street. 1836

summer the heat is scorching, but not sultry; and in winter, though the weather is sometimes searchingly cold, especially during southerly winds, the air is always elastic and wholesome. Changes of wind are sudden, and cause rapid, though not very great, variations of temperature. Sometimes the sky is slightly or partially overcast, occasionally clouded heavily; but on most days there is bright sunshine, and a fresh or strong westerly wind.

The confluence of a continental torrent of fresh water, with great tides of the ocean, which here rise forty feet perpendicularly, has embarrassed the mouth of the Santa Cruz with a number of banks. They are all composed of shingle and mud, and alter their forms and positions when affected by river-floods, or by the heavy seas caused by south-east gales.

Into the entrance of the Santa Cruz, the flood-tide sets about four knots an hour; one may say, from two to five knots, according to the time of tide, and the narrower or broader part of the opening; and outwards, the water rushes at least six knots on an average in mid-channel. There are places in which at times, when acted upon by wind or unusual floods, it runs with a velocity of not less than seven or eight knots an hour—perhaps even more; but near either shore, and in bights between projecting points, of course the strength of the outward as well as inward current is very inferior.

In such a bight, almost under some high cliffs on the southern shore, the Beagle was moored, and it is easy to conceive the different views presented in this situation, with forty feet change in the level of the water. At high water, a noble river, unimpeded, moves quietly, or is scarcely in motion: at other times, a rushing torrent struggles amongst numerous banks, whose dark colour and dismal appearance add to the effect of the turbid yellow water, and naked-looking, black, muddy shores.

The boats sailed on between some of the banks, with a fresh southerly wind, disturbing every where immense flights of sea-birds. Now and then a monstrous sea-lion lifted his unwieldy bulk a few inches from the stony bank, lazily looked

around, and with a snort and a growl, threw his huge shapelessness, by a floundering waddle, towards the nearest water.

As far as Weddell's Bluff* we sailed merrily; but there took to the oars, because the river makes a sudden turn, or rather, the river Santa Cruz (properly so called), enters the estuary of the same name from the south-west, as far as can be seen from Weddell's Bluff:—but a little beyond where the eye reaches, it takes a westerly direction. Another river, the Chico of Viedma, also enters the estuary at this place from the north-west. Here, a little above the Bluff, the water was fresh on the surface, and sometimes it is quite fresh, even into the estuary; but in filling casks, or dipping any thing into the stream for fresh water, it is advisable not to dip deep, or to let the hose (if one is used), go many inches below the surface, since it often happens that the upper water is quite fresh, while that underneath is salt. This occurs, more or less, in all rivers which empty themselves into the sea: the fresh water, specifically lighter, is always uppermost.

Wind failing us entirely, we pulled to the south-west. On our left, high cliffs still continued, and at their base a wide shingle beach offered tempting landing-places, with many spots extremely well adapted for laying a vessel ashore, to be repaired or cleaned; on our right, a low shore extended, rising gradually, however, in the north-west, † to cliffs like those near Keel Point.

The flowing tide favoured us until about five, when we landed on the north shore, at a spot where the rise and fall of the tide had diminished to four feet. Here the river was six hundred and forty yards in breadth, running down at the rate of about six knots during a part of the ebb, and from two to four knots an hour during the greater part of the flood-tide. It was perfectly fresh to the bottom, and in mid-channel about three fathoms deep; but this depth extended very little way

* Named after the enterprizing southern navigator.

† On the south side of the north-west arm of the Santa Cruz.

across, the deep channel being extremely narrow, not more than twenty yards in width.

The distinct difference between the opposite banks of the river had been diminishing, until at this spot* both sides were much alike. We had left the cliffs and salt water, and had fairly entered the fresh-water river. Instead of having a wide extent of dismal-looking banks and dark-coloured muddy shores, we were at the side of a rapid stream, unvarying in width, on whose banks shrubs and grass agreeably relieved our eyes from muddy shingle covered with hosts of crabs.

Our first night passed well, for there were plenty of bushes to supply us with fire-wood. Early next morning, some of the party went upon the nearest hills to look for guanacoes, when they saw that although the surface of the country appeared to an observer near the river to be irregular and hilly, upon ascending the heights it became apparent that the stream ran in a large valley; that the general character of the country was similar to what I have already described, and that those which had appeared to be hills were the terminating sides of extensive plains, whose level was about three hundred feet above the river. Near the fresh water, shrubs, bushes, and grass were not scarce; but every where on the higher ground a sterile, stony waste met the eye. Mr. Stokes† and I went on the heights, to obtain a view of the river; and for a considerable distance we could trace its windings, but were sorry to see a great number of small islands, thickly covered with brushwood, which seemed likely to impede our progress if obliged to track‡ the boats.

The southerly wind blew keenly over the high land, and the surface of the ground was frozen hard; but the air was healthily fresh and bracing. Where, indeed, could it be purer than on these dry hills? At first setting out we tried the oars, but very soon found them unable to contend with the

* The northern bight, or cove, a few miles north-eastward of Islet Reach.

† It was his office to make a map of the country we passed through.

‡ Pull, or tow them along by a rope.

strength of the stream; so landing all our party, except two in each boat, we made the boats fast to one another, at a few yards apart, in a line a-head: and then taking the end of a coil of whale-line ashore, half our party fixed themselves to it by laniards of broad canvas straps, which passed across their breasts and over one shoulder, and walked together steadily along the river's bank. The bight of the line was passed round a stout mast, stepped in the headmost boat and attended by the two men, who veered away or shortened in the line as the varying width of the stream, or frequent impediments rendered necessary. In this manner, one-half of our party relieving the other about once an hour, every one willingly taking his turn at the track rope,* we made steady progress against the stream of the river, which rather increased in rapidity as we ascended, until its usual velocity was between six and seven knots an hour. While among the islands which I mentioned tracking was difficult and tedious, many were the thorny bushes through which one half of the party on the rope dragged their companions. Once in motion no mercy was shewn: if the leading man could pass, all the rest were bound to follow. Many were the duckings, and not trifling the wear and tear of clothes, shoes, and skin. At intervals stoppages were made for refreshment and observations.

Three chronometers were carried in the boats, with other necessary instruments: among them two mountain barometers, with which Mr. Darwin and myself wished to measure the height of the river above the level of the sea, and the heights of the neighbouring ranges of hills above the level of the river. This afternoon we picked up a boat-hook upon the south bank of the river, which was immediately recognized to be one which had been left by accident sticking in a mud-bank, by the party who accompanied Captain Stokes in his excursion up this river in the year 1827.

It was very cold at our bivouac this night, being a sharp

* Mr. Stokes alone being excepted, as his duty required continual attention.

frost: and while observing the moon's meridian altitude, dew was deposited so fast upon the roof of the artificial horizon, and froze there so quickly as it fell, that I could hardly make the observation. My sextant was injured a little by the frost, for not having been used before in very cold weather, the brass contracted so much as to injure the silvering at the back of the index glass, and slightly change the index error.

In the morning it was so cold that our usual ablutions were shunned, and all were anxious to have the first spell at the rope in order to warm themselves, though few had slept many minutes, and many had hard work the previous day. The thermometer was at 22° Fahr.—nothing,—indeed warm weather to Polar voyagers, but to us, accustomed to temperate climates, it appeared a severe degree of cold.

20th. As we were going along the bank of the river, which to our great benefit was becoming more accessible and clearer of bushes, we saw some dark coloured animals crossing the stream at a distance, but no one could guess what they were until the foremost of them reached the shore, and rising upon his stilt-like legs, showed himself to be an ostrich. Six or seven of these birds were swimming across: till then I had no idea that so long-legged a bird, not web-footed, would, of its own accord, take to the water and cross a rapid stream: this, however, was a certain proof to the contrary, for nothing had disturbed them that we could discern. As far as we could tell, at so great a distance, they seemed to be of the kind which the Spanish-patagonians call 'Avestruz-petis.' They were, however, far too wild to be approached with a gun. We saw smoke at a distance and anticipated meeting Indians, in the course of our next day's journey. The country around continued similar to that already described: but islands no longer impeded our progress, though some high cliffy banks gave us trouble. At the next place where we passed a night, Mr. Darwin tried to catch fish with a casting net, but without success; so strong a stream being much against successful fishing. A very sharp frost again this night. The net and other things, which

had occupied but little room in the boat, were frozen so hard as to become unmanageable and very difficult to stow.

21st. We proceeded as usual, dragging the boats up the stream (or rather torrent, for it never ran less than six knots, and in many places more) at the rate of about two miles an hour: and as we were approaching near to the smoke, we chose our position for the night, rather more cautiously than usual, upon a little peninsula.

22d. We had not advanced a mile this morning, when fresh tracks of Indians, on horseback, trailing their long lances, aroused our utmost vigilance. We thought they had been reconnoitring our party, at day-light, and perhaps such was the case. The smoke of their fires was seen behind the nearest range of low hills, on our side of the river, being then on the north bank, but the boats had been tracking on either side, as better ground for walking was found. Proceeding on, a dead animal was found in the water, which proved to be a guanaco; how it came by its death did not appear, as it showed no external wound, but some of our party, hungrier or less squeamish than the rest, immediately proposed dividing and eating it; and hunger carried the day: the dead animal was hauled on shore, cut to pieces, and distributed. The guanaco steaks were much relished by all except two or three, who could not conquer their antipathy to supposed carrion. Our meal was eaten close to the place where we thought a tribe of Indians was encamped: and, in consequence, our arms were kept in readiness, and a careful watch set. Afterwards cautiously proceeding, we arrived at the spot whence the smoke had issued, but saw no human beings: though marks of very recent fire, and numerous tracks of feet upon a soft muddy place at the side of the river, showed that a party of Indians had lately crossed over, and a smoke rising at some distance on the southern shore, pointed out where they were gone. At this spot there was about an acre of good pasture land, by the water side: and the breadth of the river itself was something less than usual, reasons which had induced the na-

tives to select it as a crossing place.* To pass a river running at the rate of six or seven miles an hour, and about two hundred yards in width, can be no easy task to women and children. But as we saw many prints of very small feet on the muddy bank, both women and children must have crossed at this place with the men. How did they get over? there is no wood, neither are there rushes with which they might make balsas.† Perhaps some of the women and children were put into rough, coracle-like boats, made of hides,‡ and towed across by the horses, holding by whose tails the men swam and perhaps many of the women. This method of holding by the tail, while swimming, is said to be better than resting a hand upon the horse's neck and holding by the mane. None of the Indians sit upon their horses while swimming.

This day (22d) we passed two places which we considered rapids, the stream of the river ran so violently, and we had so much difficulty in passing, even with all hands upon the rope. Besides the strength of the stream we had to contend against high cliffs, over whose upper edges it was difficult to convey the tow-line: yet we made good about twelve miles in the day. The night of the 22d was not so cold as the preceding, but we always found the nights wintry though the days were warm, so much so, indeed, that we were often annoyed by the heat of the sun. So winding was the course of the river that we certainly walked double the distance which was advanced in a direct line: yet very little of interest, as a picturesque subject, had been seen; for no country excepting a desert could wear a more triste and unvarying appearance.

Immense accumulations of shingle, rounded stones, imbedded, as before mentioned, in diluvial deposition, form the level plain, or valley, through which the river pursues its very winding course. The width of this vale varies from one mile to five miles, and the level of the shingle plain is from

* Marked 'Indian Pass' on the plan. † Floats or rafts.

‡ "Me envió tres indios nadadores, provisto de cueros y palos para formar una pelota." (Diario de Viedma, p. 58.)

three hundred to one thousand feet below that of the adjacent higher, but still horizontal ranges—whose broken-down ends, or sides, form the boundaries of the valley through which the river flows. Those of the higher ranges look like hills when one is in the valley, and it is not until after ascending to their summits that their real nature is seen; when, instead of being inclined to consider those heights as hills, one becomes disposed to think the valley of the river a vast excavation, cut down below the level of the neighbouring country. But on the height, or in the valley, all is an unprofitable waste. Scarcely, indeed, could we find bushes enough, even near the river, to make our nightly fires, after the third day's journey. The wiry, half-withered grass upon which the guanacoes feed is so scanty, that they are obliged to wander over much ground in search of their food. Those few stunted bushy trees which are found here and there, near the river, are a kind of thorn trees, the wood of which is extremely hard and durable.* The night of the 22d we passed by the side of a little cove, which sheltered the boats from the strength of the stream: and, as all hands were tired, we rested during the morning of the following day.

After noon (23d) we went on, and at dark stopped on the south shore. Scarcity of fuel and a cold night, made it necessary to take good care of the wood when cut. There may be honour among thieves, but there was little to be found during a cold night among our party, for the fire of those who happened to be on watch was sure to blaze cheerily, at the expense of the sleepers. A little incident occurred here very unimportant certainly to those unconcerned, yet of much consequence to us: we left our stock of salt behind, and a spade, which latter was much wanted for earthing up the sides of our tents, to keep out the cold wind.

24th. I noticed more than usual a curious effect of the river water being so much warmer than the air over it.† At

* A guanaco was shot this day by the running fire of several guns. He was soon cut up and stowed in the boats.

† The temperature of the air being 30°, that of the water 46°.

daybreak, and until after sunrise, the river was smoking, quite as if it were boiling. This day we passed some earthy cliffs between two and three hundred feet in height, and where they came in our way it was extremely difficult to manage the boats and tow-lines; but by veering out at those times a great length of rope, our object was accomplished without any disaster. Near these cliffs the valley of the river begins to contract and become more irregular, and the sides or breaking down of the higher ranges become more abrupt and are nearer to the river. In most places we found a cliffy side opposite to a low projecting point of shingle, but in some spots that we passed both sides were high, and we had no choice on which to take the tow-line. The difference, also, between the level of the higher ranges and that of the river, was observed to be much increased.

On this day (25th) our best shots succeeded in killing two guanacoes, but they died out of our reach, and probably became food for pumas, instead of man. The order of our march was usually one or two riflemen in advance, as scouts —Mr. Darwin, and occasionally Mr. Stokes, or Mr. Bynoe, upon the heights—a party walking along the banks, near the boats, ready to relieve or assist in tracking, and the eight or ten men who were dragging the three boats along at the rate of about two miles an hour over the ground, though full eight knots through the water. Difficult places to pass—delays caused by embarking and disembarking frequently to change banks, and avoid impediments—the necessary observations, rest, and meals, occupied so much time that we did not average more than twelve miles in one day: and even that small distance was not accomplished without making both shoulders and feet sore.

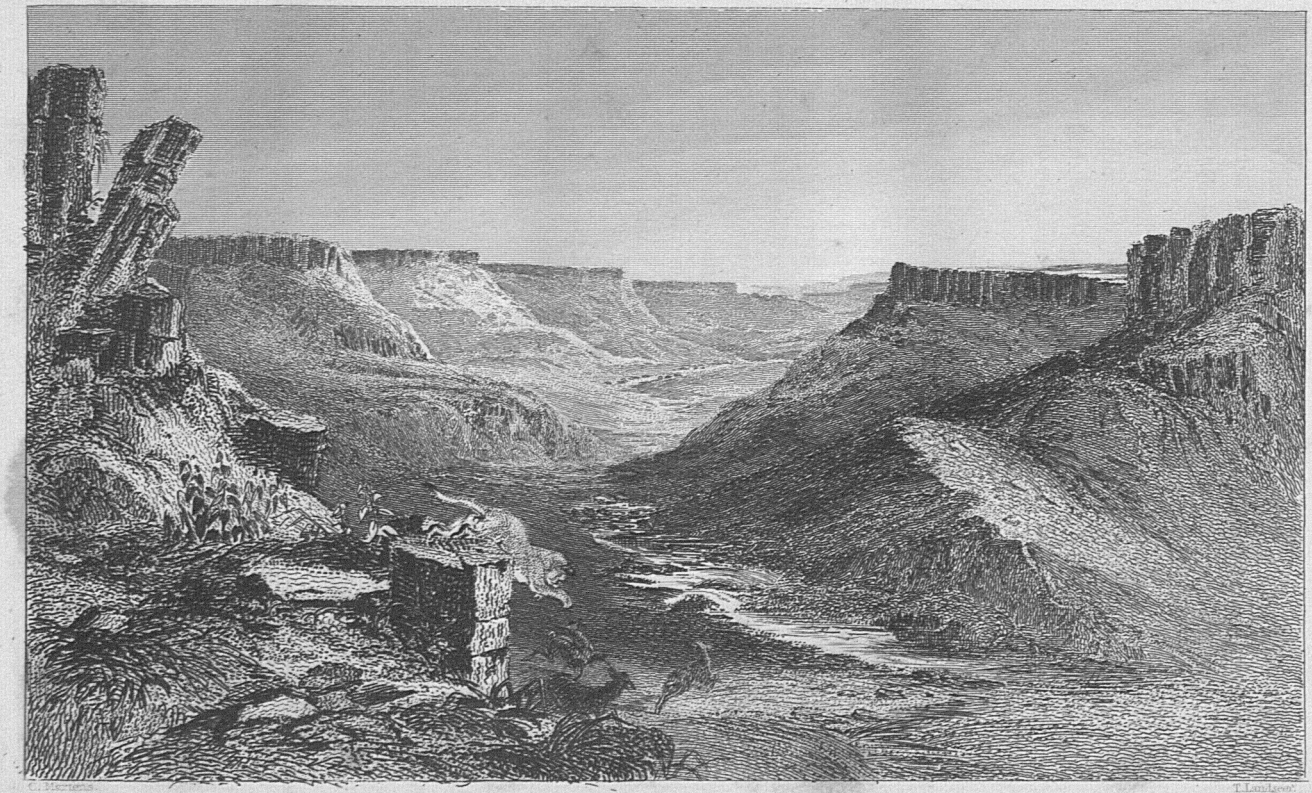
26th. In the distance some very level topped, dark looking cliffs, were seen at the summits of elevated ranges, which Mr. Darwin thought must have a capping or coating of lava. Of course we were very anxious to verify a fact so curious, and at noon were quite satisfied that it was so, having approached to the foot of a height thus capped, whose frag-

ments had in falling not only scattered themselves over the adjacent plain, but into the bed of the river, in such a manner as to make the passage exceedingly dangerous; because large angular masses, in some places showing above the stream in others hidden beneath, but so near the surface that the water eddied and swelled over them, menaced destruction to the boats as they were with difficulty dragged through the eddying rapid; sometimes the rope caught under or around one of those masses, and caused much trouble. Near the spot where we stopped at noon there is a glen, quite different in character from any place we had passed.* Indeed, upon entering the lava district, or that part of the country over which lava formerly flowed, there was no longer a Patagonian aspect around. Steep precipices, narrow, winding vallies, abundance of huge angular fragments of lava, a more rapid and narrower river, and plains of solid lava overlying the whole surface of the country, make this district even worse in its appearance than the eastern coast of Patagonia. Excepting in an occasional ravine nothing grows. Horses could not travel far, the ground being like rough iron; and water, excepting that of the river and its tributary in Basalt Glen, is very scarce.

The glen above mentioned is a wild looking ravine, bounded by black lava cliffs. A stream of excellent water winds through it amongst the long grass, and a kind of jungle at the bottom. Lions or rather pumas shelter in it, as the recently torn remains of guanacoes showed us. Condors inhabit the basaltic cliffs. Near the river some imperfect columns of basalt give to a remarkable rocky height, the semblance of an old castle. Altogether it is a scene of wild loneliness quite fit to be the breeding place of lions.†

No signs of human visitors were discovered: indeed, the nature of the country must almost prevent horsemen from traversing these regions, there is so little food and such bad ground: only in glens or ravines such as this can any grass or bushes be found. Guanacoes absolutely swarm upon the

* 'Basalt Glen.' † "Leonum arida nutrix."



C. J. Mertens T. Landseer

BASALT GLEN — RIVER SANTA CRUZ.

Published by Henry Colburn, Great Marlborough Street, 1838.

heights, a consequence probably of their being undisturbed. They spread over the face of the high country like immense flocks of sheep.

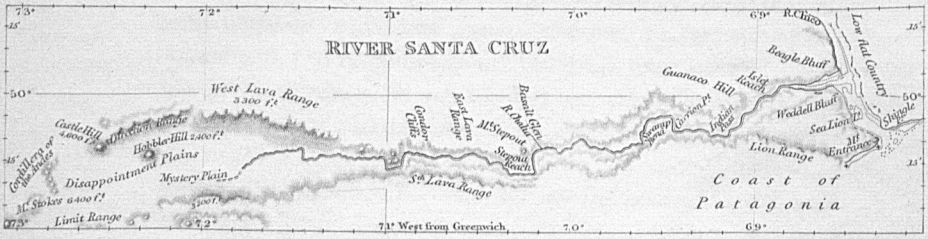
During a long walk this evening Mr. Stokes and I were repeatedly disappointed by the mirage over an extensive stony plain, between two bends of the river. We were tired and very thirsty, and went from one apparent piece of water to another, only to be tantalized and to increase still more our dilemma.

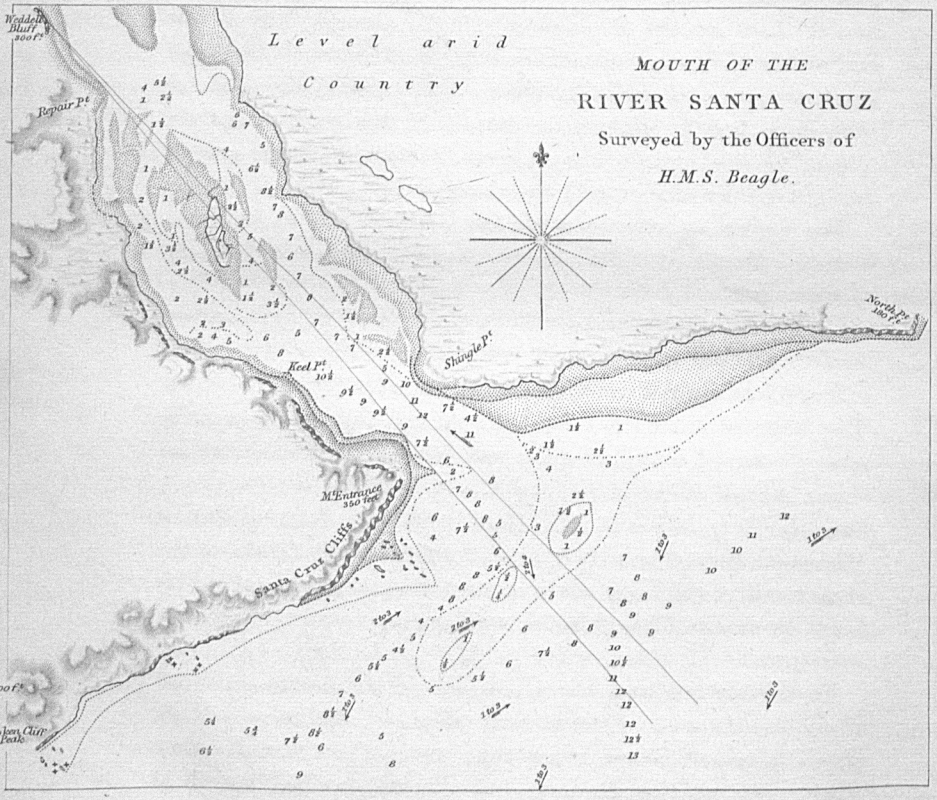
27th. Similar country. On the banks of the river some drift wood was found; the trunks of trees of considerable size. Small trees had been found lying by the side of the river, from time to time, but none so large as these, some of which were almost two feet in diameter, and about thirty feet in length. The wood appeared to be 'Sauci,' of the red kind. That these trees had been drifted from a great distance was evident, because they were much water worn.

28th. In passing a rapid, whose difficulties were much increased by rugged blocks of lava lying in the bed of the river, one of our boats was badly stove and barely rescued from sinking in the middle of the stream: fortunately we got her on shore and there patched her up. There was still no change in the scenery, nor any signs of inhabitants: and our work was as monotonous as heavy.

29th. While upon a high range of lava-capped land, Mr. Stokes and Mr. Darwin descried distant mountains in the west, covered with snow. At last, then, the Andes were in sight! This was inspiriting intelligence to the whole party; for small had been our daily progress, though continual and severe the labour. The river increased in rapidity, while but little diminution had taken place in the quantity of water brought down: the breadth was rather less, certainly, but the depth in most places greater. No fish had yet been caught; indeed, only two had been seen, and those seemed to be like trout.

30th. The snowy summits of the distant Cordillera were more distinctly seen from the heights, near the river, that rise





Port Santa Cruz (*Keel Point*) Lat. 50°. 6'. 45 S.
Long. 68. 24. 0. W.
Var. 20. 54. E.
H.W. H. M. 9. 45.
Spring Rise 42 feet.
Neap Rise 18.
Strength of tide 3 to 6 Knots.

Scale, Half an Inch = one Mile.

Published by Henry Colburn, Great Marlborough Street. 1839.

to the deception caused by high land on each side. Some of the views are certainly striking, and, from their locality, interesting; I could not, however, have believed that the banks of any large fresh water river could be so destitute of wood, or verdure of any kind, or so little frequented by man, beast,* bird, or fish.

May 1st. The weather was invariably fine during the earlier part of our journey; but this day it began to change, and two or three gloomy clouded days were succeeded by a few hours only of small rain, and by some strong wind. This night (1st) we slept at the foot of heights whose summits were covered with snow, but the temperature was many degrees warmer than that of the first nights, when it froze so sharply. There was no particular frost after the 21st of April.

We had great difficulty with the boats on the 2d, the river being contracted in width, without any diminution of the body of water pouring down.

On the 3d, we found a more open country, the lava-capped heights receding gradually on each side, leaving a vale of flat, and apparently good land, from five to fifteen miles in extent. The width of the river increased; on its banks were swampy spaces, covered with herbage; and low earthy cliffs, without either shingle or lava, in some places bounded the river. A little further, however, the usual arid and stony plains of Patagonia were again seen, extending from the banks of the river to ranges of hills, about fourteen hundred feet above its level, on which the horizontal lava-capping could be distinctly discerned.

In the distant west the Cordillera of the Andes stretched along the horizon. During three days, we had advanced towards those far distant mountains, seeing them at times very distinctly; yet this morning our distance seemed nearly as great as on the day we first saw their snow-covered summits. A long day's work carried us beyond the flat and into the rising country, whose barren appearance I just now mentioned.

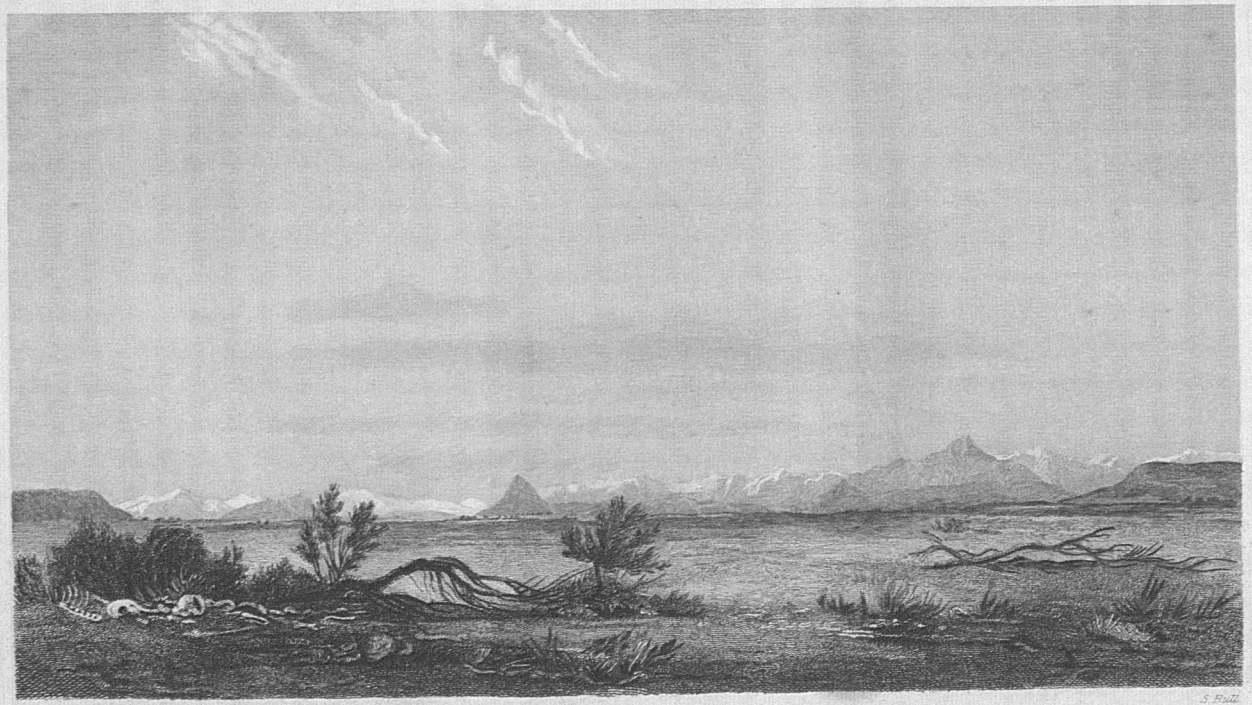
* Excepting guanacoes.

We were all very tired of the monotonous scene, as well as of the labour of hauling the boats along.

4th. Our provisions being almost exhausted, and the river as large as it was beyond the lava country, our allotted time being out, and every one weary and foot-sore, I decided upon walking overland to the westward, as far as we could go in one day, and then setting out on our return to the Beagle. I was the more inclined to this step, because the river here made a southerly bend, to follow which would have required at least a day, without making much westing, and because I thought that some of our party might walk in that time at least twice as far as they could track the boats, and then return before night. To have followed the course of the river two days longer, we should have needed all the small remainder of our provisions, and probably without being enabled to see further than we might by one day's walk directly westward. Leaving those who were the most tired to take care of the boats, a party set out early, in light marching order. A large plain lay before us, over which shrubs, very small trees, and bushes were sparingly scattered; yet parts of this plain might be called fertile and woody, by comparison with the tracts between us and the eastern sea-coast.

At noon we halted on a rising ground, made observations for time, latitude, and bearing; rested and eat our meal; on a spot which we found to be only sixty miles from the nearest water of the Pacific Ocean. The Cordillera of the Andes extended along the western side of our view; the weather was very clear, enabling us to discern snow-covered mountains far in the north, and also a long way southward; hence much of the range was visible, but of the river we could discern nothing. Only from the form of the land could we conclude that at the end of the southerly reach I have mentioned, the direction of the river is nearly east and west for a few miles, and that then it may turn northward, or rather come from the north along the base of the Cordillera.

There are many reasons for inducing one to suppose that it comes not only from the north, but from a considerable dis-



C. Martens S. Bull

CORDILLERA OF THE ANDES, AS SEEN FROM MYSTERY PLAIN, NEAR THE SANTA CRUZ.

Published by Henry Colburn, Great Marlborough Street. 1838.

tance northward. At the place where we ceased to ascend the stream, the Santa Cruz was almost as large as at the places where we passed the first and second nights near the estuary. The velocity of the current was still at least six knots an hour; though the depth remained undiminished. The temperature of the water was 45°, while that of the air was seldom so high, even in the day-time, and at night was usually below the freezing point. Trees, or rather the trunks of trees, were found lying upon the banks, whose water-worn appearance indicated that they had been carried far by the stream. The water was very free from sediment, though of a whitish blue colour, which induces me to suppose that it has been chiefly produced by melted snow, or that it has passed through lakes in which the sediment it might have brought so far was deposited. If filled from the waters of the nearer mountains only, its temperature would surely be lower, approaching that of melted snow: it would also, in all probability, bring much sediment, and would therefore be muddier, and less pure in colour.

When one considers how large an extent of country there is between the River Negro and the Strait of Magalhaens, and that through that extensive region only one river of magnitude flows, it may be difficult to account for the manner in which the drainage of the eastern side of the great Cordillera is carried off, or where the melted snow and occasional heavy rains disappear.

The Gallegos is small, though it runs into a large estuary. The Chupat river is very small: that at Port Desire is scarcely more than a brook. At times, it is true, these smaller rivers are flooded, but their floods (added to their usual streams) seem unequal to carrying off the continual drainage of the Andes. South of the Negro only the Santa Cruz flows with a full and strong stream throughout the whole year, and my idea is that the sources of the river Santa Cruz are not far from those of the southern branch of the Negro, near the forty-fifth degree of latitude; and that it runs at the foot of the Andes, southward, through several lakes, until it turns to the eastward in the parallel of fifty degrees.

In Viedma's Diary I find that he heard from the Indians at Port San Julian (in 1782) that the river Santa Cruz flowed from a large lake near the Cordillera of the Andes, and that there was abundance of wood on its banks. In consequence of this information, he went, in November, with a party of Spaniards and Indians on horseback, to explore this lake. In his way, Viedma crossed the river Chico, which flows into the estuary of the Santa Cruz, just above Weddell Bluff. The Chico, though small at times and then fordable, was subject, the Indians said, to great floods in the spring, when the melting snows of the Cordillera over-filled a lake, far in the north-west, whence this river ran. Afterwards, Viedma crossed the river Chalia, which they told him rose in another lake near the Cordillera, was likewise subject to floods, and emptied itself into the Santa Cruz: when he passed, it was only up to the horses' knees (after searching many leagues, however, for a ford), but at his return it was deeper. This Chalia can be no other than the stream which flows through Basalt Glen, a mere brook when we saw it in the dryest season of the year. Viedma reached the lake,* and found every thing correspond to the description; for it was deep and large, surrounded by snow-covered mountains, on which were many forests.

Some persons have doubted whether there is ever much drainage to be carried off from the eastern side of the Andes, between the parallels of forty and fifty; but if they will take the trouble to read Viedma's Diary, and some other notices to be found in the work of Don Pedro de Angelis, I think they will be convinced that there is always a considerable drainage, and that at times there are heavy floods to be carried off.†

* Called Capar, or Viedma. MS. Chart.

† As one proof of this assertion, I may quote a passage from Viedma:—"Reconocido pues todo" (all that there was to see in the neighbourhood of the lake whence the Santa Cruz flowed), "nos expusó el Indio Patricio nos debiamos apartar luego de aquí, porque con los vientos fuertes, y el sol, solia derretirse tanta nieve que era imposible vadear los arroyos para regresar, y tendriamos que pasar el verano en aquel pasage hasta que las heladas empezasen."—(Diario de Viedma, p. 57.)

Reference to the accompanying plan will shew our position when we halted, and I decided to return, not having explored, I should think, more than one-third of its course. At that place the level of the river was found to be four hundred feet higher than that of the sea at the entrance; and as the distance is about two hundred miles,* the average descent or fall of the water must be near two feet in a mile, which, I apprehend, is unusually great. I could not, indeed, believe that the computation and data were correct, until after repeated examination.† Two barometers were used at the river-side, and a very good one was carefully watched on board the Beagle.‡ Certainly, the rapid descent of the river, in many places, was such, that even to the eye it appeared to be running down-hill; and this remark was often made in the course of our journey.

Two days before we reached our westernmost point, many traces of an old Indian encampment were seen; but excepting at that place and at the spot which we passed on the 22d, no signs of inhabitants were any where found. Scarcity of pasture, and the badness of the ground for their horses' feet, must deter Indians from remaining in this neighbourhood; but that they frequently cross the river, when travelling, is well known.

The quantities of bones heaped together, or scattered near the river, in so many places which we passed, excited conjectures as to what had collected them. Do guanacoes approach the river to drink when they are dying? or are the bones remains of animals eaten by lions or by Indians? or are they washed together by floods? Certain it is they are remarkably numerous near the banks of the river; but not so elsewhere.

I can hardly think that the guanaco is often allowed to die a natural death; for pumas are always on the alert to seize invalid stragglers from the herd. At night the guanacoes choose the clearest places for sleeping, lying down together like sheep; and in the day they avoid thickets, and all such places as might

* Following the course of the river.

† The data will be found in the Appendix. ‡ At the level of the sea.

shelter their ever-watchful enemy. Condors, also, and fierce little wild cats* help to prevent too great an increase of this beautiful, inoffensive, and useful animal.

Late on the 4th we returned to our tents, thoroughly tired by a daily succession of hard work, and long walks. At this bivouac we were about one hundred and forty miles, in a straight line, from the estuary of Santa Cruz, or from Weddell Bluff; and about two hundred and forty-five miles distant by the course of the river. Our station at noon on the 4th, was eight miles in a straight line farther westward, and about thirty miles from the Cordillera of the Andes. The height of those mountains was from five to seven thousand feet above our level, by angular measurement with a theodolite. Early on the 5th we began the rapid descent. Sometimes the wind favoured, and we passed the land at the rate of ten knots an hour; sometimes dangerous places obliged us to turn the boat's head to the stream, pull against it, and so drop down between the rocks. Though easy, the return was far more dangerous than our ascent of the river.

5th. Our first day's work in returning was a distance of eighty-five miles, which had cost us six days hard labour in ascending. Next day we made good about eighty-two miles; and on the 7th we reached the salt water. Although we made such quick progress in returning, our halts for observations were similar to those made in going. While descending the rapid stream, so quickly and quietly, we saw many more guanacoes and ostriches than we had seen before; but our flying shots only frightened them, and time was too precious to admit of any delay. Only one fish was got, and that was a dead one, which had been left on the bank: it was similar to a trout. Not more than half a dozen live fish were seen, and none could be caught either with hooks or nets. Leaving a very small party near Weddell Bluff to look for guanacoes, I hastened on board with the boats; and with the ebb tide reached the Beagle before noon on the 8th. The ship being ready for sea, except-

* Though the wild cat could not injure a full-grown animal, it might destroy a young one with great ease.

ing a ton or two of fresh water, the yawl and cutter were dispatched to get it and bring on board the shooting party. During my absence satisfactory observations on the tides had been made, which showed that the neap tides rise about eighteen feet, and the springs from thirty-eight to forty-two feet. One day when walking through a woody ravine, not far from the anchorage, Mr. Stewart saw a puma lying under a bush, glaring at him: taking a steady aim, he fired, and laid the animal dead. It was a very large one; and the skin is now in the British Museum. The moment of thus looking a lion in the face, while taking aim, at only a few yards distance, must be somewhat trying to the nerves, I should imagine. A beautiful wild cat was also added to our collections, besides condors and foxes.

9th. The boats, and shooting party, arrived with water and two guanacoes. As the sportsmen were returning with their burthens on the preceding evening, darkness overtook them while yet distant from their tent; and they were soon made uncomfortably* conscious that an enemy was at hand, for the strong and peculiar smell of a lion warned them that one was near. They trudged on with their cargoes, talking to one another; but the scent was still strong until they approached the fire, which had been kept up by their companion, when it ceased entirely. Such a weight as a lion's, added suddenly to that of a guanaco, would have been rather distressing.

We were detained for a day or two by an overcast sky, which prevented my obtaining equal altitudes; but on the 12th the Beagle left the Santa Cruz, and stood towards the alleged place of the shoal, or rock, called 'Aigle,' not far from the westernmost of the Falkland Islands. No such danger, nor any sign of shallow water being found, but, on the contrary, no bottom with one hundred fathoms of line, we steered towards Magalhaens Strait, and on the 18th anchored off Cape Virgins. Next morning I landed on the Cape, taking Mr. Darwin and Mr. Stokes with me, and remained till after the noon observation, when, returning on board, the Beagle weighed and sailed to another station. From this time (till the 25th) we were busily em-

* Being only two in number.

ployed in sounding in the neighbourhood of Cape Virgins, Point Catherine, Lomas Bay, and Possession Bay.

On the 23d, at day-light, we saw the Adventure coming from the Falklands. After communicating with us, she went on to survey the portion of coast extending from Sweepstakes Foreland to Cape Monmouth; and we remained to complete our own task of sounding the banks about the First Narrow, and examining the south shore of St. Philip Bay. On the 3d of June both vessels were moored in Port Famine, preparing for their passage to San Carlos in Chilóe.

THE next chapter will take the Beagle into the Pacific by a route not hitherto used, except by sealing vessels: although it possesses many advantages over either the passage round Cape Horn, or that through the western reaches of the Strait of Magalhaens. Mr. Low is said to be the first discoverer of it, and he certainly was the first to pass through in a ship; but I think one of the Saxe Cobourg's boats had passed through it previously, and I much question whether Sir Francis Drake's shallop did not go by that opening into the Strait of Magalhaens in 1578.*

Before I finally leave Tierra del Fuego, a remark or two may here be made respecting the language of the natives. 'Pichi,' in the Huilliche or Araucanian language, means 'small' or 'a little,' and 're' signifies 'only,' 'but,' 'purely,' or 'simply.' Hence, Pecheray, always uttered in a begging, or whining tone, may have some such signification. In Beauchesne's voyage it is said, that the natives in the Eastern parts of Magalhaens Strait were called 'Laguedi-che,' and those westward, 'Haveguedi-che.'† These words are to me very interesting, because I suppose the first to be a corruption of Laque-che, which means, in Araucanian, 'People with balls' (bolas), and the second is not far removed from Huapi-gulu-che, which means 'people of mountainous islands heaped together,' terms respectively most appropriate for natives of eastern and western Tierra del Fuego.

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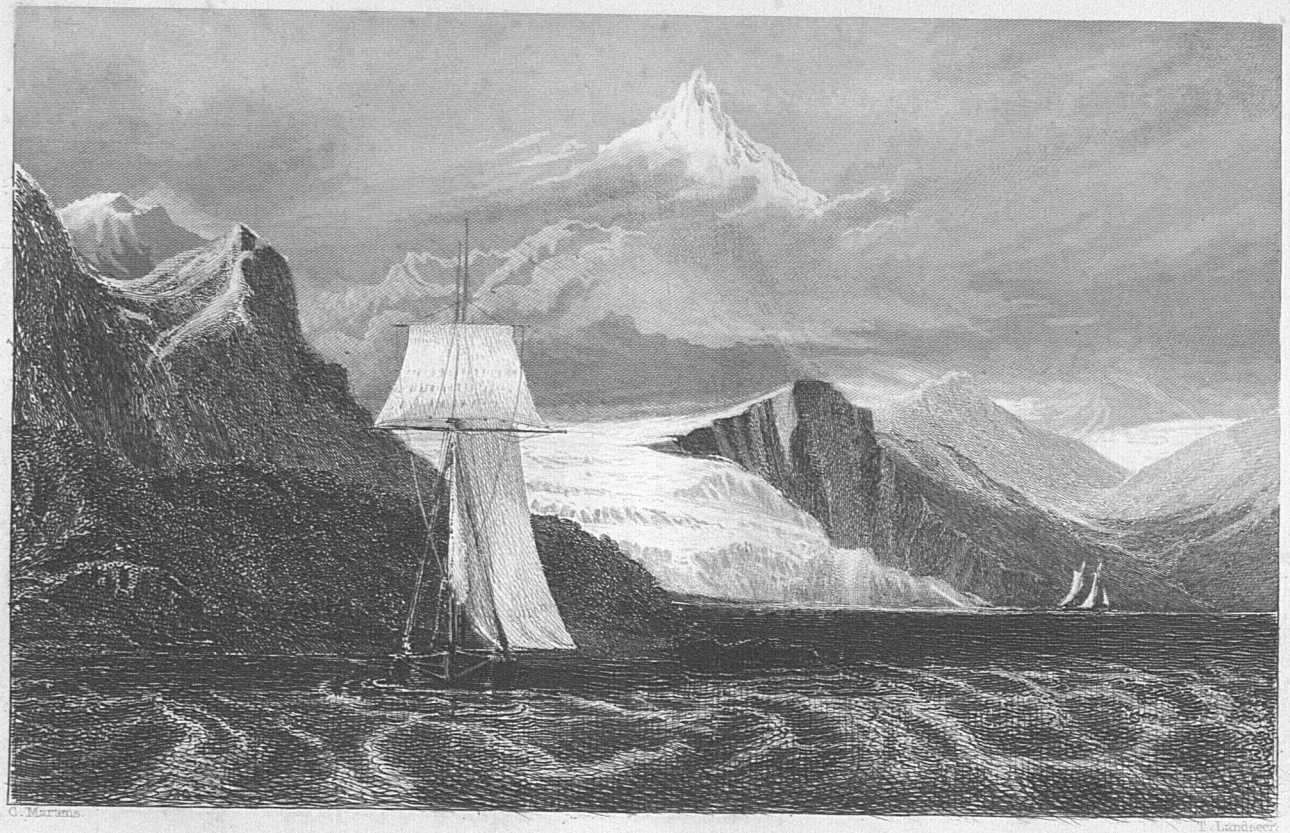
* See Burney, vol. i. p. 368 and p. 327, where he shows that Drake discovered Cape Horn, and anchored near it (in or near St. Martin Cove?) in 1578. Another early southern discovery is mentioned in vol. ii. p. 198, where it is stated that Dirck Gherritz discovered land in 64°. S. in 1599, (part of or near South Shetland?)

† Voyage of Beauchesne, in Burney's History, vol. iv. p. 378.



C. Martens. T. Landseer.

MOUNT SARMIENTO.

(FROM WARP BAY.)

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CHAPTER XVII.

Beagle and Adventure sail from Port Famine through Magdalen and Cockburn Channel — Enter Pacific—Death of Mr. Rowlett—Chilóe —Chile—Government—Adventure sold—Consequent changes—Plans —Mr. Low—Chonos—Lieut. Sulivan's party—Moraleda—Ladrilleros — De Vea — Sharp—San Andres—Vallenar—Mr. Stokes—San Estevan — Distressed sailors — Anna Pink Bay — Port Low—Potatoes— Indian names — Huafo — Volcano—Chilotes—Aborigines—Militia— Freebooters—Climate — Docks—Tides—Witchcraft — Alerse—Calbucanos—Cesares—Search for men—Meteors.

June 9th. Good equal altitudes having been obtained, after an interval of time sufficient for rating our chronometers,* we sailed from Port Famine, went down the Magdalen Channel, enjoying some fine scenery, among which Sarmiento was pre-eminent, and anchored in a cove under Cape Turn. The following day we beat to windward through the Cockburn Channel, and would have anchored at night had a safe place offered in time, but as the only cove near us at dusk was a very small one, I preferred leaving that unoccupied for the Adventure, and remaining under way in the Beagle. The night was long and very dark, small rain fell nearly all the time, and squalls from the westward were frequent. There were but four square miles in which it was safe to sail to and fro after dark, and for fourteen hours we traversed that area in every direction. It was necessary to keep under a reasonable press of sail part of the time, to hold our ground against the lee tide; but with the ebb we had often to bear up and run to leeward, when we got too near the islets westward of us. In a case of this kind a ship is so much more manageable while going through the water than she is while hove-to, and those on board are in general so much more on the alert than when the vessel herself seems half asleep, that I have always been an advocate for short tacks under manageable sail, so as to keep as much as possible near the same place, in preference to heaving-to and drifting.

* The Adventure had four chronometers.

When the day at last broke on the 11th, we saw the Adventure coming out to us from the cove where she had passed the night, and then both vessels sailed out of the Channel, past Mount Skyring and all the Furies, as fast as sails could urge them. At sunset we were near the Tower Rocks,* and with a fresh north-west wind stood out into the Pacific, with every inch of canvas set which we could carry.

On the 26th we were still together, in latitude 43° and longitude 75°, although gales had occasionally separated us for a few hours. After passing the latitude of 45° we had a succession of bad weather, and adverse (N.W.) winds. Trusting too much to our usual good fortune I had steered in too direct a line towards Chilóe, and in consequence all these north-west winds were against us. Had I shaped a course which would have taken us farther from the land, while we had the wind southward of west, we might have made a fair wind of these provoking north-westers, and arrived at Chilóe at least a week sooner. A few remarks upon the wind and weather, between the parallels of forty and forty-seven, off Chilóe and the Chonos Archipelago, will be found in the Appendix (No. 19).

On the 27th we witnessed the last moments of Mr. Rowlett's existence in this world. He had long been sinking under an internal complaint of which it was impossible to cure him, except by a vigorous and uniform mode of treatment to which he was not willing to conform until too late: but his illness had no relation whatever to the service in which he had been employed. He was much regretted by all of us, having been a kind, honourable friend. The following day we committed the body of our deceased companion to the seaman's grave, that "ever-changing and mysterious main." In the evening we were near the north-west end of Chilóe, and at midnight an anchor was let go in our former berth, off Point Arena. The Adventure arrived two days afterwards, her main-boom having broken in a heavy squall on the 27th, in consequence of which she got to leeward, and was prevented from sooner weathering the north end of the island. A supply of fresh provisions

* Not far from Cape Noir, on Noir Island.

and good rates for the chronometers were obtained, after which we sailed (14th July) for Valparaiso, and arrived there together on the 22d.

My first object would have been, after seeing the vessels securely moored, to go to Santiago, present my instructions in the proper quarter, and ask for the sanction of the Chilian government, in prosecuting the survey of the coasts of Chile; but I was so much in arrear with respect to computations and charts, that I could not venture to give even a week to an excursion to that agreeable place, where a thousand attractive novelties would inevitably have diverted my attention in some measure from the dull routine of calculation, and attention to the data accumulated by many months' exertion of those on board the Adventure, as well as in the Beagle; therefore I sent Lieutenant Wickham, who spoke Spanish, and had been at Santiago before, to show my instructions to the Authorities, and request their approval of our examination of the shores under their jurisdiction. Nothing could be more satisfactory than the reply (Appendix No. 20), and from that time until the Beagle left Chile she received every attention and assistance which the Chilian officers could afford.

As I proposed to remain at Valparaiso during the winter months, Messrs. Stokes, King, Usborne, and myself, whose occupation would be sedentary and would require room, as well as more light and quiet than we could always have on board, took up our quarters on shore; while those on board attended to the refit and provisioning of our vessels.

At this time I was made to feel and endure a bitter disappointment; the mortification it caused preyed deeply, and the regret is still vivid. I found that it would be impossible for me to maintain the Adventure much longer: my own means had been taxed, even to involving myself in difficulties, and as the Lords Commissioners of the Admiralty did not think it proper to give me any assistance, I saw that all my cherished hopes of examining many groups of islands in the Pacific, besides making a complete survey of the Chilian and Peruvian shores, must utterly fail. I had asked to be

allowed to bear twenty additional seamen on the Beagle's books, whose pay and provisions would then be provided by Government, being willing to defray every other expense myself; but even this was refused. As soon as my mind was made up, after a most painful struggle, I discharged the Adventure's crew, took the officers back to the Beagle, and sold the vessel.*

Early in November our charts of the eastern coasts of Patagonia and Tierra del Fuego, as well as those of the Falkland Islands (the work of the Adventure) were finished, and shipped off for England; and on the 10th we sailed, alone, to resume our more active occupations on the southern coasts. My former intention was to have filled up all blanks in the charts of the outer west coast of Patagonia, between the parallels of fifty-three and forty-eight, and then carried a connected survey along the coast to the equator; after which the Galapagos Islands; Dangerous Archipelago; Marquesas, Society, Friendly, and Feejee Islands; besides New Zealand; were to have had as earnest an examination as could be effected by both vessels during 1836 and part of 1837. That this plan might have been carried out by the divisions of labour and exertions of the Beagle and her tender may, I think, be inferred from what has actually been executed with inferior means and in much less time. But my reduced arrangements were on a much smaller scale: I could only look to the most useful objects that might be effected within the limited time to which I dared to look forward.

All on board partook, more or less, of the mortification caused by parting with our consort, just as she was most wanted, and most able to take an effective part; and I confess that my own feelings and health were so much altered in consequence—so deprived of their former elasticity and soundness—that I could myself no longer bear the thoughts of such a prolonged separation from my country, as I had encouraged others to think

* Though her sale was very ill-managed, partly owing to my being dispirited and careless, she brought 7,500 dollars, nearly £1,400, and is now (1838) trading on that coast, in sound condition.

lightly of, while I could hold out to them the prospect of seeing as well as doing a great deal among the islands of the Pacific, besides completing the surveys of Chile and Peru.

I now proposed, first, to go to San Carlos, there set two of our boats at work among the islands eastward of the large island, while the Beagle would survey the more exposed coasts, those to the west and south; then the ship was to examine the seaward shores of the Chonos archipelago, while another of her boats was employed among those islands; and, the Chonos explored, she would return to San Carlos, collect her scattered parties, and proceed along the coast, northwards, taking all the ports and islands in her way.

On the 21st we arrived at San Carlos, and were pleased to find that Mr. Low had returned safe from his difficult undertaking; and that a person (Mr. Douglas) whom I had engaged to make an excursion to Calbuco and into the forests of 'Alerse,' on the Cordillera of the Andes, had also come back with the required information, and was ready to engage himself to act as a pilot and interpreter.

When last at San Carlos I proposed to Mr. Low, then serving as pilot on board the Adventure, to pass the time of our absence at Valparaiso, in exploring part of the Chonos Archipelago with a whale-boat belonging to me, and a crew of natives (Chilotes). Low, ever restless and enterprising, entered eagerly into my views; so furnishing him with money, a chart, and a few instruments, I explained where I wished him to go, and when he should be again at San Carlos, all further arrangement being left to him.

Mr. Low hired a crew of six men,* and set out. After he had quitted the southernmost place at which provisions could be procured, called Caylin, or 'El fin de la Christiandad,' one of his men† persuaded some of the others‡ to eat up the stock

* A Welshman, two Chilotes, a Chilian, and two Sandwich Islanders who had been left at San Carlos by a whaler. † The Chilian.

‡ The Chilotes and Sandwich Islanders. Taffy remained faithful: he and Low, being able-bodied active men, frightened the rest into reluctant submission.

of provisions in the boat as soon as possible, in order that they might be obliged to return without going far. But Low was too much inured to hardship to be so easily diverted from his plan; he went on, directly south, even after his provisions were consumed; obliging them to live for fourteen days upon shell-fish and sea-weed. After exploring much of the Chonos Archipelago, sufficiently to facilitate our survey materially, he returned with his hungry crew to Caylin.

24th. Lieutenant Sulivan set out with the yawl and a whale-boat, to survey the east side of Chilóe and the islets in the Gulf of Ancud.* With him were Messrs. Darwin, Usborne, Stewart and Kent; Douglas as a pilot, and ten men. Two days afterwards, the Beagle sailed, to examine the western coast of Chilóe, and the Chonos Archipelago.

Dec. 2d. While standing towards distant mountainous land, about the latitude of 45°, we saw a comparatively low and level island;† considerably detached from those which seemed like Tierra del Fuego, being a range of irregular mountains and hills, forming apparently a continuous coast. This level island I have since ascertained to be that formerly called Nuestra Señora del Socorro, where Narborough anchored and landed, in 1670. It was selected in 1740, by Anson, as a rendezvous for his squadron; but no one seemed to know where to look for it: the Anna Pink having made the land in 45°. 35′, and the unfortunate Wager in 47°, near Cape Tres Montes. Narborough mentions seeing 'an old Indian hut' on this island; and in a MS. journal, written by Moraleda‡ (now in my possession) it is said that the former natives of the Chonos used to make annual excursions to that as well as other outlying islands. After witnessing the distance to which savages venture in such frail canoes as those of Tierra del Fuego, it does not surprise one to find them going fifteen or twenty miles across an open

* Orders in Appendix, No. 21.

† About three or four hundred feet in height, excepting one hill, which is seven hundred feet.

‡ MS. Diary of Moraleda's examination of Chilóe and part of the Chonos Islands in 1787-93, given to me at Lima, by a friend to whom I am much indebted for valuable information.

space of sea in such large canoes as those of the Chonos Indians, which are indeed boats. Fuegian wigwams have been found upon Staten Land and upon Noir Island, each of which is as far from any neighbouring coast as Socorro is from the nearest shore.

While Narborough's ship was under sail, near Socorro, he went in his boat to the island which is nearest to it, by him named Narborough Island.* There he landed, and took possession for his Majesty and his heirs.†

3d. Having passed the night quietly at single anchor, near the north-east point of Socorro, we weighed and continued our route to and fro along the coast, taking angles, soundings, and observations. On the 5th, we were near Huafo,‡ which, to our surprise, we found to be twenty-five miles farther north than the Spanish charts (following Moraleda) showed its position, yet the longitude was almost correct. In a small cove, near the south-east point of Huafo, we anchored, but broke a bower-anchor in doing so; for the cove is small—an unexpected puff of wind gave us too much way—and dropping the bower in haste, it fell upon a rock, and broke.§ Only two days before another anchor was broken, near Socorro, by the ship pitching while a short scope of cable was out, and the anchor hooking to a rock. I found, on landing, that the formation of the island, like that of Socorro and Narborough Island, is a soft sandstone, which can be cut with a knife as easily as a cake of chocolate.

* "Neither the chart in Ulloa, nor any of the Spanish charts lately in use, show the name of N.S. del Socorro to any island near the coast hereabouts. The Spanish Atlas of 1798, places an island very near the coast, in 44° 50′ S. latitude, which in shape and situation answers nearly to Narborough's description of the island, to which he gave his own name."—(Burney, vol. iii. p. 360. Note.)

† "I saw no kind of mineral in it. Not finding this island noted in any draught (chart), I called it after my own name, Narbrough Island, and took possession of it for his Majesty and his heirs."—(Narborough's Voyage to Patagonia and Chile, in 1669-1671.)

‡ Called by Narborough "No-man's Island."

§ Or between two rocks, so that the first sudden strain snapped the shank.

These three outlying islands are thickly wooded, rather level, compared with their neighbours, and not exceeding eight hundred feet in height. There are few, if any others, like them in the Chonos Archipelago; almost all the rest, however portions of some may resemble them, being mountainous, and very like those of Tierra del Fuego and the west coast of Patagonia, beyond 47° south; therefore I need only remark, that the vegetation is more luxuriant; that there is a slight difference in it, consequent probably upon a milder climate; that some productions, such as canes and potatoes, &c., are found there which do not grow near the Strait of Magalhaens; and that in other respects, as to appearance, nature, and climate, the Chonos Archipelago is like Tierra del Fuego in summer.

We remained a few days in San Pedro harbour; and on the 9th Mr. Sulivan and his party joined us. Next day Mr. Stokes and I endeavoured to get to the top of the mountain named Huampelen, Huamblin, or San Pedro; but after climbing, creeping, struggling, and tumbling about, among old decayed trees, strongly interwoven canes, steep, slippery places, and treacherous bog, we failed, and gave up the attempt. Mr. Darwin, Douglas, and others were with me, but we were all foiled.

11th. Having despatched Mr. Sulivan, with the same party excepting Mr. Darwin, we got under weigh, and hastened towards the middle of the Chonos group, in order to find a port whence Mr. Stokes might set out to explore northwards, while I should examine the southern half of the archipelago.

13th. We succeeded in finding a sheltered, and apparently safe anchorage in a road named by me Vallenar, because it corresponded in situation to an island so called in an old chart, said to be of the Chonos, but which bore no resemblance whatever to them. However, being anxious to remove no "neighbour's landmark," and retain original names, when they could be ascertained, I kept them wherever I was able to do so. As to the native names, those given by Indians, I had not the means of finding them out, for no inhabitants were seen; but, so far as Moraleda had collected them from his Indian inter-

preters, and made them known by his chart,* I have scrupulously followed him.†

16th. Mr. Stokes set out, in a whale-boat, to work northwards, as near the sea-coast as possible, and meet me at a harbour in the Huaytecas group of islands, now called Port Low. He was accompanied by Mr. Low, Mr. May,‡ and four men.§ Moraleda, in his diary and chart, describes a channel which crosses the Chonos Archipelago, and is called by the natives 'Ninualac.'‖ Through this passage the Chonos Indians used to go once or twice a year to inspect the small herds of goats, or flocks of sheep which they then had upon those outlying islands I have already mentioned, namely Huamblin¶ (Socorro), and Ipun (Narborough); as well as upon others, of which I believe Lemu, a woody island on the north side of Vallenar Road, was one. Moraleda himself explored part of the continent, and some of the islands adjacent to it (between 1786 and 1796), but he saw nothing of the sea face of the Chonos. What few notices of it existed, prior to 1834, were obtained from the voyage of Ladrilleros in 1557; from the Anna Pink in 1741; from Machado in 1769; and from the Santa Barbara in 1792; which, when compared together, tended to confuse a hydrographer more than they assisted him. In Spanish charts of the coast from Cape Tres Montes northward to Taitaohaohuon (a name long enough to perplex more verbose men than sailors) from which all others, of that coast, were copied, that portion must have been originally laid down according to mag-

* Now in my possession.

† His Huamblin and Ipun I take to be Socorro and Narborough Islands, but am not certain.

‡ Having very little occupation on board, in his own particular line, just at that time, Mr. May volunteered to take an oar, as one of the boat's crew.

§ Orders in Appendix, No. 22.

‖ "Gran Canal de Ninualac, que atraviese el Archipiélago, por el informe del practico Huenupal que casi anualmente la transita con el motivo expresado en el Diario."—(Moraleda's MS. Chart, 1795.)

¶ Huamblin, if, as I suppose it, a corruption of Huampelen, means 'on watch,' 'posted as a sentinel:' Ipun means 'swept off,' or 'swept away:' Lemu means 'wood:' names singularly applicable to each of those islands respectively.

netic, instead of true bearing; and the fragments of knowledge acquired, about the latitude of 46° S., from the master of the Anna Pink, the pilot Machado, and the officers of the Santa Barbara frigate, clashed so much that their result was what we see in the charts hitherto used, a dotted line, and a few straggling islands, totally unlike the truth, leading one to expect a comparatively open space, whereas there is a succession of high and considerable islands, so near one another, that from the offing they 'make' like a solid unbroken coast.

While on this subject I may remind the reader that besides the expeditions above-mentioned, the missionary voyages described by Agüeros (Appendix, No. 23), the important undertaking of Sarmiento, and the disastrous voyage of the Wager, there have been other visitors to the west coast of Patagonia, part of whose acquired information, though slight, is upon record.

In 1552, two ships, commanded by Don Francisco de Ulloa, were sent by Valdivia to gain some knowledge of the Strait of Magalhaens.* The journal of their voyage is not extant. Five years afterwards (in 1557), Don Garcia Hurtado, Viceroy of Peru, sent two vessels to examine the southern part of the coast of Chile, as far as the Strait of Magalhaens. The commander was Juan Ladrilleros, and with him were two pilots, named Hernan Gallego and Pedro Gallego. A mutiny took place, and one ship deserted, but with the other Ladrilleros persevered, passed four months in the Strait at anchor during the winter, then reconnoitred the eastern entrance, and afterwards sailed back to Chile, where he at last arrived with only one seaman and a negro, the rest of his people having perished by exposure to hardships, by scurvy, or by famine. The principal geographical information obtained at so high a price, was some slight knowledge of Chilóe, and the archipelago of islands near it.—(Burney, vol. i. p. 246-9.)

Sarmiento's expedition in 1579-1580, has already been often quoted in the first volume of this narrative.

In 1675 Antonio de Vea was sent from Peru in a ship,

* Pastene, a Genoese, was, I believe, in this expedition. His MS. Journal is said to exist in the archives of Barcelona.

accompanied by small barks, as tenders, to reconnoitre the Gulf of Trinidad, and the western entrance of Magalhaens Strait. De Vea made an examination of those places, and was convinced, from the poverty of the land, that no settlement of Europeans could be maintained there. One of the Spanish barks, with a crew of sixteen men, was wrecked on the small islands called Evangelists, at the west entrance of the Strait. De Vea returned to Callao in 1767.—(Burney, iv. 76.)

In 1681, the notorious Sharp anchored in a gulf, surrounded by craggy mountains, whose tops were covered with snow, in 50°. 40′. south latitude; where "the difference of the rise and fall of the tide was seven feet perpendicular." Sharp named the anchorage Shergall's Harbour, the sound he called English Gulf; and the islands adjacent "Duke of York's Islands." The account of this buccaneer's visit is sufficiently connected with the object of this volume, to warrant my inserting it in the Appendix, copied verbatim from that interesting work, invaluable to seamen and hydrographers, Burney's History of the Discoveries in the South Sea.*

18th Dec. The Beagle weighed and sailed out of Vallenar Road, after experiencing the shelter afforded by that anchorage, during a heavy gale from the south-west and southward.

At day-light on the 20th we were off Cape Tres Montes: having a fine day and smooth water, we surveyed the coast between that promontory and San Andres Bay, but it became dark before an anchorage could be gained. Next morning we anchored in a narrow creek,† close by a singular cone (1,300 feet high), an unfailing landmark. Finding it a place difficult to get out of, and not to be recommended, unless in distress, we did not stay there long, but moved to a cove at the south-west part of the bay.‡ While under sail for this purpose, advan-

* In this extract from Burney (Appendix No. 23), there is a criticism upon a hydrographical error, made by some copyist, which is interesting to me from its correspondence with what I suspect to have taken place in the old charts of Nassau Bay and Cape Horn.—(See pages 122, 123.)

† Cone Creek. ‡ Christmas Cove.

tage was taken of an interval of moderate weather to run several miles along the coast northward, and back again. Strong gales set in afterwards and kept us prisoners several days. This Christmas was unlike the last: it was a sombre period. The wind blew heavily (though we did not feel it much, being well sheltered); all looked dismal around us; our prospects for the future were sadly altered; and our immediate task was the survey of another Tierra del Fuego, a place swampy with rain, tormented by storms, without the interest even of population: for hitherto we had neither found traces,* nor heard the voices of natives.

28th. Directly the weather would admit, we weighed and coasted along till the sun was getting low, when we ran under shelter from sea and wind, and anchored in the corner of a bay which I afterwards concluded must be the bay or port called Stephens, and more properly, San Estevan. While we were furling sails, some men were seen on a point of land near the ship, making signals to us in a very earnest manner. Being dressed as sailors, it was natural for us to conclude that they were some boat's crew left there to collect sealskins. A boat was sent to them, and directly she touched the land they rushed into her, without saying a word, as men would if pursued by a dreaded enemy; and not till they were afloat could they compose themselves enough to tell their story. They were North American sailors, who had deserted from the Frances Henrietta (a whaler of New Bedford), in October 1833. When off Cape Tres Montes, but out of sight of land, and in the middle of the night, these six men lowered a boat and left their ship, intending to coast along until they should arrive at Chilóe. Their first landing was effected on the 18th, but owing to negligence the boat was so badly stove that they could not repair her, and all their hopes of effecting a coasting voyage were thus crushed in the very outset.

* With one exception. On a height near Cone Creek Mr. Darwin found, in a sheltered hollow of the rock, strewed with dry grass, what appeared to him the place on which a man had slept. For some time this puzzled us considerably: probably a sealer had slept there.

Finding it impossible to penetrate far into the country, on account of its ruggedness, and thick forests, which, though only trifling in height, were almost impervious, they began a pilgrimage along-shore; but it was soon evident, to their dismay, that there were so many arms of the sea to pass round, and it was so difficult to walk, or rather climb, along the rocky shores, that they must abandon that idea also, and remain stationary. To this decision they were perhaps more inclined after the death of one of their number; who, in trying to cross a chasm between two cliffs, failed in his leap, fell, and was dashed to pieces. Their permanent abode was then taken up at the point which shelters Port San Estevan, now called Rescue Point; where they passed a year in anxious hope. Of course the few provisions which their boat had carried ashore were soon exhausted, and for thirteen months they had lived only upon seals' flesh, shell-fish, and wild celery: yet those five men, when received on board the Beagle, were in better condition, as to healthy fleshiness, colour, and actual health, than any five individuals belonging to our ship. Few remarks worth noticing had been made by them, as the only experienced man (whose name was John Lawson) lost his life as above-mentioned. There was an almost continual succession of rain and wind for several months after their first landing, except from the 20th to the 29th of December, which passed without rain: in July (1834) they had an extraordinary storm from south-west, which began early one morning, after a rainy night with northerly wind: and in November (1834) there were twenty-one days successively without rain. One day (in May) they saw eight vessels sailing northwards together; excepting which, not a sail was ever seen by their aching eyes till the Beagle hove in sight. Between San Andres, near which they first landed, and San Estevan, the hull of a small vessel was found, quite bedded in sand; she seemed to be about thirty-five tons burthen, from thirty to thirty-five feet in the keel, and about sixteen broad. She was full-built; neither coppered nor sheathed. In a cave, which had been used as a dwelling, near San Andres, the skull of a man was found, and some burned wood. A bracelet of

beads was lying in the cave, but they noticed nothing else. The skull seemed to them to have been that of a black man. No animals were seen at any time except deer and nutria, seal and otter; the former were of a reddish colour, with short straight horns, and very rough coats: no traces of other quadrupeds were observed, nor during the whole fourteen months did they ever meet a native human being. They told me that the night tides seemed always to be a foot or more higher than those of the day, which, as they said, rose from four to seven or eight feet perpendicularly. I had intended to explore the interior of Port San Estevan; but as they had already done so, and found it terminate in a fresh water river, or rather mountain stream, I gave up that plan, and sailed next day.

29th. While examining the coast towards Cape Taytao* (I must omit haohuon), we found a very dangerous patch of rocks,† five miles from the nearest land; there are soundings near them. In the evening we dropped out anchor under Inche-mo Island; an interesting locality, because there the Anna Pink anchored before she was drifted across the adjacent bay into Port Refuge (in 1741).

30th. On landing an old wooden hut was discovered in a sheltered corner, and we found that the island was overrun with goats, which I suppose to have been left by the Santa Barbara's crew, if not by Machado's people. While Mr. Stokes and I were engaged with the instruments, and two boats sounding, a couple of guns were sent against the goats, and in consequence of their effectual employment in the hands of Mr. Bynoe and H. Fuller, all on board had a good fresh meal the next two days. After noon we sailed across the Bay,‡ and found a snug, though very small cove,§ where we moored in security, and remained till the 4th of January, exploring the neighbourhood—an unprofitable wilderness of rocky mountains, woody and swampy valleys, islands and rocks in pro-

* Cape Taytao is a high bold promontory.
† Hellyer Rocks.
‡ Now called Anna Pink Bay.
§ Patch Cove.

fusion, and inlets or arms of the sea penetrating in every direction.

On the 4th we moved to Port Refuge, a safe, but out of the way place. In the "narrative of what befel the Anna Pink," given in Anson's Voyage, this harbour is described in very glowing colours; but we may remember that those who discovered it, were there saved from destruction; and naturally looked upon all things around them with excited feelings.* How the officers of the Santa Barbara made their survey of this port and its neighbourhood I am at a loss to know; a mere eye-sketch, drawn upon the spot, might have been much better than that which they gave to the world as a mathematical plan. In their distorted representation of Port Refuge, many soundings have been scattered, apparently at random, and quite at variance with truth. This is so unlike most Spanish works of a similar nature, some of which are very accurate,† considering the date of their manufacture, and the means employed,—that I conclude the officers of that frigate, not understanding marine surveying, merely drew rough sketches of what they saw, which were afterwards 'cooked' into a more regular 'appearance,' by some one who was not on board with them. Had time allowed I should have explored the Gulf of San Rafael, at the back of Tres Montes Peninsula,‡ but knowing that it could only be an object of geographical, not immediately practical interest to do so, I refrained from indulging mere curiosity, much as I desired to corroborate the account of Spanish missionaries who often went there, crossing the Isthmus of Ofqui, in search of Indians among the Guaianeco islands, and even farther south, of whom they might make converts to Christianity. Doubtless some of these voyages were undertaken and completed with benevolent and single-minded intentions; but I suspect that others were conducted on a different principle; and that their chief object was to procure able-bodied slaves to be employed in the mines of

* Anson's Voyage, chapter iii.

† Exclusive of mistakes made by compilers or translators.

‡ Appendix, No. 24.

Chiloe or Southern Chile. I should be glad to learn that this suspicion is ill-founded.*

On the 7th we anchored in Port Low, and found Mr. Stokes just arrived, after a fagging cruise among the Chonos islands. His journal contains a great deal of information, from which I have extracted those passages most likely to interest the general reader.

His whale-boat was so loaded at starting (16th Dec.) that her gunwale amidships was but a foot above water. She was twenty-five feet long and six feet broad, and then carried seven men, besides instruments and a month's provisions. Of water she had only two 'barecas,' because on that coast fresh water is only too plentiful. In passing a promontory, the following day, while their boat was still deep, the swell became so great that Mr. Low said he had never before been in a boat exposed to greater danger.

In some places where they landed the woods were so thick that Mr. Stokes was obliged to climb trees to get angles; and not being able to tell previously which would answer his purpose, sometimes he made three or four useless ascents, before he could obtain a view: "but," he says "there is a pleasure I cannot express in roaming over places never visited by civilized man." On Rowlett Island potatoes were found growing wild; the largest dug up measured two inches in length, and an inch in thickness: they were quite tasteless.

At the east side of Ipun, on Narborough Island, an excellent small port was found, which was named Scotchwell Harbour. On the shore, near it, was a large bed of strawberries, like those that grow in English woods; and there was a sweet-scented pea, besides abundance of other vegetable produce, both herbage and wood, and plenty of water.

"Hitherto, all the islands we had seen were of slate-rock, some parts so soft, that I could break them easily with my finger, and I found that they blacked my hand, like plumbago;

* It is difficult to account for the present abandoned state of these regions, if no harsh usage was experienced by their former natives.

but Ipun is quite different in structure, being an earthy sandstone."*

Syzygial high water at Ipun takes place at noon, and the tide rises six or eight feet. The flood-tide comes from the southward.

At May Harbour (which may be the Bello Dique of the Santa Barbara), many cypress trees were noticed, for the first time hereabouts, and a surprising number of otters. The tide rose seven feet. About the Huaytecas Islands, the northernmost of the Archipelago, quantities of excellent oysters were found, quite as good as any sold in London. No quadrupeds were seen, except nutria and otters, which were numerous. Their numbers, and the quantity of birds, show that Indians do not now frequent that quarter; indeed, no traces of them whatever were found by Mr. Stokes, or any of our party, among the Chonos islands.

10th. While lying at Port Low we caught plenty of fish with the seine; we obtained oysters from neighbouring creeks, and shot ducks and geese, so there was no want of fresh provision. Some piraguas from Chilóe were in the port: the Chilotes in them were in search of otters, seals, and nutria, and had come across the gulf of Huafo, in their ill-conditioned vessels, with no little trepidation.

On an outlying islet, near Port Low, I first saw the wild potato. Next to seeing a wild man, I recollect few objects which struck me much more than that group of wild potatoes:—but I have neither inclination nor space here to speak of my own sensations. The stems, leaves, and flowers of these vegetables were as large, and appeared to be as healthy, as those in an English garden, but the potatoes at their roots were small, watery, and insipid. It ought to be recollected, however, that we saw them early in January—corresponding to July—many weeks, at least, before one could expect to find eatable potatoes in an English field.

It was remarked in the Chonos islands, as well as in Tierra del Fuego, that the trees which grow in thin soil, lying upon

* Stokes, MS.

slaty rocks, extend their roots so horizontally that it is not surprising to find, running through woodland, broad tracts whence the shallow-rooted trees have been swept away, partly by wind, partly by the action of mountain-torrents.* As wood grows even at the water's edge in those countries, where not exposed to the first attack of wind from seaward, and as there are so many loose overhanging masses of rock, one cannot be surprised at the vast quantities of drift-wood found in some places; or think it improbable for a quadruped to be occasionally precipitated into the sea, with a falling mass of rocks and trees, and afterwards drifted by wind and current to some other locality.

From Port Low we saw a notable mountain, one of the Cordillera of the Andes, having three points upon a small flat top, about eight thousand feet above the sea. I called it the Trident at that time; but afterwards learned that there are four peaks (one of which was hid by another from our point of view), and that it is called by the aborigines Meli-moyu, which in the Huilli-che language signifies four points.

Three other remarkable mountains, active volcanoes, are visible from the northern Huaytecas islands, as well as from Chilóe; I mean the Corcobado (hump-backed), of which I do not remember the Indian name; Yanteles (or Yanchiñu, which

* The writer of Anson's voyage, speaking of Juan Fernandez, exactly describes the loose state of trees in such places, when he says, "The northern part of this island is composed of high, craggy hills, many of them inaccessible, though generally covered with trees. The soil of this part is loose and shallow, so that very large trees on the hills soon perish for want of root, and are then easily overturned, which occasioned the death of one of our sailors; who being upon the hills, in search of goats, caught hold of a tree upon a declivity, to assist him in his ascent, and this giving way, he immediately rolled down the hill; and though in his fall he fastened on another tree of considerable bulk, yet that, too, gave way, and he fell among the rocks, and was dashed to pieces. Mr. Brett likewise met with an accident, only by resting his back against a tree, near as large about as himself, which stood on a slope; for the tree giving way, he fell to a considerable distance, though without receiving any injury."—(Anson's Voyage, 8vo. edit., p. 159.)

means 'having a shivering, and unnatural heat'), and Minchen-madom, which, in the Huilli-che tongue, means 'under a fire-brand'; names so expressive and appropriate as to put to shame much of our own nomenclature. Wherever I have been able to discover the aboriginal name of a place in South America, and could ascertain its meaning, I have been struck by the extreme appositeness, as well as by the copious though condensed allusion usually conveyed.

In Chilóe and about the north-eastern Chonos Islands, almost all the aboriginal names are preserved, because there interpreters could be procured; but, of course, such advantages were generally unattainable in Patagonia and Tierra del Fuego. In Chilóe, as in Araucania, every corner and every conspicuous spot, whether land or water, has a particular and expressive name, a word usually compounded of two or three others: thus, Huapi-quilan means Three Islands: Calbu-co, Blue Water; Cauca-huapi, Gull Island; Huechu-cucuy, Point Cucuy,* or Grandmother; Carel-mapu (Cara-el-mapu), Bad-city-country; Petu-cura, middle stone (a rock in Chacao Narrow), &c.

15th. We sailed from Port Low and went to Huafo once more, wishing to give Mr. Darwin an opportunity of examining it geologically. There are now no inhabitants on that island, though there are a good many sheep belonging to Chilotes, who live at Caylin. Formerly there were Indians called Huyhuen-che,† upon Huafo; but the Spaniards obliged them to quit it, for fear they should give information or supplies to English ships. Near the Beagle, when at anchor, there was a square place, like an entrance to some cave, seemingly cut by man in the soft sand-stone rock; and I have since often reproached myself for having left the place without ascertaining

* Cucuy is the name of a bird, much noticed by the aborigines because its motions are supposed to be ominous: it also means grandmother.

† The Huyhuen-che, often called Huyhuenes, were a tribe of Chonos Indians, adjoining the Pichi-huilli-che, who lived in the northern portion of Chilóe. The word Huyhuen signifies 'whistle,' or 'hiss,' or 'to whistle, or hiss.'

its real nature. It may be the entrance to some cave, formerly used as a burying-place, similar to those explored by Low, and by the surgeon of the Wager.

On the 17th we sailed, and next day anchored off Point Arena, in San Carlos Harbour. Lieutenant Sulivan, with his party, had arrived a few days previously, after a very satisfactory cruise. We found his boats hauled up and refitted, his people lodged under their tents, and himself with Mr. Usborne busily occupied in my little observatory, laying down the work for which they had collected materials. Thus we were again assembled in safety, after being considerably divided, and, in consequence, exposed to numerous dangers which human prudence can neither foresee nor prevent. As some soundings were still wanted near the English bank, and about the approach to San Carlos, we employed the 19th in taking them, on board the Beagle, accompanied by her boats, and returned to our usual anchorage, close to Point Arena, at dark.

When sounding on the English bank, we repeatedly tried to ascertain its nature by forcing a very long iron lance downwards as far as possible. The instrument penetrated about two feet into sand in all instances but one, when it was stopped abruptly by a substance which bent the lance and turned its point. It did not, however, feel like rock, rather, I should say, like hard wood.* This hard place was about a square yard in extent, and all around was sand.

In the night, or rather from two to three the following morning, Osorno was observed in eruption, throwing up brilliant jets of flame or ignited matter, high into the darkness, while lava flowed down its steep sides in torrents, which from our distance (seventy-three miles) looked merely like red lines. Daybreak diminished the effect, and as the light increased only a dark column of smoke could be discerned. This mountain is one of the most striking in form which I ever saw. It is not only quite conical from the base to the summit, but it is so sharply pointed that its appearance is very artificial. When seen

* Mr. Sulivan had the lance in his hand at that time.

from the sea, at a distance of ninety or a hundred miles, the whole of the cone, 6,000 feet in height* at least, and covered with snow, stands out in the boldest relief from among ranges of inferior mountains. The apex of this cone being very acute, and the cone itself regularly formed, it bears a resemblance to a gigantic glass-house; which similitude is increased not a little by the column of smoke so frequently seen ascending.

We remained till the 4th of February in the port of San Carlos. Mr. Darwin profited by the opportunity afforded to make an excursion into the interior of the island, while the surveying party were occupied in arranging data, in laying down chart-work, and in taking and calculating observations. I paid Douglas for his services and for a variety of information collected for me, from which—from Lieut. Sulivan's journal—and from my own notes—I shall now add such few notices of Chilóe as I think may be interesting, and which have not been already introduced in the first volume. (pp. 269—301.)

Various accounts have been given of the characters and dispositions of the Chilotes. Some have said that they are a noble, industrious, and docile race; others that they are dishonest, idle, and ill-disposed: to reconcile these contradictory accounts is, therefore, at first sight, rather perplexing. There are four distinct classes of inhabitants in Chilóe and the adjacent islands;† the aboriginal Huyhuen-che, or Chonos; the Huilli-che, who came from southern Chile; the foreigners, those neither born in Chilóe nor descended from Chilotes; and the Creoles. Of these the Chonos are now nearly lost: in consequence of disease and emigration they have by degrees abandoned not only Chilóe but the adjacent Chonos islands, and are only found southward. Some Indians to the south-west of Castro, in the interior of the island near the lake Cucao,

* The volcano of Osorno, or Purraraque, or Hueñauca, is 7,550 feet above the sea level.

† The smaller islands of the Archipelago of Chilóe, those in the gulf between Chilóe and the main-land, called the Gulf of Ancoed or Ancud.

are under the nominal jurisdiction of their own caciques: whether they are Chonos or Huilli-che, I did not ascertain clearly. Being a race who are naturally little inclined to cultivate the soil, and preferring a comparatively idle life among muscles, seal, and fish, to voluntary labour on their own account, with a considerable degree of compulsory toil for the Spanish Government and priests, they quitted Chilóe in successive families. From them, probably, are derived the glimmerings of religion, and the crosses among the Indians of Madre de Dios, and other parts of the west coast of Patagonia. That their canoes or rather piraguas, should be similar to those of Chilóe seems natural enough; but the fact is that the Chonos people taught the Huilli-che how to make them.* Coming from an inland district near Valdivia, the Huilli-che had never required boats, though they knew how to cultivate potatoes, maize, and beans; how to make 'ponchos,' and take care of sheep and cattle. These, though more industrious, and in some respects better members of society, are a tame and docile race compared with the Chonos, whose spirit of independence has shown itself in their migration, and impatience of mis-government.

The principal population of Chilóe is now Huilli-che, nominally Christian but painfully ignorant of pure Christianity. Abandoned to the crooked direction of ungodly pastors, intent upon their own worldly interest instead of the welfare of their flock, extorting 'primicias'† and tithes from poor Indians, whom they scarcely see once in a year (I speak advisedly)—and taught only the Romish doctrine in its worst form; can any one expect the poor Chilotes to be really religious and consequently moral? That they should be extremely superstitious is much more probable, and such is the fact. Their's is a confused demi-religion, in which a medley of ideas concerning the Virgin Mary, saints, images, and witches,‡ is found far

* These piraguas are extremely like the Madras surf-boats. (See vol. i. p. 285, for a description of the piragua.

† First fruits of everything, animal as well as vegetable.

‡ They are implicit believers in witchcraft.

more often than any clear reference to our Saviour or the Almighty.

In the foregoing remarks on the Roman Catholic priests at Chilóe whom I conversed with and heard much about between 1829 and 1835, I do not include all. There was certainly one man (I hope there were more) whom I believe to have been as sincerely pious, and therefore good, as any Roman Catholic, but there were others whose lives scandalized even their nominal Christianity.

The foreigners settled in Chilóe of course resemble their own countrymen as to morals and habits, not being likely to take example from the Indians: and the Creoles adopt their ideas as hastily as our milliners adopt French fashions. But there is a virtue in Chilóe, which if sins could be atoned for by the good works of man alone, would go far towards purchasing good treatment and very slight purgatory for the souls of Chilotes: I mean the warm-hearted kindness shewn to one another, and particularly to strangers. Conspicuous as such a feeling of hospitality and disinterested good-nature is among the descendants of Spaniards in South America, it is no where more to be observed than in Chilóe.

Increased intercourse with other countries is annually diminishing the local peculiarities of Chilote society, a remarkable one being that of transacting mercantile business by barter, for want of current coin. Planks of alerse, indigo, tobacco, pepper, salt, &c. were substitutes for silver and gold in 1829, excepting among a very few foreigners or comparatively rich descendants of Spaniards and Creoles. At that time it was extremely difficult to get a few dollars in exchange for a bill upon good security at Valparaiso, even at the exorbitant price of sixty-pence English for each dollar. In 1834, so much had the state of trade improved at San Carlos, that there was no difficulty in obtaining as many dollars as we wanted for forty-eight pence each.

In the first volume most of the products of Chilóe are mentioned, except fish and coal. Of the shell-fish there is a full

account, but I may here add that smelt, mullet, a kind of bass, and other fish are plentiful during the summer months. The natives often catch many more than they want by placing very simple weirs across creeks at high-water, with a passage in the middle, which is shut when the tide begins to ebb. Some of these weirs are rough stone walls (on a small scale), others are wattled like hurdles. The number of fish kept back by them and left dry, as the water falls, is really surprising. Seals are now rare, and whales are fast diminishing in numbers. There is a good deal of coal in Chilóe, but I am told that it is of an inferior description, like that of Concepcion. Geologists say it is not true coal: lignite would be a more appropriate term. Be this as it may I tried some of it* in my cabin stove, and found it burn readily, though what I had was a lump taken from the surface of the ground. The Chilotes scarcely noticed it then, having so much wood around them, but a day may arrive in which its value may be better appreciated.

Next to San Carlos,† in size and population, is Castro, the former seat of Government, which has dwindled to a mere village. Chacao, where the governor afterwards resided, is only a hamlet. Remains of a town, such as lines of streets and the ruins of a church, are visible, but there are now only a few straggling cottages and a ruinous chapel. It is said, on the spot, that the former church of Chacao was burned by the old Spaniards, to oblige the natives to quit the place and go to San Carlos. Castro, formerly styled a city, now consists of two or three short streets of bad wooden houses and two churches: one of which was built by the Jesuits more than a hundred years ago, and is fast decaying though 'shored up' (supported by props) on all sides.

The first discovery of Chilóe was made by Spaniards in 1558, one of whom was Ercilla. Enthusiastic in every thing, the warrior-poet tells us that he ran to a tree, half-a-mile south

* Obtained for me by Mr. Robert Williams from the neighbourhood of San Carlos.

† Described in vol. i. p. 274-5.

of the place where his companions halted, and cut some lines on the bark.*

The populous state of Chilóe, in 1558, when first visited by Europeans may be estimated by Ercilla's description, allowing for poetical license. All accounts agree in stating that the Chonos Indians, or Huyhuen-che, were once very numerous.

> "Era un ancho archipielago poblado
> De innumerables islas deleytosas,
> Cruzando por el uno y otro lado
> Góndolas y piraguas presurosas:
>
> * * * * * *
>
> Llegó una corva gondola ligera
> De doce largos remos impelida."
>
> LA ARAUCANA, Cantos xxxv and xxxvi.

That the Spaniards then with Ercilla, were thought to be deities, is shown by the following lines:—

> "Hombres, o Dioses rústicos, nacidos
> En estos sacros bosques y montañas,
> Por celeste influencia producidos," &c.
>
> IDEM, Canto xxxvi.

Some years afterwards (in 1566) Castro was founded, to be the capital, and Chacao for a sea-port. From this time till about 1633 mines were worked in Chilóe, but then discontinued, partly because they were less productive than those of Chile, and partly on account of the difficulty of obtaining labourers after a raging epidemic had carried off one-third of the aboriginal inhabitants; and fear of infection as well as horror of the mining slavery, had driven away a large portion of the residue.† About this time the Huilli-che were carried to

* "Aquí llegó, donde otro no ha llegado,
Don Alonso de Ercilla, que el primero
En un pequeño barco deslastrado
Con solos diez, pasó el desaguadero
El año de cincuenta y ocho entrado
Sobre mil y quinientos por Hebrero,
A las dos de la tarde el postrer dia,
Volviendo á la dexada compañia."

LA ARAUCANA, Canto xxxvi.

† These were Huyhuenes, or Chonos, whose place was afterwards supplied by Huilli-che from southern Chile.

Chilóe, in addition to those who had accompanied the fugitives from Osorno (in 1599—1604) to Calbuco, Carel-mapu, and thence to Chilóe; who being a docile patient race, accustomed to agriculture, increased rapidly and supplanted the Chonos emigrants.

We read in the narrative of Brouwer's voyage (1643) that the port which the Dutch called Brouwer's Haven, was by some called Chilova, and by others English Haven: and in 1624, according to Agüeros (quoting D. Cosme Bueno), Englishmen were on this coast: but I think it more probable that the Bank Ingles and Port Ingles, near San Carlos, obtained those names from William Adams, in 1599,* rather than from them. In the Dutch chart published with the journal, this island is called Chiloue, and the adjacent gulf, Ankaos, or Ancoed.† Brouwer alarmed the inhabitants of Chilóe not a little, but they were even more frightened and harassed before that time by Cordes, in 1600; Spilbergen, in 1615; and afterwards by Shelvocke, in 1719; besides others.

To guard against, or rather watch for such visitors, as well as to obtain the earliest intelligence of an enemy being on the coast, the Spaniards established look-out stations in com-

* Voyage of Five Ships of Rotterdam, Burney, vol. ii. p. 193. (supposing 46° should be 42° S.)

† I mention this to show that the accent, or stress, was then upon the second syllable of that name, not upon the third. The name Chilóe is derived from Chilue, or, more strictly speaking, from Chili-hue (see Agüeros and Molina), which means 'farther,' or 'new,' or 'the end of' Chili, and ought, by derivation, to have the accent, as Agüeros placed it, on the o. No reason can be given by a Spaniard for placing an accent on the final e of that word, yet it is almost generally placed there. My own idea is that the French traders to Chile in 1700—1780, first placed an accent on the e in writing, and that Feuillée, Frezier, and others have been followed without inquiry. Had not the stress been laid on the o, surely the natives of Chiloe would have been called Chiloetes, or Chiloenos, instead of Chilotes. As to the name Chile, every one knows it is derived from the Indian word Chili, (Herrera, Ovalle, Agüeros, Molina, &c.) but why it was altered by the Spaniards to Chile, I have never been able to discover.

manding positions and outer points, such as Cocotue heights, Guabun Head, and Point Centinela; but at the present time no such precautions being thought necessary, there is a supine indifference to molestation.

Wherever Mr. Sulivan went with our boats, nearly all the Indians showed an anxiety for the island to be again under the dominion of Old Spain, and asserted that they were much happier and more prosperous before the revolution than they had ever been since. In a place where he passed two days (Huildad) there was an unusual difficulty in obtaining provisions, and it was accounted for by the natives in the following manner: the proprietor of the tithes had just been there, and had taken from them, in sheep and pigs, the full tenth, not only of those animals, but of the growing crops of corn, apples, and potatoes. He had taken away all that the poor people could be deprived of, excepting only what was absolutely necessary as stock for next year's supply.

Lieut. Sulivan says, in his journal:—"Besides the tithes, they have also to give 'first fruits' to the priests, and so hard are they on their parishioners, with respect to tithes and first fruits, that whether the yearly produce be bad or good, the same quantity must be contributed to swell the revenue of a person whom they seldom see, except at the times of collection."

This oppression, however, is not allowed by the superiors of the Church, when it is duly represented and proved: for not long ago a curate was dismissed from his parish in Chilóe, because he was a severe extortioner: I was informed that during five years that man had amassed more than thirty thousand dollars.* Some of the natives complained bitterly to Lieut. Sulivan of the task-work they were compelled to perform.

At Lemuy he met a small piragua with only three men in it, who were on their way from Castro to Quelan. They had walked across the island from San Carlos where they had been working at the new mole, which all the 'militia'† were obliged

* The number stated to me was 35,000.

† Every able-bodied native man is enrolled in the local militia, and obliged to work thus till disabled by infirmity.

to do in turn, each man a fortnight: part of which time was allowed for the journey. These three had worked eight days, finding themselves in everything and receiving no pay; two were old men: one more than sixty years of age; and the third was the oldest man's son. They all declaimed against the so-called 'Patriots' (Chilians) very vehemently, and asked repeatedly when they might hope to see the Spanish flag hoisted again. The old man had been a cacique, and under the Spanish authority had charge of a watch-house and a small party of men, on Point Centinela: but directly the Spaniards were overthrown he was made a private militia-man—"not to fight," he said, "but to work." If any public work was in progress, a party of militia-men were ordered to it, in their respective turns: and if the commandant had a friend to oblige, who wanted a job done, he would order a man to work at it for a week, when another would take his place, and so on. For these services no pay was given. The old man said that they were paid in money for every service performed when under the Spaniards; and he could hardly be made to believe that there was no prospect of their returning.

There is a marked difference of climate between the east and west sides of Chilóe, as to quantity of rain and wind. A proportion of both appears to be arrested (as it were) on the windward side of the heights, so that the neighbourhood of Castro and the islands in the Gulf of Ancud, enjoy much finer weather than is met with about San Carlos. But even there the inhabitants say a change has taken place gradually, and that they have not now nearly so much rain as used to fall formerly. They attribute this to the wood being cleared away, not only on Chilóe itself, but on the neighbouring Cordillera. There is an idea prevalent in Chilóe that, after a great eruption of Osorno in particular, or indeed of any of the neighbouring volcanoes, fine weather is sure to follow. Without denying the possibility of some such correspondence, I should incline to think that there have been accidental coincidences; and that fine weather occurring about or soon after those times, has been more remarked than at other periods.

On the little uninhabited island, Chiut, in the middle of Ancud Gulf, Mr. Sulivan found a great number of wild strawberries: they were not very good, being unripe. Near the islands beyond Chiut (called Desertas), on the shore of the main-land, he saw several piraguas stranded, evidently during a late gale, as their crews were engaged in repairing them on the beach.

In the island Alau, Lieut. Sulivan met an old native, about 112 years of age; who had great-grandchildren about him, from twelve to fourteen years old. His eyesight and intellectual faculties were still good, and he walked firmly. From the inhabitants of Alau, Mr. Sulivan heard that an English armed brig, accompanied by a Spanish vessel of war, had anchored at that island about seventy years before 1835 (1765). Our boats visited Calbuco, and happening to arrive during the time of Mass, found nobody stirring. At last one man came out of church—ran back instantly—as if to tell the news, and immediately hundreds came pouring out to see the strangers.

Calbuco, called also El Fuerte, is much superior to Castro in appearance as well as size. It ranks next to San Carlos, in consequence to the Chilotes. Near here it was that friendly Indians helping the distressed inhabitants of Osorno to escape from the Araucanians (1599-1605), raised a cry of Calbu-co (blue water), when, emerging from the woodland, they caught a glimpse of the sea.

Our party examined places on the east coast of Chilóe, where docks might be constructed, or vessels laid ashore with much facility, as the tide rises from fifteen to twenty-five feet in several land-locked coves where the swell of the ocean never penetrates.

Round Chilóe the flood tide-streams run both ways, from the south-west; and meet in the north-west part of Ancud Gulf; the times of syzygial high water, in all the archipelago, vary only from noon to an hour and half after noon. In December and January our boat expedition found that the night tides were always higher than those of the day, and the inhabitants said that was always the case in summer. In the months of July and

August 1829 the day tides were higher than the night, I am quite certain; and an old Biscayan, resident near point Arena, told me that they were always so in winter: hence we may conclude they are regularly higher at that time of year.

I refrain from entering here into many very interesting customs of the Huilli-che, because they are almost the same as those of the Araucanian Indians, about whom so much has been sung or said by Ercilla, Molina, and others, because my pages are limited, there being still information of a newer character to be written; but I would ask the reader, who may feel interested about the migrations of our race, to compare such customs with those of the Polynesian islanders, especially that of the 'Minga,' and making 'Cava.' *

The superstitious ideas, arising out of a debased Romish doctrine, have not deprived the Huilli-che of their belief in witchcraft, a belief held in common with all ignorant nations. Mr. Douglas, in his MS. Journal, says:—"No Chilote doubts the existence of wizards (bruxos). When I was a magistrate, a complaint was made to me of a young woman who, they asserted, had tried to bewitch a young man. The witnesses stated that she had bought from a professed witch (bruxa) a charm (llapui), which was produced in evidence. It consisted of a piece of loadstone, with iron filings adhering to it; some fish-scales; some hair and soap suds, proved to have been on the young man's face, and sold by the barber; some parings of his nails; a small dead lizard; some slips of a peculiar tree; and many other ingredients. With this charm, with two prepared apples, and a bottle half full of a liquid mixed by the witch, she proposed to win the young man's affections to such a degree that he would give her all his property. The liquid appeared to be a decoction of the deadly nightshade, and some poisonous ferns. The witnesses stated also, that this witch had a lantern made of the skin of a still-born child, which she lighted with a candle that burned with a blue flame; and gave

* The Minga is described in Molina, and Spanish authors. For an excellent discussion respecting the Cava, see Burney—Brouwer's Voyage, 1643, vol iii. p. 137, 8, 9.

out sparks, when the witch flew through the air from place to place.

"I have been informed," continues Mr. Douglas, "upon indisputable authority, that such lanterns do exist; and that when two or more witches wish to communicate by signal, one of them ties a lantern to a long pole, and throws it up and down very quickly, making the sparks fly. The other then makes similar use of her lantern, at a considerable distance, and those who casually see the lights, think that a witch has flown from one place to the other. The magical art of the wizard is often exercised in a search for hidden treasure. There are some places where, in a dark night, inflammable gas, or phosphoric light, is seen, near the ground, not like a Will-o'-th'-wisp of Europe, but a clear steady light, of a white, yellow, or red colour. Popular superstition ascribes these lights to the ghosts of departed misers, watching their hidden treasure; and when one is discovered by any person, he calls a friend to assist him and watch it, about the time of new moon, until they ascertain the spot whence it proceeds; and there they dig in search of an anticipated heap of gold or silver. Not succeeding (of course), they apply to a wizard, who pretends to discover where the treasure lies, and what it is, by looking earnestly into a smooth slab of black stone (which I suppose to be basalt). The wizard may not himself find the prize, nor may he be present at the search; but, after telling the people where and when to dig, he takes good care to alarm and frighten them away in some strange manner, just at the moment they expect to grasp the store of gold. Among other devices, the wizard, or witch, pretends to cover a worsted thread with quicksilver, and holding it over the supposed place, allows the quicksilver to run off into the ground, and then he desires them to dig till they find the quicksilver, thus affording time for creating some sudden alarm, which they attribute to the 'devoto,' or familiar spirit of the deceased. It is believed by some that I am able to discover hidden treasure, and for my amusement I have more than once made an experiment before them, by sticking up two stakes in a line towards the light; then going a quarter of a circle

round it, I stuck up two more stakes, also in a line towards it; and next day followed the lines to their crossing, at which spot I dug, and about two feet underground found a decayed tree." (Whence a gaseous exhalation?)

Mr. Douglas's account of the life of an industrious Calbucano* is interesting. He says, that those who are called 'hombres de bien' (honest men) are generally the sons of worthy parents, and who marry, while young, some hard-working sober woman. Such a pair, as one of these men and his wife, sow some corn and plant potatoes, then leave the land, with their house, in the care of an old relation, and go to the Cordillera to work in an astillero.† If their luck is good, that is, if they find plenty of fine, straight grained trees, not farther than usual from the sea,‡ this pair will cut and bring down five hundred boards in a month; then returning home they clean the potato grounds, and attend to domestic affairs, until their feet heal, and a paralytic motion of the legs, acquired in the astillero, has ceased. When quite refreshed they go for another cargo, and work till their legs and feet can stand it no longer. A third trip is afterwards made by the husband, for about a fortnight, to a nearer astillero, where he cuts pieces of timber and plank of as large a size as he can carry (tablones y cuartones), then returns to collect his harvest, make chicha, and sow corn for next year. The winter months are passed in comparative inactivity, but not without due consumption of cider and potatoes. Occasionally the Calbucano goes to San Carlos, to sell, or rather barter his boards for indigo, tobacco, red pepper, clothes, axes, spirits, &c.; and on these occasions, as well as when they go from Calbuco to the continent, several unite together to man a piragua, in the manner described by Captain King, vol. i, p. 285-6.

Directly his children are able to walk a few miles, he takes them with him to the astillero; begins by giving them two half-boards to carry, and as they grow stronger, increases their

* Native of Calbuco.

† A timber-yard: or a place where alerse is cut down, on the flanks of the Cordillera of the Andes. ‡ From three to five miles.

load. At about sixteen they borrow an axe, and make the boards they afterwards carry. The alerse forests are like mines to the Calbucano; and nothing but old age or accident can check him from making boards after he has had one season of good luck. The profitable parts of the forests are now, of course, much farther from the sea than they were, owing to constant thinning. To get a load of twenty boards twice as much labour is therefore required as was necessary for a similar purpose thirty years ago. The largest alerse tree that has been found by any Calbucano during the last forty years, measured thirty feet in girth, at five feet from the ground; and more than seventy-six feet to the first branches. This famous tree gave eight lengths of boards and half a length. The two largest trees seen by Mr. Douglas, in his excursion for me, measured one twenty-four, and the other twenty-two feet round, at five feet from the ground: but these were dead trees, hollow in the centre. He saw none above ten feet in circumference, that were quite sound. Report, however, says, that in the Cordillera, out of reach of the Calbuco woodsmen, there are enormous trees, from thirty to forty feet in girth, and from eighty to ninety feet in height to the first branches, above which the heads of those giant trees are said to rise some forty or fifty feet. The alerse has short, stout branches, with leaves like those of a pine, in their bluish green colour, but shorter, being only half an inch long, and one-twentieth of an inch wide: on one stem there are four rows of these small leaves, at opposite sides.

Captain King has fully described the alerse (vol. i, p. 282-3), and the manner of making the boards. I will add a few notices of the way in which it is obtained.

In carrying his load along many miles of bad road from an 'astillero,' to the nearest water conveyance, the Calbucano wears a sheep-skin on his shoulders, under a woollen shirt, and taking a stick, with its lower end forked,* he trudges along

* To steady him across bridges of single trees, thrown over ravines, as well as to assist in supporting the load. Sometimes they climb up or down precipices with their loads, by a fallen tree, notched to receive the feet.

with the load on one shoulder, and on the other the stick, which partly supports the weight till one shoulder is tired; he then shifts the burthen to the other, and goes on. This half rest is called 'cantuntun.' After eight, ten, or twelve of these, according to his strength, and the road, he casts down the load, and rests about ten minutes. This is his 'descanso;' and he makes about one such every two or three miles. The astillero of Melipulli is ten 'descansos,' a whole day's journey, from the place of embarkation. In examining the different forests of alerse, Mr. Douglas saw some immense land-slips (quechi), one of which was said to have brought down one thousand alerses, some of them being five fathoms round near the roots. This land-slip measured seven hundred yards in length and three hundred yards in width.

Mr. Douglas finds much fault with the manner in which the Chilotes associate for a voyage, or any joint undertaking. He says, "their voyages being planned like a commonwealth, it follows that their government on board must be republican, and the consequence is that every thing is decided by most votes and most noise." He also complains of their extreme selfishness, and of their reluctance to do any thing, however trifling, for a neighbour, unless for a consideration; another evil consequence of democratic inclinations.

When Moraleda was about Chilóe he went across the cordillera to the lake Nahuel-huapi, in quest of information relative to the 'Cesares;' but he could hear nothing positive about any such city or people, from the Indians whom he met near that lake—well known to the Spaniards as a jesuit missionary station. Mr. Douglas's father-in-law* once commanded a party sent from Chilóe to look for this reported city of 'Cesares.'† He got over and beyond the Cordillera to an elevated plain, where he saw a very large number of Indian huts (toldos), placed so as to form regular streets. Near them were large droves of horses and cattle, and small patches of culti-

* A Spaniard of Castile.

† Don Pedro de Angelis, of Buenos Ayres, has collected and published a great number of documents relating to the 'Cesares.'

vated ground: but he had no time to make further remarks, for his party was discovered, vigorously attacked and driven back, with loss, to the sea. The old man said the climate and soil of that plain were better than those of Chilóe: and, as a proof of it, he found Indian corn with from five to nine large heads, though in Chilóe the same kind of plant only bears from one to three small heads.

A few of the remarks relative to Chilóe, contained in the preceding pages, arose out of an excursion made by me, in 1829, among the neighbouring islands: and many of the other notices mentioned by Captain King (vol. i.) or myself, and given in the narrative as they were received from our associates, were corroborated by what I then witnessed. The excursion alluded to was undertaken in consequence of two carpenters belonging to the Beagle being enticed to desert by a Roman Catholic priest named Forastes, who not only afforded them the means of travelling to Castro and Lemuy, but hid them on his own premises afterwards; and, when he heard that I was seeking for them among the islands, sent them across the gulf of Ancud, in a piragua, to remain in a cove near the Corcovado until the search should be over. One of these men was not worth taking trouble about; but the other was a man who had borne a high character, and had a wife and children in England depending upon him for support. I was satisfied that this man (Wells) had not deserted until overcome by extraordinary temptation and the evil advice of his companion, and determined to do my utmost to recover him. He had pay due for several years' service, and his 'servitude time'* was considerable.

I despatched Mr. Kirke overland to Castro for intelligence; and set out in a light whale-boat, with five men, all as eager as I was myself to rescue their shipmate from the deceitful allurements of Padre Forastes. As a carpenter, also, every one was well aware, that his recovery was of much consequence to our small vessel, in a place where we could not obtain a substitute.

* For the pension granted to seamen in the Royal Navy after twenty-one years' servitude.

While visiting various islands I was much struck by the good order and cheerful alertness of several schools of boys, and by the apparent respectability of their teachers: and I was informed that these schools were much fostered by General Aldunate and his worthy secretary, Forelius (a Swede).

Nothing could be more pleasing than the appearance of the islands; all highly cultivated, and thickly peopled by a quiet race of men, apparently industrious, certainly most obliging and hospitable.

At Lemuy I heard that the fugitives had just left Chelin and Quehuy, in a piragua belonging to one Antonio Vargas, and were gone to the Cordillera, somewhere near the Corcovado, to kill seals and collect oil for him and Padre Forastes, until we should leave Chilóe, when they would return and work for the priest. This information cost me an ounce of gold, given to Vargas's own brother: and for six dollars, in advance, with a promise of more, I engaged a guide (vaqueano) to go with me to the main land. This man had no idea of moving by night; but, understanding clearly that the piragua was gone to an inlet under the Corcovado Mountain, I sailed at once across the gulf, steering by the light of the volcano, much to the terror of our vaqueano, who shrunk down to the bottom of the boat, drew his poncho over his head, and kept muttering prayers, sometimes to the Virgin and his 'devoto' (patron saint), sometimes to 'bruxos;' but never ventured to look up at the large sail, or watch the boat reeling through the waves, as she sailed across with a fresh westerly wind.

After a variety of petty difficulties and disappointments, and searching every inlet within twenty miles of the Corcovado, without finding a trace of the fugitives, I at last abandoned the pursuit and returned to San Carlos; having relanded our unhappy vaqueano, who, while close to the land, had been useful; but whom we had ruined, he often asserted, by obliging him to promise away all his property in masses, in offerings to saints, and in presents to 'bruxos' for his safe deliverance from such continual peril. After hearing such a melancholy statement of his prospects, I added a present to his earnings, which

he assured me would amply satisfy both 'bruxos' and 'devotos,' and left him, notwithstanding his temporary fears, a happy man.

In 1834 I learned that we had actually been within a boat's length of the deserters on one occasion, and that they had made up their minds to yield unconditionally. They were hidden in some thick bushes on the borders of an inlet* under the Corcovado, and their piragua was hauled up behind a rock, out of immediate observation.

It is now high time to quit Chilóe, and proceed along the coast northward: but before I do so, let me take advantage of this opportunity to express the gratitude of those with me, as well as of myself, for a succession of private assistance and sincere kindness experienced from many persons at San Carlos, whose names I refrain from mentioning, because I have a great dislike even to the idea of publishing any thing that occurs in the unreserved intercourse of friends.

* Palbitad, or Almangrande.

Extraordinary meteoric appearances have occasionally been noticed about Chilóe, and the islands southward of it. In describing the Carelmapu earthquake, of 1633, Agüeros says that torrents of rain followed; and that on a high hill near the town was seen a globe of fire, which rose for a short interval, and then fell into the sea: the waters of which were in consequence much disturbed. A violent tempest ensued, with hail larger than musket-balls.

Another remarkable earthquake happened thereabouts on the 23d—24th of December, 1737: and on the 30th, in the early part of the evening, a great exhalation or cloud of fire was seen passing, from north to south, over all the archipelago. It fell on the Huayteca islands, covered them with ashes, and burned up the vegetation to such a degree that it was only in 1750, that the islands began again to look green.—Agüeros, pp. 102, 104, 105.

In Sarmiento's voyage an appearance of a similar nature is mentioned, as having been seen near the Strait of Magalhaens: (Viage al Estrecho de Magallanes, p. 205).—Other authorities might be quoted.

CHAPTER XVIII.

Leave Chilóe — Valdivia — Earthquake — Aborigines — Traditions — Words—Convicts—Tolten — Boroa — Imperial—Mocha—Shocks of Earthquake—Anchor off Talcahuano — Ruins—Account of a great Earthquake which destroyed the city of Concepcion: and was felt from Chilóe to Copiapó; from Juan Fernandes to Mendoza.

At daylight on the 5th of February the Beagle sailed from Chilóe, and passed along the coast of southern Chile, towards the port of Valdivia. This is a bold and high tract of land, without a danger for shipping to avoid; but, at the same time, without a safe anchorage between the ports above-mentioned. Soundings extend some miles into the offing, though the water is deep. At two miles westward of this shore we usually found about forty fathoms water; at three miles about sixty, and at five miles from seventy to eighty or ninety fathoms, with a soft, sandy, or muddy bottom.

Whenever, as in this case, we were obliged to carry on the survey without landing, our observations for latitude—often those for time also—were made at the opposite points of the horizon, as well as in the usual manner, when land did not intervene, and the mean results taken as the most correct. In this way, it is probable that errors occasioned by refraction were in a considerable degree avoided.*

The day before arriving at Valdivia we had a strong northerly wind, with cold, rainy weather, though the glasses were high. Such an anomaly I have elsewhere noticed, especially in Tierra del Fuego; but any attempt to explain it must be deferred. Another singularity was the temperature of the

* We had three sextants, made for me by Worthington, which had additional horizon glasses, enabling them to measure any angle less than 160°. The contrivance was my own, and found to answer. It is described in the Appendix.

ocean, not being higher than that near the Chonos Archipelago, and very little warmer than that of Magalhaens Strait: this fact will also be recurred to again.

Feb. 8th. We anchored in the deceiving port of Valdivia. I say deceiving, because it offers to the eye ample space and the utmost security, while, in fact, the safe anchorage is very limited; so much mud and sand being brought down by the river that extensive banks are formed, and increase yearly. We were struck by the apparent strength of the fortresses, built originally by the Dutch in 1643, but improved and increased by the Spaniards. Now, however, their strength is but apparent; for a closer inspection shows that they are almost in ruins and the guns out of order; indeed so nearly disabled, that they could hardly fire a salute without danger. Around the port are high hills, completely covered with wood; and they attract clouds so much, that almost as great a quantity of rain falls there as on the western shores of Chilóe. Several rivers empty themselves at this one mouth, which is the only opening among hills that form a barrier between the ocean and an extensive tract of champaign country,* reaching to the Cordillera of the Andes. The principal of these rivers are the Calla-calla† and the Cruces; their tributaries are very numerous, few countries being better watered by running streams than that about Valdivia.

Every facility and kindness in his power was offered to us by Don Isaac Thompson, the Yntendente:—and by his secretary, Don Francisco Solano Perez, I was presented with a rare edition of Febrés's 'Arte de la Lengua Chilena,' which has been of much use in explaining the meaning of aboriginal words and names. Don Francisco wished me to take another curious work, but I declined; and have often regretted since that I did not ask him to let me copy a map in it which contained the tracks of Spanish missionaries from Castro in Chilóe to the lake of San Rafael, isthmus of Ofqui, and archipelago of islands in latitude

* Called "Los Llanos," or the plains.

† On which is the town of Valdivia.

48-9° S. I thought another copy might be found at Lima, but during my subsequent stay there, not one could be discovered.

The town of Valdivia, formerly dignified by the appellation of city, disappointed our party extremely. It proved to be no more than a straggling village of wooden houses, surrounded with apple-trees; and the only building, even partially constructed of stone, was a church.* Many of us were in the town on the 20th of February, at the time of that great earthquake, which ruined so many places besides the city of Concepcion: an awful event, which will be related in the following pages.

An English carpenter, who had served on board the Beagle, in 1828, but had since settled on the banks of the river Cruces, about thirty miles from Valdivia, came on board his old ship one day, to see those whom he knew. It happened that I had formerly been of some assistance to him, and he was naturally glad to oblige me, by giving such information about the country and the natives as he was able to impart; and having lived nearly four years among them, his accounts were not only interesting, but, I think, worthy of credence.† As some of these were confirmed by what I heard from residents at Valdivia, and I have no doubt of their truth, I shall mention them without hesitation in the course of my narrative.

I was much struck by the peculiar physiognomy of those aboriginal natives whom I saw during my stay: and there must have been some ground for Mr. Darwin and myself remarking at different times, unknown at first to one another, that their countenances reminded us of portraits of Charles I. This was my impression at the first glance; but after closer examination it wore off, and I thought less of that likeness than I did of their resemblance to the Hindoo race. There was neither the open honesty of a Patagonian, nor the brutal look of most Fuegians; but there was a sombre cast of depressed

* That church and other edifices have since been laid in ruins by the violent earthquake of Nov. 7, 1837.

† He was a very intelligent, observing man, and a good workman: while belonging to the Beagle, he was rated carpenter's mate.

TOWN SEEN ACROSS THE RIVER.

OLD LOOK-OUT TOWER.

VALDIVIA.

Published by Henry Colburn, Great Marlborough Street, 1835.

intelligence that at once said, "we are restrained, but not subdued." Their countenances were less wide, and more swarthy, than those to which our eyes had been accustomed; and they eyed us with a sinister although resolute glance, which seemed to ask whether we were also come to try for a share of their country. These men were of a middle stature; and formed more slightly than those of the south. They were all tolerably clothed in blue cloth of their own manufacture; and the men of different tribes were distinguished by a slight difference in dress; the Juncos, who live south of Valdivia, wearing a sort of petticoat, instead of trowsers, while the Rancos, another subdivision, wore short loose breeches. In other respects they are similar, as to outward appearance, and their language is that of all southern Chile.* These Juncos and Rancos are but portions of that collection of tribes usually known among Europeans by the celebrated name of Araucanians; but among the natives, by the terms Molu-che, Huilli-che, &c. I certainly gazed at these Indians with excessive interest, while I reflected on the multiplied sufferings undergone by their ancestors—the numbers that perished in mines—or in trying to defend their country—and the insidious attempts made to thin their numbers by frequent intoxication, if not by introducing deadly disease.†

To keep these Indians on peaceable terms, and in order to have early intelligence of any general combination, the Chilians maintain among them 'capitanes de los amigos,' whose apparent office is to take the part of an Indian, if he should be ill-treated by a Chilian (of Spanish descent), and to interpret between parties who wish to barter goods. There is also a 'comisario de los Indios,' who is a centre of reference for the 'capitanes,' and who ought to be the friend and protector of the aborigines. Many tribes, however, will have nothing to say to either the commissary or his captains, seeing through their object, and detesting even the descendant of a Spaniard too deeply to admit any one of that abhorred race into their territory. About Valdivia there are only a few leagues of ground held by Chile, excepting which all that magnificent

* The Huilli-che. † By giving them infected things.

tract of country, reaching from the Gulf of Ancud nearly to the river Bio-Bio, probably the finest district in all South America, is still kept by the brave Araucanians.

These Indians are extremely superstitious, but in their rites there are curious customs, perhaps indicative of their origin. About Valdivia, whenever an aboriginal and heathen native dies, he is buried in a small canoe, with a scanty supply of provisions and chicha,* on the bank of a river which flows to the sea. Their idea is that the spirit goes by water to that place, in the direction of the setting sun, whence their remote ancestors came. Febrés says, in his work before mentioned, that the island Mocha is the place meant: but if we reflect that Mocha is very small, only twenty miles from the mainland, and that when first discovered, early in the sixteenth century, it was inhabited by Indians who often crossed over to the continent, I think we must look much farther west for the place of departed souls to which these people refer.

The aborigines who live near volcanoes offer propitiatory sacrifices to the evil spirit, Pillan, who is said to cause earthquakes and eruptions. They sacrifice bulls and rams to him, besides offering fruit, vegetables, and chicha. On a mountain called Theghin, or Theg-theghin, (which means to crackle or sparkle like fire), these people say that their early progenitors escaped from the Deluge. There is a word in common use among them, meaning 'the great ancestor,' or 'our great ancestors,' or 'the renowned,' which is hardly to be distinguished from Shem. Febrés spells it 'Them,' but, as the th is frequently pronounced, it would sound like chem.† Can this be handed down from their ancestor of the Ark ?‡

Another word that attracted my notice particularly, was 'minga.' I have a note by me (unfortunately without the proper reference) remarking the resemblance of minga, not

* Fermented liquor made from maize, apples, or other substances.

† Molina, Hist. Civil de Chile. Vol. ii. p. 333. Falkner says that the Vuta Huilliche substitute t for ch, p. 99.

‡ I am informed by Doctor Andrew Smith, that the word Ham is still common among the nations of southern Africa, as a distinguishing appellation,

only in sound but in meaning, to the Hebrew word mincha. Molina (p. 333) says that these people have a nasal g, which brings the two words to an identity of sound. The Hebrew term, I am told, means an offering or collection of fruits, liquors, &c.; and the corresponding Huilli-che word means a a feast of which those partake who are about to unite in a work for the benefit of him who makes the 'minga.' In the Appendix a few Greek, Latin, and Araucanian words are arranged so as to show the remarkable similarity existing between them.

I was told by the Yntendente that some Englishmen had arrived in his district a few months before we came, whose character and business he did not understand. Rumours had reached his ears of their having escaped from one of our convict settlements, at the other side of the Pacific, and he was inclined to believe the report. Three of these men had married since their arrival, and all but one were industrious members of his community: indeed I saw two of them hard at work on a boat belonging to the Yntendente. Having however no proof of their delinquency, I did not deem myself authorized to ask him to have them arrested and delivered up to me, in order that I might convey them to the senior British officer at Valparaiso. Afterwards I learned that these men, seven or eight in number, had escaped from Van Diemen's land in a very small vessel, and sailing always eastward, had at last arrived on the coast near Valdivia, whence they were conducted by a fisherman into the port. Eventually they were made prisoners by the Chilian authorities, delivered up to our Commodore, and by him sent to England.

I was informed that there is coal in many places about Valdivia; but I did not see any. We sailed on the 22d, after receiving, on all occasions, the kindest treatment from the residents.

As we passed along the low coast about the river Tolten, numbers of Indians on horseback, and armed with lances, were seen riding along the shore, evidently watching our movements. This part of the coast is shoal, and at night would

be dangerous, for the low land projects considerably, and would not then be readily seen. We could not distinguish the mouths of either the Tolten or the Imperial (or Cauten) quite satisfactorily, but as they are bar rivers—useless to shipping—I would not risk anchoring on so exposed a coast, or sending a boat away into such a surf as we saw breaking, without having more time at my disposal and a higher object in view.

On the Cauten was the city called Imperial—celebrated in Araucanian story—and near its site now live the Boroa tribe, some of whom have light-coloured eyes, fair complexions, and even red hair. I saw one of these Indians at Valdivia, who had blue eyes, but dark hair. She told me that in her own country, 'Boroa,' there were many with eyes like her's; that some were 'rubios,' that is, of a red and white complexion, and that a few had red hair. Her parents had told her, she said, that those people were descended from the 'Huincas.'* How the red hair originated is rather curious; I have heard of it from good authorities at other times, while in Chile.

Late on the 24th we anchored at Mocha, and the following week was occupied in surveying its shores and the space between them and the mainland.† Shocks of earthquakes were frequently felt, more or less severely; sometimes I thought that the anchor had been accidentally let go, and the chain was running out; and while at anchor, I often fancied the ship was driving, till I saw that there was neither swell, current, nor wind sufficient to move her from the anchorage. We naturally concluded that some strange convulsion was working, and anxious for the fate of Concepcion, hastened to Talcahuano Bay as soon as our duty would allow: arriving there on the 4th of March—to our dismay—we saw ruins in every direction.

The following account of this catastrophe was subsequently obtained:—

At ten in the morning of the 20th of February, very large flights of sea-fowl were noticed, passing over the city of Con-

* An Araucanian name for the Spaniards, signifying assassins.

† I shall recur to Mocha again.

cepcion, from the sea-coast, towards the interior: and in the minds of old inhabitants, well acquainted with the climate of Concepcion, some surprise was excited by so unusual and simultaneous a change in the habits of those birds,* no signs of an approaching storm being visible, nor any expected at that season. About eleven, the southerly breeze† freshened up as usual—the sky was clear, and almost cloudless. At forty minutes after eleven,‡ a shock of an earthquake was felt, slightly at first, but increasing rapidly. During the first half minute, many persons remained in their houses; but then the convulsive movements were so strong, that the alarm became general, and they all rushed into open spaces for safety. The horrid motion increased; people could hardly stand; buildings waved and tottered—suddenly an awful overpowering shock caused universal destruction—and in less than six seconds the city was in ruins. The stunning noise of falling houses; the horrible cracking of the earth, which opened and shut rapidly and repeatedly in numerous places;§ the desperate heart-rending outcries of the people; the stifling heat; the blinding, smothering clouds of dust; the utter helplessness and confusion; and the extreme horror and alarm, can neither be described nor fully imagined.

This fatal convulsion took place about a minute and a half or two minutes after the first shock; and it lasted for nearly two minutes, with equal violence. During this time no one could stand unsupported; people clung to each other, to trees, or to posts. Some threw themselves on the ground; but there the motion was so violent that they were obliged to stretch out their arms on each side, to prevent being tossed over and over. The poultry flew about screaming wildly. Horses and other animals were greatly frightened, standing with their legs spread out, and their heads down, trembling excessively.

After the most violent shock ceased, the clouds of dust which

* Chiefly gulls. † Sea-breeze.

‡ Mean time. Equation=14 m. subtractive from mean time.

§ The direction of these cracks was not uniform, though generally south-east and north-west.

had been raised by falling buildings, began to disperse; people breathed more freely, and dared to look around them. Ghastly and sepulchral was the sight. Had the graves opened and given up their dead, their appearance could scarcely have been more shocking. Pale and trembling, covered with dust and perspiration, they ran from place to place, calling for relations and friends; and many seemed to be quite bereft of reason.

Considerable shocks continued to harass and alarm at short intervals. The earth was never long quiet during that or the next day, nor indeed for the three days following the great shock; and during many hours after the ruin, it was tremulous, and the shocks were very frequent, though not severe. Many of these, but not all, were preceded by a rumbling, subterranean noise, like distant thunder. Some compared the sound to the distant discharge of many pieces of artillery. These noises came from the south-west quarter, and preceded the shock by one or two seconds; sometimes, but not often, the sound was unaccompanied by any shock.

It was the general opinion that the motion was from south-west to north-east. Some whole walls, whose direction was south-east and north-west, were laid flat, the bricks still maintaining their relative position, though end-wise, without being scattered upon the ground. These walls fell, without exception, to the north-east.* Others were scattered as they fell; but still the greatest masses of brick-work were thrown towards the north-east. Walls standing in the opposite direction, north-east and south-west, suffered far less: none fell bodily or in masses; fragments were shaken or torn off; and some of the walls were very much cracked,† but others suffered little. Houses built of 'adobes,'‡ became confused heaps, and roofs fell in every where. The cathedral, whose walls were four feet in thickness, supported by great buttresses, and built of good brick and mortar,§ suffered more than other buildings. Ad-

* The streets of Concepcion lie north-east and south-west: north-west and south-east.

† Vertically, as if by the undulatory movement of the earth's surface in the direction of their length. ‡ Large unbaked bricks.

§ Both bricks and mortar were excellent.

J. C. Wickham S. Bull

REMAINS OF THE CATHEDRAL AT CONCEPCION.

RUINED BY THE GREAT EARTHQUAKE OF 1835.

Published by Henry Colburn, Great Marlborough Street 1838

hering to the remains of the walls were left the lower parts of some buttresses—the upper parts of others—while in one place a buttress stood on its own foundation, separated entirely from the wall.

The city of Concepcion stands upon a plain, very little higher than the level of the river Bio Bio. The soil is loose and alluvial. To the eastward and northward lie rocky irregular hills: from the foot of which the loose earth was every where parted by the great convulsion, large cracks being left, from an inch to more than a foot in width. It seemed as if the low land had been separated from the hills, having been more disturbed by the shock.

Women washing in the river near Concepcion were startled by the sudden rise of the water—from their ankles to their knees—and at the same moment felt the beginning of the convulsion. It was said that the dogs avoided the ruin, by running away before it occurred. This, though known with certainty to have been the case at Talcahuano, wants confirmation with respect to Concepcion. Of nine men who were repairing the inside of a church, seven were killed, and two severely hurt. One of these poor fellows was half-buried in the ruins, during five days, with a dead body lying across him, through which it was necessary to cut, for his release. A mother, escaping with her children, saw one fall into a hole; a wall close to her was tottering; she pushed a piece of wood across the hole, and ran on; the wall fell, covering the hole with masses of brick-work; but, next day, the child was taken out unhurt. Another woman missed a child; saw that a high wall was tottering, but ran for her son, and brought him out. As she crossed the street, the wall fell, but they were safe; when the tremendous crash came, the whole street, which she had just crossed, was filled up with part of the ruins of the cathedral. Besides a waving or undulatory movement, vertical, horizontal, and circular or twisting motions were felt. An angular stone pinnacle was particularly noticed, which had been turned half round, without being thrown down, or leaving its base.

Persons riding at the time of the great shock, were stopped

short; some, with their horses, were thrown to the ground: others dismounted, but could not stand. So little was the ground at rest after the great destruction, that between the 20th of February and the 4th of March, more than three hundred shocks were counted.

Much misery was alleviated by the good conduct and extreme hospitality of the inhabitants of Concepcion. Mutual assistance was every where rendered, and theft was almost unknown. The higher classes immediately set people to work, to build straw-covered huts and temporary houses of board, living meanwhile in the open air under trees. Those who soonest obtained or contrived shelter, collected as many about them as they could assist, and in a very few days all had a temporary shelter, under which they tried to laugh at their misfortunes and the shifts to which they were reduced.

At Talcahuano the great earthquake was felt as severely on the 20th February as in the city of Concepcion. It took place at the same time, and in a precisely similar manner: three houses only, upon a rocky foundation, escaped the fate of all those standing upon the loose sandy soil, which lies between the sea-beach and the hills. Nearly all the inhabitants escaped uninjured; but they had scarcely recovered from the sensations of the ruinous shocks, when an alarm was given that the sea was retiring! Penco* was not forgotten; apprehensive of an overwhelming wave, they hurried to the hills as fast as possible.

About half an hour after the shock, when the greater part of the population had reached the heights,—the sea having retired so much, that all the vessels at anchor, even those which had been lying in seven fathoms water, were aground, and every rock and shoal in the bay was visible,—an enormous wave was seen forcing its way through the western passage which separates Quiriquina Island from the mainland. This terrific swell passed rapidly along the western side of the Bay of Concepcion, sweeping the steep shores of every thing moveable within thirty feet (vertically) from high water-mark. It

* Penco, the first Spanish capital of the province of Concepcion, was overwhelmed by the sea in 1730: and old Concepcion in 1751.

broke over, dashed along, and whirled about the shipping as if they had been light boats; overflowed the greater part of the town, and then rushed back with such a torrent that every moveable which the earthquake had not buried under heaps of ruins was carried out to sea. In a few minutes, the vessels were again aground, and a second great wave was seen approaching, with more noise and impetuosity than the first; but though this was more powerful, its effects were not so considerable—simply because there was less to destroy. Again the sea fell, dragging away quantities of woodwork and the lighter materials of houses, and leaving the shipping aground.

After some minutes of awful suspense, a third enormous swell was seen between Quiriquina and the mainland, apparently larger than either of the two former. Roaring as it dashed against every obstacle with irresistible force, it rushed—destroying and overwhelming—along the shore. Quickly retiring, as if spurned by the foot of the hills, the retreating wave dragged away such quantities of household effects, fences, furniture, and other moveables, that after the tumultuous rush was over, the sea appeared to be covered with wreck. Earth and water trembled: and exhaustion appeared to follow these mighty efforts.

Numbers of the inhabitants then hastened to the ruins, anxious to ascertain the extent of their losses, and to save some money, or a few valuable articles, which, having escaped the sweep of the sea, were exposed to depredators.*

During the remainder of the day, and the following night, the earth was not quiet many minutes at a time. Frequent, almost incessant tremors, occasional shocks more or less severe, and distant subterranean noises, kept every one in anxious suspense. Some thought the crisis had not arrived, and would not descend from the hills into the ruined town. Those who were searching among the ruins, started at every shock, however slight, and almost doubted that the sea was not actu-

* Thieves were numerous in Talcahuano. Directly after the ruin these scoundrels set to work—though crying 'Misericordia,' and with one hand beating their breast—with the other they stole most industriously.

ally rushing in again to overwhelm them. Nearly all the inhabitants, excepting a few who went on board vessels in the harbour, passed the night upon the hills, without shelter: and next day they began to raise sheds and huts upon the high grounds, still dreading the sea. It was said, and generally considered certain, that every dog at Talcahuano had left the town before the shock, which ruined the buildings, was felt.

Without explanation it appears astonishing how the shipping escaped destruction. There were three large whale-ships, a bark, two brigs, and a schooner, very near the town, in from four to seven fathoms water: they were lying at single anchor,* with a good scope of cable:† one only was well moored.

With the southerly breeze, which was rather fresh at the time of the earthquake, these vessels lay to seaward‡ of their anchors, having their sterns towards the sea; and were left aground in this position. The captain of the port, D. Pablo Delano, was on board one of the whale ships at the time, with the hatches battened down, and dead lights shipped. All hands took to the rigging for safety. The first great wave came in an unbroken swell to the stern of the vessel, broke over and lifted her along without doing any material harm, more than sweeping her decks: and the slack chain dragging over the mud checked her gradually, as the first impetus of the wave diminished. Whirling her round, the water rushed out to seaward again, leaving the vessel stranded nearly in her former position. From two fathoms, when aground, the depth alongside increased to ten, as the water rose highest during the last swell. The two latter waves approached, and affected the shipping similarly to the former: all withstood their force, though the light anchors were dragged. Some of the vessels were thrown violently against others; and whirled around as if they had been in the vortex of a whirlpool. Previous to the rush of waters, the Paulina and Orion, two merchantmen, were

* Or steadied by a second anchor which was too light to withstand any great strain.

† Chain.—The holding-ground is excellent, a soft, tenacious mud.

‡ Nearly half a cable's length; or from sixty to one hundred yards.

lying a full cable's length apart; and after it had passed they were side by side, with three round turns in their cables. Each vessel had therefore gone round the other with each wave: the bow of one was stove in: to the other little damage was done. A small vessel* was on the stocks, almost ready for launching; she was carried by the sea two hundred yards in-shore, and left there unhurt. A little schooner, at anchor before the town, slipped her cable, and ran out in the offing as the water fell. She met the wave, unbroken, and rose over it as an ordinary swell. The Colocolo† was under sail near the eastern entrance of the bay—she likewise met the wave, as a large swell, without inconvenience.

Many boats‡ put off from the shore before the sea retired: some met the advancing waves before they broke, and rose safely over them; others, half swamped, struggled through the breakers. The fate of one little boy was extraordinary. A servant woman had taken refuge with him in a boat; the boat was dashed against an anchor, lying on the shore, and divided. The woman was drowned, but the half of the boat containing the child § was carried out into the bay. It floated, and the boy held firmly. He was picked up afterwards, sitting upright, holding steadily with both hands, wet and cold, but unhurt. The boy's name is Hodges: his father is an Englishman, well known at Talcahuano, and was an officer in the British navy.

For several days the sea was strewed with wreck; not only in the Bay of Concepcion, but outside, in the offing. The shores of Quiriquina Island were covered with broken furniture and wood work of all kinds; so much so, that for weeks afterwards, parties were constantly at work collecting and bringing back property. During three days succeeding that of the ruin the sea ebbed and flowed irregularly, and very frequently: rising and falling for some hours after the shock two or three times in an hour. Eastward of the island of Quiriquina the swell was neither so large nor so powerful as that

* About thirty tons.
† Chilian schooner of war.
‡ Chiefly, if not all, whaleboats.
§ Only four years old.

which swept over Talcahuano. Having more room to expend its strength in the wider and deeper part of the bay may perhaps have been the reason why the sea swelled rapidly, without breaking, near Lirquen, in the south-east part of the bay; and why it broke over Tomé* with violence, though not so furiously as over Talcahuano. The great waves, coming from the sea, appear to have been divided, at the entrance of Concepcion Bay, by the island of Quiriquina, and turned aside both ways, one part taking its course along the Tumbes, or western shore, towards Talcahuano; the other across the eastern opening, towards Tomé. While the bay of Concepcion was agitated by the great waves, it was noticed by Captain Walford (from his house at Lirquen), that the Colocolo was swept to and fro remarkably. She was under sail near the eastern entrance of the bay. Two explosions, or eruptions, were witnessed while the waves were coming in. One in the offing, beyond the island of Quiriquina, was seen by Mr. Henry Burdon and his family, who were then embarked in a large boat, near Tomé; it appeared to be a dark column of smoke, in shape like a tower. Another rose in the middle of the bay of San Vicente, like the blowing of an immense imaginary whale: its disappearance was followed by a whirlpool which lasted some minutes: it was hollow, and tended to a point in the middle, as if the sea was pouring into a cavity of the earth. At the time of the ruin, and until after the great waves, the water in the bay appeared to be every where boiling; bubbles of air, or gas, were rapidly escaping; the water also became black, and exhaled a most disagreeable sulphureous smell. Dead fish were afterwards thrown ashore in quantities; they seemed to have been poisoned, or suffocated; and for days together the shores of the bay were covered with fine corvinos, and numerous small fish. Black stinking water burst up from the earth, in several places; and in Mr. Evans's yard, at Talcahuano, the ground swelled like a large bubble,

* Tomé is near the eastern entrance of the bay, where the wave would meet with more interruption than near Lirquen, though considerably less than in the western passage.

then bursting, poured forth black, fetid, sulphureous water. Near Concepcion similar outbursts of water were seen, and similarly described.

By a marked part of the wall of Captain Delano's house, it was ascertained that the body of water reached twenty-five feet above the usual level of high water. It penetrated into the 'altos,'* and left sea-weed hanging to the remains of roofs, or to the tops of broken walls. But this must not be taken as the general height of the wave. A body of water, rushing upon a sloping beach with such force, would naturally preserve its impetus for some time, and run up the inclined plane, to a great height. Those who watched the waves coming in, considered them, while beyond the shipping, about as high as the upper part of the hull of a frigate; or from sixteen to twenty feet above the level of the rest of the water in the bay. Only those parts of the wave which encountered opposition broke, until within half a mile of the beach, when the roar became appalling. Persons who were standing on the heights, overlooking both bays, saw the sea come swelling into San Vicente at the same time that it advanced upon Talcahuano. The explosion in San Vicente, and the sea advancing from both sides, made them think that the peninsula of Tumbes was about to be separated from the main land, and many ran up the hills until they had reached the very highest point.

Strange extremes of injury and harmlessness were among the effects of these overwhelming waves. Buildings were levelled, heavy twenty-four pound guns were moved some yards, and upset; yet a child was carried to sea uninjured; and window-frames, with the glass in them, were thrown ashore upon the island of Quiriquina without a pane being broken! According to a register, kept by Captain Delano, it appears that his barometer fell four or five tenths of an inch between the seventeenth and eighteenth of February, and was still falling on the morning of the eighteenth, after which it rose again. So great† and

* First floor rooms.

† In Concepcion a fall of two or three tenths indicates bad weather; four or five tenths a gale of wind, with much rain.

sudden a fall, not followed by bad weather, may have been connected with the cause of the earthquake; but some doubt hangs over these observations. The barometers on board the Beagle, at that time in Valdivia, did not indicate any change. Still, at so great a distance, it does not follow that the mercury should move similarly; and (notwithstanding doubts excited by persons at Concepcion who had frequently looked at Captain Delano's barometer,) I am hardly inclined to disbelieve the extract from his register which he gave me.

In a river near Lirquen, a woman was washing clothes at the time of the great shock. The water rose instantaneously, from her feet half way up her legs; and then subsided gradually to its usual level. It became very muddy at the same time. On the sea-beach the water swelled up to high-water mark, at the time of the shock, without having previously retired. It then began to retire, and continued falling about half an hour, before a great wave was seen approaching.

For some days after the devastation the sea did not rise to its usual marks, by four or five feet vertically. Some thought the land had been elevated, but the common and prevailing idea was, that the sea had retired. This alteration gradually diminished, till, in the middle of April, there was a difference of only two feet between the existing, and former high-water marks. The proof that the land had been raised exists in the fact, that the island of Santa Maria was upheaved some feet more than other places.

In going through the narrow passage which separates Quiriquina from Tumbes, the great waves had swept the steep shores to a height of thirty feet (vertically) above high-water mark; but this elevation was attained, in all probability, only at the sides of the passage, where the water met with more obstruction, and therefore washed up higher. That passage is nearly one mile in width, and has ten fathoms water in the middle; but the rocks on the western side diminish its navigable width to half a mile.

Wherever the invading waves found low land, the destruction was great, from those lands being in general well cultivated, and

the site of many houses. The low grounds lying at the bottom of Concepcion Bay, particularly those of the Isla de los Reyes, were overflowed, and injured irreparably: quantities of cattle, horses, and sheep were lost. Similar effects, in an equal or less degree, were felt on the coasts between the river Itata, and Cape Rumena. Large masses of earth and stone, many thousand tons in weight, were detached from the cliffs, and precipitous sides of the hills. It was dangerous to go near the edge of a cliff, for numerous chasms, and cracks in every direction, showed how doubtful was the support. When walking on the shore, even at high-water, beds of dead muscles, numerous chitons and limpets, and withered sea-weed, still adhering, though lifeless, to the rocks on which they had lived, every where met the eye—proofs of the upheaval of the land.

Besides suffering from the effects of the earthquake and three invading waves, which, coming from the west round both points of the island, united to overflow the low ground near the village, Santa Maria was upheaved nine feet. It appeared that the southern extreme of the island was raised eight feet, the middle nine, and the northern end upwards of ten feet. The Beagle visited this island twice—at the end of March and in the beginning of April: at her first visit it was concluded, from the visible evidence of dead shell-fish, water-marks, and soundings, and from the verbal testimony of the inhabitants, that the land had been raised about eight feet. However, on returning to Concepcion, doubts were raised; and to settle the matter beyond dispute, one of the owners of the island, Don S. Palma, accompanied us the second time. An intelligent Hanoverian, whose occupation upon this island was sealing, and who had lived two years there and knew its shores thoroughly, was also passenger in the Beagle.

When we landed, the Hanoverian, whose name was Anthony Vogelborg, showed me a spot from which he used formerly to gather 'choros,'* by diving for them at low tide. At dead low water, standing upon the bed of 'choros,' and holding his hands up above his head, he could not reach the surface of the water:

* A large kind of muscle.

his height is six feet. On that spot, when I was there, the 'choros' were barely covered at high spring-tide.

Riding round the island afterwards, with Don Salvador and Vogelborg, I took many measurés in places where no mistake could be made. On large steep-sided rocks, where vertical measures could be correctly taken, beds of dead muscles were found ten feet above the recent high-water mark. A few inches only above what was then the spring-tide high-water mark, were putrid shell-fish and seaweed, which evidently had not been wetted since the upheaval of the land. One foot lower than the highest bed of muscles, a few limpets and chitons were adhering to the rock where they had grown. Two feet lower than the same muscles, chitons and limpets were abundant.

An extensive rocky flat lies around the northern parts of Santa Maria. Before the earthquake this was covered by the sea, some projecting rocks only showing themselves: after it, the whole surface was exposed; and square acres (or many quadras) of the rocky flat were covered with dead shell-fish, the stench arising from which was abominable. By this elevation of the land the southern port of Santa Maria was almost destroyed: there remained but little shelter, and very bad landing: the soundings having diminished a fathom and a half every where around the island.

At Tubul, to the south-east of Santa Maria, the land was raised six feet. The waves did not enter that river's mouth until about one o'clock; and then in greater number, but with less force, six or seven having been counted. Might not this be owing to the meeting of the divisions of the great wave which passed around Santa Maria.

At the island of Mocha the shock of the earthquake was so strong that people could not stand. The sea washed over the rocks at the end of the island, higher than it had ever reached in a heavy gale of wind. Anthony Vogelborg was on one of those rocks, or rather on an islet at the south end of Mocha, at the time, with a party who were sealing. Their boat was hauled up on the top of the rocky islet, and, expecting to be washed off, they held by it in readiness. The boat was lying

nearly east and west. During the earthquake some water in her bottom ran as fast from one end of the boat to the other as if some one were quickly lifting one end off the ground and letting it down again. It did not wash from side to side at any time. Two forked sticks were stuck in the ground, about three yards apart; another lay across them for hanging things to dry. These sticks also were nearly east and west of one another: and during the shock they waved to and fro till the forks touched, and the cross stick fell. Strong shocks were felt by vessels under sail near Mocha; and between Mocha and Concepcion, the same was experienced by several vessels, not only on the 20th, but during following days.

At anchor off Mocha on the 24th, a shock was felt by me, which resembled the sudden dragging of the anchor over rocks. Under way on the 2d of March, it was thought that a chain-cable was running out at the hawse. In one vessel they supposed she had run ashore: on board of another, that the ship had passed over a whale. Vogelborg thought that the land had been upheaved about two feet; and from his accuracy in other matters, I am inclined to trust to his opinion.

At Valdivia the shock began gently, increased gradually during two minutes, was at its strongest about one minute, and then diminished. The motion was undulating and regular, like waves rolling from west to east, but strong; and it lasted nearly ten minutes. There was no difficulty in standing or walking, but the houses waved and cracked. The stone church tottered, but was not injured; its roof was very light. All the dwelling-houses being strongly built of wood, withstood the shock. Most people thought the motion was from south-west to north-east, but Mr. Darwin and a person with him at the time, thought the reverse.

The river increased, or rose, at the same time, and rapidly fell again to its former height. In the port the sea swelled suddenly upon the shore to high-water mark, though it was then nearly the time of low-water, and quickly fell again. Both sea and river rose and fell frequently during the remainder of the day. The river never fell below its usual height, neither did the sea retire

beyond its proper place, at that time of tide; but each swelled from time to time and again sunk down. This happened once or twice in an hour. After the great convulsion, other slighter shocks occurred at intervals of a few minutes during an hour. In the afternoon, at about five, a smart shock was felt, which made the people run out of their houses.* One man and one woman were drowned by the sudden rise of the sea near Niebla: it was supposed that they were upon the rocks gathering shell-fish. Excepting in this instance, no injury was done at Valdivia. No noise preceded or accompanied any of the shocks.†

This great earthquake extended to the island of Chilóe, and probably still farther to the southward. The shock was there slight, but lasted during six or eight minutes; it was neither preceded nor followed by any subterranean noise. At about thirty-four minutes after eleven,‡ the beginning of the shock was felt. The motion was undulating and not strong. The swell of the sea was felt there, but I know not at what time. A man was going to leave the shore§ in his boat; he went a short distance to fetch something, and returning found the boat aground and immoveable: puzzled and vexed he went away, but had not gone many yards before his son called to him that it was afloat.

* Although built of wood.

† (Valdivia has since been ruined). "Valdivia, Nov. 7, de 1837.

"El gran terremoto que ha esperimentado este pueblo en la mañana de este dia, sin tocar los limites de la exajeracion, se puede asegurar sea el mayor de los hasta aqui acontecidos. Dió principio a las 8 y 5 minutos; y terminó a las 8 y quarto: advirtiendo que el movimiento de la tierra en este espacio de tiempo fué tan extraordinario que con dificultad podia un hombre sostenerse en pié. Continuó en seguida hasta las 9 y media con interrupcion solo de momentos, y desde esa hora hasta las 12 y tres cuartos que son actualmente se esperimentan los mismos movimientos, aunque no con igual fuerza. Las dos unicas iglesias que habia en este pueblo, y todos los edificios fiscales, se han arruinado completamente. y si no les ha caido igual suerte a las demas casas de esta poblacion ha contribuido sin duda la circumstancia de ser ellas de madera, aunque por lo general han sufrido grande detrimento. "ISIDRO VERGARA."

"Al S^r^. Ynt^e^. de la prov. de Concepcion, Dn. Manuel Búlnes."—Extracted from the 'Araucano' of Chile, Dec. 8, 1837.

‡ Mean time (exact?). § Point Arena—San Carlos.

In the small port of Coliumo, close to the northward of Concepcion Bay, the waves rose about as high as at Tomé, nearly fourteen feet before they reached the shore. The little village of Dichato shared the general calamity; but, standing rather higher and more distant from the sea than Talcahuano, it escaped the ravages of that element.

At the mouth of the Maule the force and height of the waves must have been considerably diminished; for no particular effect was noticed at the time, nor were there any marks upon the shore by which the height of the wave could be afterwards ascertained. That the sea should not there have occupied attention is not surprising, when one considers the locality of La Constitucion, as the port and town are called. On level low land, at the south side of the river, lies the town; between which and the sea there is high land, and a distance of about a mile. The river winds round the northern promontory of the high land, and then fights its way to sea over a bar, on which there are always breakers. There are no houses on the sea-shore; and, without going half a-mile up the hill, the sea cannot be seen; naturally then, for some time after the town was ruined by the earthquake, the inhabitants would be engaged in saving and sheltering their property, rather than looking at the ocean. I could not ascertain whether the river had risen or not: and having previously heard that the waves were very powerful at the mouth of the Maule, I was a good deal surprised to find they had been almost unnoticed: but all attention seemed to have been engrossed with the earthquake.

A vessel, lying close under the promontory mentioned above, was obliged to move as quickly as possible, when the shocks began, so serious was the shower of stones which rattled down the hill and fell about, and on board of her. I was assured by the governor, by the chief pilot, and by other residents, that instead of the land having been elevated at all, they considered that it had sunk about two feet. The pilot said he had found two feet more water on the bar, since the great shock, and that he was certain the banks of the river were

lower, though he could not say exactly how much. A rush of water might have shifted the loose sands of the bar; but whether the land had sunk seemed to me very doubtful. Certainly, however, it had not risen.

The island of Juan Fernandes was very much affected. Near Bacalao Head an eruption burst through the sea, in a place about a mile from the land, where the depth is from fifty to eighty fathoms. Smoke and water were thrown up during the greater part of the day, and flames were visible at night.* Great waves swept the shores of the island, after the sea had retired so much that old anchors were seen at the bottom of the anchorage.

This earthquake was felt at all places between Chilóe and Copiapó: between Juan Fernandes and Mendoza. On the sea-coast, within those limits, the retiring and swelling of the ocean was every where observed. At Mendoza the motion was evenly gentle. Copiapó, Huasco, and Coquimbo felt similar, although rather more forcible undulations. Towns, and houses which lay between the parallels of thirty-five and thirty-eight, suffered extremely; nearly all were ruined; but northward and southward of those latitudes, slight injury was done to any building. In the parallel of thirty-three and a-half, Juan Fernandes suffered, yet Valparaiso, opposite, escaped uninjured.

As to the state of neighbouring volcanoes, so various were the accounts of their action, both after and before the earthquake, that I had no means of ascertaining the full truth; but I heard from Valdivia that directly after the earthquake all the volcanoes from Antuco to Osorno, inclusive, were in full activity.†

* The highest summit of Juan Fernandes was "found to be burned, full of fissures and hot," in 1743. Ulloa saw a small flame there.—Voyage of Juan and Ulloa; translated by Adams.

† Of another earthquake the "Araucano," of Dec. 8, 1837, states as follows:

"Talcahuano, Nov. 7, 1837.

"Fué bastante recio y duró como cuatro o cinco minutos, con la particularidad notable de haberse advertido un pequeño retroceso de la mar á cia su centro en Talcahuano, y haber quedado interrumpido por algunos dias el flujo y reflujo de sus aguas."

CHAPTER XIX.

Mocha—Movement of Land—Penco—Ulloa—Shells—Coal—Maule—Topocalma—Aconcagua—Valparaiso—Horcon—Papudo—Pichidanque—Conchali—Herradura—Coquimbo—Wreck—Challenger—Blonde—Ride—Estate—Colcura—Villagran—Arauco—Former caciques—Colocolo—Caupolican—Scenery—Quiapo—Night travelling—Leübu—Tucapel—Valdivia—Lautaro—Challenger.

When the Beagle entered Concepcion Bay, she had only one heavy anchor left, having broken or lost the others; and as there were none fit for her at Talcahuano, it became absolutely necessary to go to Valparaiso: accordingly, on the 7th of March we left the melancholy ruins and their disconsolate tenants, and on the 11th dropped our only anchor at Valparaiso. There our wants were soon supplied, and we sailed on the 17th to revisit Concepcion.

From the 27th the time was occupied in surveying the neighbourhood of Concepcion, Arauco Bay, the island of Santa Maria, and Mocha, until the 17th of April.

Mocha is a prominent land-mark for navigators, but dangerous rocks lie about its south-west quarter, and as the current usually sets northward, a ship ought to beware of them. Previous to the eighteenth century it was inhabited by Araucanian Indians, but they were driven away by the Spaniards; and since that time a few stray animals have been the only permanent tenants. Most of the early voyagers speak of it. We found the anchorage indifferent, the landing bad, and no supplies to be obtained except wood, and, with much difficulty, water.

Our duties were greatly forwarded while about Concepcion, by the earnest and very kind assistance of the yntendente, Don José Alemparte; and the active friendliness of Mr. Rouse, the British consul. Though their houses were levelled, and they themselves without any of what most Englishmen would call comfort, we were received and attended to by them and the

'Penquistos,'* as cordially as if their nerves and minds had endured no strain.

Although it was indisputably proved to the satisfaction of every person in the neighbourhood, that elevations of land had occurred to the extent mentioned in the previous chapter, I strongly suspect that a sinking down has taken place since that period, to a very considerable amount, if not quite enough to counterbalance former elevation. This idea is suggested by the fact that when I was last at Talcahuano, in July 1835, only four months after the great convulsion, the shores of Concepcion Bay had regained their former position with respect to the level of the sea:†—by what the people of Tubul told me, when I rode by, of the sea having returned to its centre,‡ (meaning that it had regained its usual height),—and by what the inhabitants of Santa Maria said, when they told me that for three or four weeks immediately following the earthquake, their little port was much shallower than it was when I went there seven weeks afterwards.

Whether this conjecture be well founded a short time may show: if it should be, an explanation might thus arise of the differences of opinion respecting the permanent elevation of land near Valparaiso, where some say it has been raised several feet during the last twenty years, while others deny that it has been raised at all. It may have been elevated, or upheaved as geologists say, for a time, but since then it may have settled or sunk down again gradually to its old position. In a place like Valparaiso Bay, where dust is so much blown from the land to the water's edge, and even out to sea; and where many streams bring detritus from ravines, no decisive judgment can be formed as to the rise of land, because of the beach increasing gradually, and the water diminishing in depth.

* Natives of Concepcion: so called because they formerly lived at Penco: before that city was overwhelmed in 1730.

† Close to the landing place at Concepcion is a rock that was usually covered at high-water, previous to the earthquake (of 1835), but which was two feet above the highest tides of the next few weeks. In July, 1835, that rock was covered at ordinary high-water, as in 1834.

‡ 'Està ahora el mar à su centro.'

In a ride along the beach of Concepcion Bay, with Mr. Rouse, we examined the solid wall of old Penco Castle, and found on one side the date 1686 and on another 1687.

This castle and the adjoining foundations of houses, are so near the level of the sea, that I am surprised the inhabitants should not have feared being frequently inundated, even by tides only a few feet higher than usual.

If all this coast has been more or less upheaved during comparatively modern times, how is it that the foundations of Penco still stand at the water's edge, very little above the level of a high spring tide? Ulloa remarks, that "the country round the bay, particularly that between Talcahuano and Concepcion, within four or five leagues from the shore, is noted for a very singular curiosity, namely, that at the depth of one-half or three-quarters of a yard beneath the surface of the ground, is a stratum of shells of different kinds, two or three toises in thickness, and in some places even more, without any intermixture of earth, one large shell being joined together by smaller, and which also fill the cavities of the larger. From these shells all the lime used in building is made, and large pits are dug in the earth for taking out those shells, and calcining them. Were these strata of shells found only in low and level places, the phenomenon would be more easily accounted for by a supposition no ways improbable, namely, that these parts were formerly covered by the sea, agreeable to an observation we made in our description of Lima. But what renders it surprising is, that the like quarries of the same kind of shells are found on the tops of mountains in this country, fifty toises above the level of the sea. I did not indeed personally examine the quarries on the highest of those mountains, but was assured of their existence by persons who had lime-kilns there; but I saw them myself on the summits of others, at the height of twenty toises above the surface of the sea, and was the more pleased with the sight, as it appeared to me a convincing proof of the universality of the deluge. I am not ignorant that some have attributed this to other causes; but an unanswerable confutation of their

subterfuge is, that the various sorts of shells which compose these strata both in the plains and mountains, are the very same with those found in the bay and neighbouring places. Among these shells are three species very remarkable: the first is called 'choros,' already mentioned in our description of Lima; the second is called 'pies de burros,' asses' feet; and the third 'bulgados,' and these to me seem to preclude all manner of doubt that they were originally produced in that sea, from whence they were carried by the waters, and deposited in the places where they are now found.

"I have examined these parts with the closest attention, and found no manner of vestige of subterraneous fires. No calcinations are to be met with on the surface of the earth, nor among the shells; which, as I have already observed, are not intermixed with earth; nor are there stones, or any other heterogeneous substances found among them. Some of these shells are entire, others broken, as must naturally happen in such a close compression of them, during so long an interval of time.

"The pie de burro has its name from the fish enclosed in it, resembling, when taken out, the foot of an ass. This fish is of a dark brown colour, firm and filaceous; it is an univalve, its mouth almost circular, and its diameter about three inches. The bottom of the shell is concave within, and convex without. The colour within is perfectly white, the surface very smooth; the outside scabrous and full of tubercles. Its thickness in every part is about four or five lines; and being large, compact and heavy, it is preferred to all others for making lime.

"The bulgados, in the Canaries called bulgaos, are snails, not at all differing in their form from the common, but larger than those of the same name found in gardens, being from two inches to two inches and a-half in diameter. The shell is also very thick, rough on the outside, and of a dark brown colour; and, next to the preceding, makes the best lime.

"All these species of shell fish are found at the bottom of the sea in four, six, ten, and twelve fathom water. They are caught by drags; and what is very remarkable is, that no shells, either the same, or that have any resemblance to them, are seen either

on the shores continually washed by the sea, or on those tracks which have been overflowed by an extraordinary tide. They adhere to a sea-plant called cochayuyo (*a*).

"This plant divides itself into several branches, equal in dimensions to the main stem. These branches successively produce others of the same proportion, so that the produce of one single root covers a prodigious space. At the joints, where the branches spring, is found this kind of shell-fish, where they both receive their nourishment, and propagate their species."—Ulloa's Voyage, translated by Adams, vol. ii. pp. 252-254.

Not far from Old Penco is the stratum of coal about which there has lately been much discussion.

Herrera says, "There is coal upon the beach, near the city of Concepcion: it burns like charcoal."* Frezier bears witness that near Talcahuano there is good coal, which can be obtained without digging deeper than two feet; and he declares that the natives were astonished at his companions taking a substance out of the earth to burn as fuel in their forge.† Captain Basil Hall saw the place whence coal had been "worked without any trouble. The seam is thick, and apparently extensive, and might probably, with due care and skill, be wrought to any extent."‡ Captain Hall "laid in a supply of coals at this place. The coals, which were brought for us to the beach, cost twelve shillings per ton, every thing included."§ Stevenson says, "To what extent the coal reaches, has never yet been ascertained; all that has been used has been obtained by throwing aside the mould which covers the surface. This coal is similar in appearance to the English cannel; but it is reasonable to suppose that if the mine were dug to any considerable depth, the quality would be found to improve."‖

Many other authorities¶ might be cited to prove that coal exists abundantly near Concepcion, and that it has often been

(*a*) See note at end of chapter.

* Dec. 8, l. 6, c. 11.

† Frezier's Voyage, p. 146.

‡ Hall's Journal, vol. i. p. 303.

§ Idem, p. 307.

‖ Stevenson's South America, vol. i. p. 121.

¶ The Earl of Dundonald for instance.

used. There are objections to it, by no means insuperable, which have alarmed people, and checked the working of those mines. It is said to be very bituminous—that it burns too quickly to ashes to answer well for smith's work, because it does not give heat enough—and that it is liable to spontaneous combustion. The last objection might be removed by keeping the coal under water,* and coking† would render it available for the forge. Some geologists say that it is 'mere lignite,' and think very lightly of its quantity or value; but practical men will doubtless attach some value to what has been proved by experience.

On the 17th of April, the Beagle sailed from Concepcion Bay, examined Coliumo, and, coasting along, anchored off the Maule River on the 20th. In a very thick fog, during the night of the 19th, while carrying sail to get an offing, we were within a fathom of being run down by a vessel crossing us on the opposite tack. As both ships were under all sail, and it was dark, our momentary sensations were far from agreeable.

To land here was perplexing enough, for a heavy surf broke on the bar of the river, and nearly as much along the shore; but with some risk and difficulty we effected our purpose in two light whale-boats, which could be hauled up directly they touched the beach. Nearly all the population of a thriving village, called Constitucion, came down to meet us (on the 21st), and assist in hauling our boats up the steep though yielding sand, where, for our comfort, they told us a whole boat's crew had been drowned, not long previously, in attempting to land. From a height overlooking the river, village, and neighbourhood, we enjoyed a very pleasing view, so long as we turned away from the bar of the river, and the surf. A rich country and a fine river are pleasing things at all times, but the difficult approach to Constitucion mars half its beauty. Only the smallest craft can cross the bar; it is dangerous

* I do not mean merely wet, but well saturated and covered with water till required for use.

† It has been coked, and found to answer well.

for boats to land on the outer beach: and difficult for them to profit by the few opportunities which occur of passing the bar without risk.

Notwithstanding these local disadvantages, Constitucion may thrive wonderfully hereafter, by the help of small steamers, for she has a most productive country around her, abounding in internal as well as external wealth, and a navigable river at command. Besides this, in 1805, a very practicable passage was discovered through the Andes, about seventy leagues south of Mendoza, not far from the latitude of the River Maule, almost entirely level, and fit for waggons—the only pass of such a description between the isthmus of Darien and Patagonia.

From the Maule we sailed along the coast northward; limited time, and work in prospect urging us to hasten more than could have been wished. The shoal, or rather rocks of Topocalma, or Rapel, were examined; some coves looked at, fit only for coasting launches, and the line of this bold, but uninteresting coast tolerably well determined. Before sunrise, on the 22d, we had a splendid view of the Andes—their range or cordillera being unclouded, and distinctly visible from south-east almost to north. The sharp summit of Aconcagua, 23,000 feet above the sea level, towered high over any other.

At noon, on the 23d, we hove-to off Valparaiso, and sent boats ashore. Mr. Darwin came on board, and among other pieces of good news, told me of my promotion. I asked about Mr. Stokes and Lieut. Wickham, especially the former; but nothing had been heard of their exertions having obtained any satisfactory notice at head-quarters, which much diminished the gratification I might otherwise have felt on my own account. Mr. Darwin returned to the shore, intending to travel overland, to meet us at Coquimbo, his very successful excursion across the Andes having encouraged him to make another long journey northward.

On the 25th, we anchored in Horcon Bay, a place (by some curious accident) entirely left out of all former charts, although there is good anchorage, and a fishing village not far

from a populous small place called Puchancavi. From this station we sailed to Papudo, a small port rising into repute, on account of copper-mines in its neighbourhood. It is well marked by a high-peaked hill, called Gobernador. Next to Papudo lies Ligua, a place where boats only can go; farther north, or 'down the coast' (as they say in Chile and Peru), is Pichidanque, an excellent cove, rather than port, now much used for shipping copper, and formerly a smuggling place; rendered more notorious by the murder of Burcher, the master of an English smuggling vessel called the Scorpion, who was enticed ashore and assassinated, after which his ship was seized and plundered. This took place in the present century; and an individual, who was said to have taken an active part in the tragedy, was living at Quillota, in 1835.

Close to Pichidanque is a high pointed hill, called 'Silla' (from its saddle shape), seeing which distinctly from Valparaiso, is said to be a sign of an approaching northerly wind.

I landed at Conchali after dark on the 30th, leaving the Beagle under sail in the offing. My reception was very hospitable; but the people made sure I was a smuggler; and some of the principal inhabitants rode with me several miles next morning to the place where my boat was hauled ashore, thinking all the time that I was only waiting for a favourable opportunity to tell them my secret, and make advantageous terms. All this coast, except a few corners, is bold and high, barren and uninteresting; though picturesque in outline.

May 2d. Another smuggling cove, called Quilimari, was examined by me. There is but doubtful landing, and no shelter for a vessel; balsas, however, might do a good deal of work for such a character as I was taken for at Conchali.

On the 4th, having hastily reconnoitred the coast nearly as far as Coquimbo, we ran into Herradura Cove, and moored ship securely. It was my intention to refit there thoroughly, and prepare the Beagle for receiving a large supply of stores and provisions at Valparaiso, which would enable her to run down the coast to the Galapagos, and thence cross the Pacific to Sydney in Australia. In Herradura she lay quietly close

to the land until the 6th of June: and all her crew were encamped on shore near the ship, while she was thoroughly cleared out, re-stowed, and painted. At Coquimbo (or Serena) we always met with a hearty welcome whenever duty required that we should go there, or when we went for our own amusement. The Yntendente, Yrrisarte, the kind-hearted Mr. Edwards and his family, and others, will not easily be forgotten by the Beagle's officers.

As another real benefactor to the public service, I may be allowed to mention Don Francisco Vascuñan, who lent me a vessel of thirty-five tons, called the Constitucion, to be employed in forwarding the survey. This craft was built in the River Maule, and bore a very high character as a sea boat. Lieutenant Sulivan, Mr. King, Mr. Stewart, and Mr. Forsyth volunteered to go in her; so giving them a boat's crew, a small boat, a native pilot with his balsa, and as good an outfit as my means would allow, I despatched this new tender to examine a portion of coast near Coquimbo, which the Beagle had not seen sufficiently, and directed Lieut. Sulivan, if he found the vessel efficient, to continue afterwards surveying along the coast of Chile, as far as Paposo, whence he was to repair to Callao.*

On the 6th of June, the Beagle left Herradura, and sailed towards Valparaiso. Anxious, however, to communicate with Don Diego Portales,† who was staying at his country-house, near Papudo, I touched there in my way; arrived at Valparaiso on the 14th of June, and immediately began the arrangements necessary for our preparations to quit Chile. The liberal assistance rendered by Don Francisco Vascuñan, in lending me his own vessel, without any kind of agreement or remuneration whatever, had enabled me to look forward to adding much of the coast of Chile to our gleanings in hydrography; for I well knew that Lieutenant Sulivan would not only make despatch, but extremely correct work.

Here I may remark, that if little is said henceforth about

* Orders in Appendix.

† Don Diego Portales, one of the ablest men in South America, was murdered, in 1837, by some of his ungrateful countrymen.

places so well known as the coasts of Chile, Peru, and other countries often described, it is because I feel bound to avoid mere repetition as far as possible, and because the limits of my narrative are fixed. For the present, leaving the Beagle to get her stores and provisions on board, I must turn to another scene.

16th June. By the post which arrived from Santiago this morning, an English merchant received a laconic account of the total loss of his Majesty's ship Challenger. This report spread as quickly as bad tidings are wont to do: but no official information arrived during that day, or the ensuing night. Recollecting that a Swedish ship had come lately into Valparaiso, whose officers had seen what they described as "an American brig" cast away near Mocha; I found out the ship and questioned the master and mates. They had arrived at Valparaiso on the 25th of May, and all agreed in stating that on the 20th of that month, they saw a large vessel ashore on the coast of the mainland, to the northward and eastward of Mocha. They saw her at daylight, but as they had light airs of wind and a very heavy swell until three in the afternoon, to save themselves from danger they were obliged to make all sail away from the land, and lost sight of the wreck.

The vessel looked large, with fore and main masts standing, and top-gallant masts an end until eight o'clock, when the fore-topmast went over the side, or was struck: her fore-topsail yard remained across; no main-top-gallant yard was seen; the main-top-gallant mast was standing all day, and there was a large ensign at the mast-head: white and red were seen, therefore it was thought to be American. Her bow was to seaward, as if she had anchored; her sails were loose all day; people were seen on the after part of what appeared to be a roundhouse painted green. Bulwarks very high—ports very large—no boats on deck or at the quarters—no guns on upper deck. Looking at her end on, with the masts nearly in a line —all her upper deck could be seen, though very indistinctly, owing to hazy weather, the additional haze caused by spray thrown up from a furious surf, and their own distance from the wreck; which was never less than four miles.

The log of the Swedish ship was produced, which exactly corroborated their statement. The master said he could not lower a boat, so great was the swell; and during five hours of almost calm, he was drifting helplessly towards the wreck, and expecting to share her fate. The two masts and red and white ensign, caused them to consider her an American brig, and as such she was reported to the consul for the United States.

A few of the preceding data convinced me they had seen the poor Challenger, but I was more strongly assured of the fact by pointing to the Conway, then at anchor near us, and asking whether she was like that ship—and near her size? Yes, sir, they replied. The green roundhouse abaft, seemed to have been a deception caused by looking at the curved green taffrail of the Challenger. I concluded that the mizen-mast had been cut or carried away; perhaps used as a raft: that the boats had been lowered, and that the ensign was St. George's, (Sir G. E. Hamond's flag being white at the mizen) but did not fly out, as there was no wind. The quarter-deck guns were close to the side, or perhaps below. Such were my thoughts, but other persons were of a totally different opinion. I was astonished that the Commodore did not hear officially from Santiago—particularly as the merchant's private notice was received through our Consul-general.

17th. At the Post-office I obtained a large packet, directed to our vice-consul, the moment the post-master opened the mail bag; and hastening to the consul's office, I was surprised to find it shut, and to hear that no one would be there for an hour or two. Such apathy—upon such an occasion! Not choosing to break the seals, though I saw by the direction what were the contents (Despatches by Challenger), I went in search of the proper person to open the packet: took the Commodore's letters, and hastened with them to the Blonde. Every doubt was then ended. The Challenger was lost on the night of the 19th of May, at the spot described by the Swede: but all her crew were saved except two; and on the 26th of that month, Captain Seymour, the officers and men were encamped near the wreck, at a place called Molguilla. The Blonde pre-

pared for sea: an offer of such assistance as I could render was accepted by the commodore; and, having arranged the Beagle's affairs, as far as then necessary, I went on board the Blonde, taking with me Mr. Usborne, J. Bennett, and a whaleboat. Lieut. Wickham was to forward the Beagle's duty during my absence, and take her to Copiapo, Iquique, and Callao, before I should rejoin her.

18th. Weighed at three in the morning and cleared the port before daybreak. A northerly, freshening wind favoured us much when in the offing.

21st. Anchored in the bay of Concepcion, off Talcahuano, at noon. As soon as I could get a boat I landed, and hastened to obtain information, horses, and a guide, as the commodore wished me to go to Captain Seymour, and concert measures for removing the crew and the remaining stores.

The captain of the port told Commodore Mason that the part of the coast on which the Challenger went shore, is quite inaccessible in any weather, but that boats had entered the mouth of the river Leübu, near Molguilla.

Lieutenant Collins (of the Challenger) had been at Talcahuano, trying to procure a vessel, in which the shipwrecked crew might embark by means of boats, at the Leübu, but not succeeding he had returned to his shipmates; whom he expected to find at the mouth of the river. It was said that a large body of Indians was in motion towards them, that the crew were short of provisions, and that they were becoming sickly. Assisted by the governor of Talcahuano, horses and a native guide were soon obtained; but I wanted a more energetic assistant, and engaged a Hanoverian who was used to the half Indian natives of the frontier, and well known among them. This man was Vogelberg, or Vergara, already mentioned. With orders and letters from Commodore Mason, accompanied by Vogelberg and H. Fuller, and provided with five horses, I left Talcahuano the same evening.

Being personally acquainted with the Yntendente, and his second in command, I hastened immediately to their houses at Concepcion, wishing to get an order to pass the Bio Bio River

that night, and to procure a circular letter to the local authorities. Not a minute was lost by either of those zealous officers in attending to and complying with my requests. Alemparte left his dinner to write a circular letter, in his own hand; and neither he nor Colonel Boza would return to their respective parties, until they had ascertained that I was properly provided with horses and a guide, and that I required no further assistance.

Although orders were issued and the ferry-boat at her station, no crew were to be found, and only those men who belonged to the boat knew how to cross over safely. Vexatious as the delay seemed, I was afterwards glad of it; for judging by the work in day-light, I doubt our having ever reached the opposite bank with our horses, in a dark night.

While talking to Colonel Boza I remarked a watchful, wild-looking, young Indian, in a Chilian half-uniform, standing in the house. Something unusual in his manner attracted my notice though hurried, and I have since regretted losing that opportunity of acquainting myself with the son of Colipi, a famous cacique, who is the principal, and a very powerful leader of the northern Araucanians, though at present a friend to the Chilians. Colipi is a very tall and unusually strong man; his onset and his yell are talked of with a shudder, by those who have suffered from Indian hostility. Educating his son at Concepcion is one of the methods used to conciliate the 'Barbaro.'

22d. Before the dawn of day we were looking for the watermen; and, as the sun rose, succeeded in getting their boat, or rather flat-bottomed barge, into motion. We rode into the river, about two hundred yards, until we reached the barge, then lying close to an overflowed bank. By some persuasion of voice, whip, and spur, the horses were made to leap out of the water, over the gunwale and into the boat. They certainly showed more sense than horses usually have, in understanding so readily how to behave; but whether their owners showed more than asses, in having so clumsy a ferry-boat, may be

doubted. In leaping in the horses nearly knocked down, or trod upon, those who were dismounted; and when leaping out again, they made such a splashing of the water in the leaky ferry-barge as effectually washed our faces. The river is wide, deep, and rapid; and there are many sand-banks. The boatmen use oars as well as long poles; but are slow and awkward to a degree I could scarcely have believed, had I not witnessed their progress. The breadth at the ferry is about a quarter of a mile, when the river is low, but upwards of half a mile when flooded, as at this time. The south bank is steep; and from San Pedro, a little village at the ferry, the land rises in a south-east direction, towards a lofty range of hills; but towards the south-west, it is low, level, and firm. Across this excellent galloping ground we tried our horses, and made the miles seem short, till we reached a low range of hills over Point Coronel. There, dismounting, we used our own legs until the hills were passed, and before us lay two long sandy beaches, called 'Playa Negra,' and 'Playa Blanca.'

In our gallop we passed the house of Don Juan de Dios Rivera,* whose estate on the south side of the Bio Bio is mentioned by Captain Hall as an instance of the progressive tranquillization of the Indians. Several large barn-like buildings spread over about two acres of ground, enclosed by a high fence of rough posts and rails, showed an eye accustomed to the country, that the proprietor held in his own hands a large estate: but that collection of thatched irregular roofs, and the utter absence of any thing like outward neatness or regularity, brought to my mind a very neglected rick-yard, near which not even a cottage appears.

Yet this was the house of a man of large property; and not by any means a bad one, compared with others in that country. Many reasons might be adduced to explain why Chilian gentlemen are reluctant to expend either time, trouble, or money in building good houses. Earthquakes are very frequent; property is yet insecure; and the country has been occupied,

* Yntendente of Concepcion in 1821.

but so lately that there has not been any leisure time in which to think of more than the first necessaries of life. Noble trees surround this 'casa de hacienda.'* No underwood impedes your riding at a rapid pace in any direction: and beyond the woody spaces, extensive plains stretch towards the sea and to the bank of the river. These plains are intersected by numerous streams, and adorned with irregular clumps or thickets of trees: smaller indeed than those which shade the 'casa de hacienda,' but of a size sufficient to shelter cattle.

This estate, which is not considered a large one in that country, comprises, besides many square leagues of wild hilly country, more than one hundred square miles of excellent land, well watered, abundantly wooded, and most pleasantly as well as conveniently situated. The owner is said to be a most worthy man, and numerous instances of his active goodness as well as excellent disposition, have been related to me at different times; one of which I must stop to relate.

My attendant, Vogelborg, passed near the door of Don Juan de Dios Rivera, while executing a commission entrusted to his most speedy despatch. Stopping a moment to ask the way, Don Juan remarked that he looked ill, and had better rest. Vogelborg thanked him, but explained the necessity of hastening onwards: in truth he was ill and very tired, though anxious to proceed. Don Juan then suggested the quicker method of forwarding the letters, entrusted to Vogelborg, by his own confidential servant, and forthwith despatched him upon one of his own horses, desiring Vogelborg to take possession of an excellent bed; where he remained two days under the kind care of Don Juan de Dios and his wife, who till that time, had never seen him.

Abreast of Negra Beach is an anchorage, sheltered from the north and north-west winds by Point Coronel, but exposed to the southerly and west winds. Here, as well as in coves further south, much smuggling was carried on in the time of the Spaniards.

Leaving the sea-shore, and some slippery rocky places over

* Country-house upon the owner's estate.

which we were obliged to lead our horses, we ascended the heights of Colcura. For our reward, after a muddy scramble up to the top of a steep hill, we looked down upon a fine though but partially wooded country, forming an agreeable succession of valleys and high grounds; while to seaward there was an extensive view of the coast, with the island of Santa Maria in the distance.

Perched on a height overlooking the sea, and directly above a very snug little anchorage, is the hamlet called Colcura; and thither we hastened, inattentive to the complaints of our guide (who was likewise guardian of the horses), and trusting to Vogelborg's recollection of the road. Riding into a sort of field entrenchment at the top of Colcura hill, we were accosted by a sly-looking, sharp-visaged character, whose party-coloured jacket appeared to show that its owner held some office of a military nature, but whether that of 'cabo,'* or a higher, I could not determine until I heard him say he could give us a good meal, and that he had three fine horses near the house; when at once styling him 'gobernador' I rebuked myself for having thought ill of his physiognomy, and proceeded to unsaddle. Disappointed, however, by a scanty bad meal, we thought to regain our tempers upon the backs of our host's horses; but not an animal had he sent for; nor, to our further vexation, could any inducement tempt him to lend one of those fine horses, which, he still said, were close by. The Indians, he declared, were expected daily; he knew not the moment he might have to fly for his life; on no condition would he lend a horse: no, not if a fleet of ships were wrecked, and I were to offer him an ounce of gold for each mile that his horse should carry me.

Every Chilian residing on the frontier endeavours to keep by him a good horse, on which to escape, in case of a sudden attack of the Indians; for, as they never give quarter, and approach at a gallop, it is highly necessary to be always prepared. Those who can afford to do so, keep horses solely for the purpose of escape, which are the finest and the swiftest they can procure. I remember hearing, that when General

* Corporal.

Rosas was carrying on a war of extermination against the Pampa and Patagonian Indians, on the banks of the rivers Colorado and Negro, he had with him horses so superior, that it was said he could always ensure escape, if by chance he should be pursued: and one of them was invariably led about, saddled and bridled, near his tent.

Saddling our own steeds, and quitting the thin-faced dispenser of tough hens and sour apples, we set off at a gallop, leaving the lazy guide whom we brought from Talcahuano, to return there with the two worst animals (it was fortunate indeed we had brought with us a spare one), and in two hours we reached the foot of Villagran; that hill so famed in Araucanian story.

Being a natural barrier, it was a spot often chosen by the Araucanians, at which either to lie in ambush for the Spaniards, or openly oppose them. In one battle, the brave Villagran, after whom this ridge of hills is named, and a small Spanish force, opposed a multitude of Indians who had hemmed them in on every side. The only opening by which Villagran could escape, was stopped up with a barrier of branches and fallen trees, behind which the Indians stood discharging arrows and slinging stones. Ercilla gives an animated description of this scene; but as his book is scarce, I will attempt a free translation of that passage, lame as it must necessarily be.

——— ——— the veteran Villagran,
Heedless of any kind of death,
Hazarded all upon a cast.

He rode a stately powerful horse,
Purest of Spanish blood—
Strength and activity were well combined
In that courageous steed—
Swift and high-spirited, he yet obeyed
The slightest touch of finger on the rein.

The danger reached—instant as thought—
The warrior's spurs excite the noble brute—
He dashes on—and down the barrier goes.
A deafening crash and dire dismay
Followed, as onward tore their way
Those few determined men.

The gallant steed unhurt appeared,
Strove foremost in the fight, and feared
Only to be the last!

ERCILLA. Canto VI.

We ascended the heights by winding narrow paths, up which our horses were led, in order to spare them as much as possible, and met a small party of Chilians, on their way from the wreck of the Challenger towards Concepcion, from whom we heard that the wreck had been abandoned, and that the officers and crew were entrenched in a secure position, on the height of 'Tucapel Viejo,' close to the mouth of the river Leübu. We were also told that the Indians increased in number daily, and that great fears of their hostility were entertained.

From the summit of Villagran we had an extensive view, reaching from Tumbes Heights, at the west side of the Bay of Concepcion, to Cape Rumena. The low island of Santa Maria, with its sandy spit, shaped like an arm, seemed to be within a few miles of us, though distant several leagues. I could trace the long, low, and almost straight beach of Laraquete till ended by the white cliffs of Tubul: I could distinguish the height immortalized by Colocolo's name, and under it smoke arising from the classical Arauco. Southward, a large extent of fertile, level, and rather woody plains reached to distant ranges of hills, which showed only a faint blue outline. Time allowed no delay, but with a hasty glance, as we mounted our horses and cantered along the summit, I saw a schooner* in the distance, off the Paps of Bio Bio, working her way to the southward.

Descending the hill, we reached 'Chivilingo,' a village near a small river which runs through a 'hacienda' belonging to the 'Santa Maria' family. We called at the door of their large, barn-like dwelling, to ask if horses could be spared. The mistress of the house happened to be at home, having lately arrived from Concepcion; and directly she heard my story she ordered every horse to be put in requisition; but, unfortunately, two only were within reach, one of which was lame. All the others had been sent to grass at a distance. After acknowledg-

* The Carmen, with Mr. Usborne on board—see page 456.

ing her kindness, and paying her 'mayor domo' for the hire of the horse, we pushed on with that one and two of the least jaded of our own animals.

Between Chivilingo and the rivulet called Laraquete is a hill, unimportant at present, though it may hereafter become of consequence, as it contains coal. Some that I carried away with me was thought to be almost equal to cannel coal, which it very much resembled. The little river Laraquete, which will admit a large boat at high water, runs at the foot of the hill, and there is no surf where it enters the sea. Very glad I was then to see nothing like a hill between us and Arauco. We urged our horses along the dead level, and reached a pass of the Carampangue river as the sun was sinking below the horizon. From his sickly appearance and the black gathering clouds, I thought we should not be long without heavy rain, and that the sooner we could house ourselves the better. The Carampangue is shallow, except in the middle, but wide. Men and animals are carried over it on a 'balsa,' made of several logs of light wood fastened together, and pushed or poled across with their burdens by one man. These contrivances are very convenient where the water is shallow near the bank, and where the bank itself is low: for a horse can walk upon them from the shore without difficulty, or any scrambling; and as soon as they ground on the opposite side, it is equally easy to disembark. Where wood is not plentiful, balsas are made of rushes tied together in bundles; or of hides sewn up and inflated, or made into a rough kind of coracle.

The last few miles had been slowly accomplished by dint of whip and spur; but from the river to Arauco was a long league over unknown ground, in the dark, and while rain fell fast. Heavily we toiled along, uncertain of our way, and expecting each minute to be bogged; our horses, however, improved as we neared their anticipated resting place, and almost tried to canter as lights appeared twinkling within an open gateway in the low wall of Arauco.* We asked for the house of the 'coman-

* It is a low wall, or rather mound of earth, enclosing a number of 'ranchos' (cottages or huts).

dante,' and were directed to a rancho rather higher and larger than the rest. Without a question we were received, and told to make the house our own. That we were wet and tired, was a sufficient introduction to the hospitable Chilian.

Before thinking of present comfort, it was necessary to secure horses for the next day's journey, and dispose of our own tired animals; but money and the willing assistance of the comandante (Colonel Ger°. J. Valenzuela), soon ensured us both horses and a guide. In the colonel's house, a barn-like building, entirely of wood, and divided into three parts by low partitions, I was surprised to see an arm-chair of European make, which in no way corresponded to the rest of the furniture. Some large shells, not found in these seas, also caught my eye, and tempted me to ask their history. They had been brought only the previous day from the wreck of the Challenger, and were given by Captain Seymour to Don Geronimo, who had himself but just returned from assisting the shipwrecked party. His account and the chances of an attack being made by the Indians, increased our anxiety to proceed; it would, however, have been worse than useless to attempt finding our way in a dark night, while it was raining fast and blowing very hard; but at daybreak in the morning we saddled, and soon afterwards were splashing along the low flat tract of land extending from Arauco westward towards Tubul. Heavy rain during the night had almost inundated the low country, and to our discomfort appeared likely to continue during the day. In half an hour after starting we were soaked with mud and water; but being well warmed by galloping, we felt indifferent to the rain, and to a heavy gale of wind that was blowing.

Arauco, famous in Spanish song and history, is simply a small collection of huts, covering a space of about two acres, and scarcely defended from an enemy by a low wall or mound of earth. It stands upon a flat piece of ground, at the foot of the Colocolo Heights, a range of steep, though low hills, rising about six hundred feet above the sea.

In the sixteenth century, Arauco was surrounded by a fosse, a strong palisade, and a substantial wall, whose only opening

was secured by a gate and drawbridge. Now the ditch, dug by the old Spaniards, is filled up, and the remains of their drawbridge have disappeared, having been used probably as fuel. This was the first place assaulted by the Indians, after their grand union against the Spaniards, at the end of the sixteenth century. To relate even a part of the history of those times would be digressing too much; but an anecdote of Colocolo and the great Caupolican may shorten our journey, and divert us for a time from mud, and rain, and wind.

Ashamed at having given way to men, at first imagined to be gods, and indignant at the outrages and oppressions of their invaders, a general gathering of the Indian tribes took place near Arauco. Ercilla names sixteen caciques of renown, besides others of inferior fame, who assembled with their followers. At the feast which followed their first consultation, great disputes arose among the rival caciques. A general was to be chosen, and each esteemed himself worthy of that high distinction. Insulting words induced an appeal to arms, and desperate strife was about to commence, when Colocolo, the oldest and most respected chief, advancing hastily,* with haughty strides, exclaimed :—

> "What madness is exciting you, Caciques!
> Thus eagerly to rush into a war
> Against the very sources of our strength—
> To tear each other's entrails out, as beasts,
> And utterly forget the tyrant foe?
> Turn your arms and angry blows
> Against those authors of your slavery,
> Whose shameful inroads on our fathers' land
> Heap infamy upon Arauco!
> Arauco's sons yourselves display—
> And cast their galling yoke away.
> Husband every drop of blood,
> To mingle with a Spanish flood!"

Having gained attention and temporary silence, the Araucanian Nestor continued an eloquent address to the angry

* Ercilla, canto ii.

chiefs, in which, after expostulating with them upon their ruinous rivalry; he exhorted them to choose a leader by some trial of ability, which should be publicly made; and suggested that the man who could bear a heavy weight for the longest time must be the fittest to endure the burthen of governing.

The caciques agreed to his proposal, and prepared a large trunk of a tree for this great trial of strength. Colocolo well knew that the qualifications of an Indian general were not bodily strength and activity, unless accompanied by qualities of mind proportionably superior; but it happened that Caupolican exceeded all his countrymen in mental, and all but Lincoya in bodily qualifications. Accident had impeded his attendance at the 'gathering,' and the object of Colocolo in proposing so tedious and otherwise absurd a trial was to gain time for Caupolican's arrival.

Fourteen chiefs successively bore the ponderous tree upon their shoulders. No one gave up the trial, until he had endured more than four hours' oppression; some even sustained the burthen six, eight, or ten hours; and one hardy mountaineer carried the tree for fifteen. But the famed Lincoya claimed the prize; confiding in his Herculean strength, he had allowed all others to precede him in the trial. When at last he threw the mantle from his Atlas shoulders, he took the tree from the ground as if it had been a stick; ran, jumped, and danced with it on his back, seeming to feel no weight; and the multitude, astonished, exclaimed, 'Lincoya shall be general! the rest are infants in comparison!' but the wise Colocolo insisted upon the completion of the trial, knowing that Caupolican would soon arrive, and that Lincoya's antics would exhaust even his great strength, and make it possible for an inferior to carry the tree longer. The crafty veteran had himself excited Lincoya to the unnecessary exertions which he knew would undermine him. From sunrise, until noon of the following day, full thirty hours, did the gigantic Lincoya sustain his immense load. While the air yet resounded to the shouts of 'Lincoya,' Caupolican arrived, and demanded to try his strength; but Colocolo interposed, saying that Caupolican had arrived from a

great distance, and ought to rest. Until the next morning, therefore, the trial was postponed.

During the night, great excitement animated the vast multitude. The strength and ability of Caupolican were well known; even Lincoya doubted the result; he had deemed his only rival far off; and the antics in which he had indulged had prematurely exhausted his strength. At daybreak the tribes again assembled, and as the sun rose, Caupolican lifted the tree, and quietly poised it upon his shoulder. His manner, and the ease with which he placed his burthen, excited the surprise and admiration of all, except Lincoya, whose spirits sunk as he watched the cautiously guarded manner and easy movements of his rival.

During that day and the following night, lighted by the full moon; during the whole of the next day, and throughout the second night, did Caupolican sustain that overpowering weight which men of common strength could only bear during a very few hours: and when the sun rose on the third morning, the still untired chief lifted the tree above his head, and dashed it to the ground, with an effort which showed that his powers were far from being exhausted. He was unanimously chosen general, amidst extraordinary shouting and applause: and no sooner had the other caciques acknowledged his authority, than he began to take measures for acting immediately against the Spaniards.

Arauco, their nearest strong hold, was to be attacked. Eighty chosen men approached, disguised as the serving Indians, who supplied the Spanish soldiers with firewood, and forage for their horses. Each man, with his load of fuel or grass, in which his arms were hidden, advanced unsuspected to the fort, when, by preconcerted signal, they threw down their loads and attacked the unprepared Spaniards. This assault was the signal for other Indians to rush towards the fort; but the Spaniards, although surprised, made so good a defence, that almost all the eighty chosen men were killed, and no others could gain admittance. The whole Indian multitude then surrounded Arauco; and the Spaniards, seeing that they must be

overpowered if they remained, opened the gate in the dead of the night and escaped. Thus began this famed insurrection, which caused the destruction of seven towns, and drove every Spaniard from Araucania.

Leaving the low land near the sea, we ascended sloping hills, and found ourselves in a beautiful country. Though I did not see it distinctly until my return, I will endeavour to describe it in this place:—the outer range of hills, near the sea, is a succession of downs, free from wood, except here and there in the valleys, and every where covered with short sweet grass:—there is no sandy or barren rocky land. Numbers of fine cattle were seen grazing in the neighbourhood, but very few sheep. In-shore of the downs is a very luxuriant country: gradually rising hills, every where accessible; extensive valleys, woods of fine timber trees, very little encumbered with underwood; spaces of clear grass-land, like fields; beautiful lakes, and numerous streams of excellent water, together with a rich soil clothed with sweet grass, disposed me to think this the finest country I had ever seen.

Generally speaking, the soil is clayey; but there is every where a layer of vegetable mould upon the surface; which indicates that the country was covered with wood until the Indians partially cleared it by burning. While they were so numerous as they are said to have been in the sixteenth century, large tracts of ground must have been cultivated by them, or cleared for their sheep. In riding across this now unemployed land, regretting at every mile that it should be so neglected, fine bullocks often crossed our path; or wild-looking, but well-conditioned troops of horses. These animals must be very nearly wild: for restrained by no fences, looked after by nobody, they are free to roam and feed where they please. Once only in a year they are driven together, if they can be found, to be counted, marked, or killed. Here and there a stray cottage, or rather hut, was seen, with a high thatched roof, like those of Chilóe. But for these cottages, and a field or two near them, this excellent country would have appeared to be quite deserted by the human race, though possessing every desirable

quality. We passed over no hills of any consequence as to height, though generally we were ascending or descending. An in-shore circuit was taken, to avoid crossing three rivers, which, near the sea, are difficult to pass; and having lost our way (notwithstanding the alleged excellence of our guide), a native, almost Indian, was easily prevailed upon to run by the side of our horses until he put us into the right track. Before running through the bushes, he carefully tucked up his loose trousers as high as possible; thinking, I suppose, that his skin was less likely to be torn than the trousers; and thus bare-footed and bare-legged he ran before us for several miles with the greatest ease. At the cottage from which he came, a very good horse, in excellent condition, and well cleaned, was standing in a yard. I asked the owner to let me hire or buy him, but he would consent to neither; alleging that, in the Indian country, his life depended upon having a good horse close at hand. Three thousand Indians had assembled, he told me, and were expected to make an attack upon the Chilian frontier; but on what particular part was quite uncertain. They had heard of the wreck, and were actually going to the place to plunder the crew, when accidentally met and driven back by Colipi, with his friendly tribe. Dogs seem to be kept at these cottages for the same purpose as those at the 'ranchos,' in the Pampas, namely, to give warning of the approach of enemies. Small parties of Indians seldom or ever attack a house without reconnoitring carefully; and this they cannot effect if there are many dogs about.

After our running guide had left us, though put into the right track, we were soon at a loss again; so numerous were the tracks of horses and cattle in this rich pasture land. The professed guide whom we had brought from Arauco, was more useful in recovering half-tired horses, than from knowing the way: no sooner did he get upon a horse, which one of my party could not persuade to go out of a walk, than he started off at full gallop, exulting in his skill. Perhaps his secret lay in a sharp pair of iron spurs: for the thick skin and coarse

hair of horses, so roughly kept as these, is proof against ordinary spurs, used with humanity.

Going very much by chance, often losing our way, and often taking a cast round to look for the most frequented track, we at last arrived at Quiapo, a hamlet consisting of five huts only, just in sight of one another on neighbouring hills. To which of them the name belongs, I know not, as 'Todo es Quiapo,' was all the answer I could get from my guide.

Riding up to the nearest hut, we tempted a young man who occupied it, to sally forth in the rain in search of fresh horses. This exertion was caused by the sure stimulant—money. We might have talked of the wreck, and the Indians, until that day month, without exciting our acquaintance to move; but the touch of dollars at once overcame the apathy with which he listened to our first request for food and horses. His wife told us to kill a fowl, if we could, for there was nothing else to be had; so forth we sallied, and as each understood that the permission applied to himself, great was the confusion among the poultry. To the dismay of our hostess, we soon reappeared, each with a fowl; but a certain silver talisman quickly hushed her scolding, and set her cooking. Meanwhile the rancho was ornamented with our wet clothes hanging about it to be dried; but rain came through the roof in so many places that our trouble was useless. Dripping wet, having been soaked since the morning, and of course cold, we could not go near the fire, because of the smoke; so with a long pole we poked a hole through the thatch, which let the smoke out, and then closing round the fire, we surprised the good woman by our attack upon her half-roasted fowls.

All these huts are much alike. Under one thatched roof, there is a place where all the family (including the dogs, cats, and pigs) eat, while sitting or lying round the fire, which is on the ground in the middle; and there is a kind of 'dais,'* where the same party afterwards seek that sound sleep from which none of the insect tribe appear to awake them, however

* Raised half a foot above the ground.

much they may plague others. Sometimes there is a sort of bedstead, and a slight partition for the older people; but the others take their rest upon the raised part of the floor, wrapped in sheep-skins, or goat-skins, and rough woollen clothes. A large heap of potatoes occupies one corner of the hut, and another is filled by a granary, curiously contrived with stakes about six feet in length, driven into the ground in a circle of perhaps six feet diameter. Rough wicker-work unites the stakes, and forms a bottom about half a foot from the ground. Straw is then inserted into the wattled-work, until there is enough to prevent any corn from falling through. This large fixed basket is filled at harvest time, and supplies the family during the whole year: neither rat or mouse can get at it without making a rustling noise, which instantly alarms each cat and dog.

Before our host returned with horses it was evening. He would have detained us until the next morning, could his arguments have availed, but finding that with or without him, on we were resolved to go, he set out at a good pace towards Leübu. Less rain and wind encouraged hopes of a fine night, so we trotted or galloped along while day-light lasted, but as the night grew dark rain again poured down: and, obliged then to go slowly, we followed one another as close as possible, placing the guide in front with a white poncho. While in the open country we got on pretty well, but, after two hours easy work, we found that the track was taking us through thick woods. My first intimation of the change was being nearly knocked off my horse by the bough of a tree, so pitchy dark was the night; and after this I kept my head on the horse's neck, trusting to his eyes entirely, for I could see nothing. That our guide could find the way has been matter of astonishment to me ever since: he never failed once. Some of the defiles through which he led were knee-deep in clayey mud, so stiff that the horses could hardly move. Often we were set fast in such places, obliged to get off, and feel for the track,—knee-deep, and up to our elbows in mud,—for it was upon hands and knees that we went, oftener than upon our legs. Our guide knew we were in the

right track, but each of us was obliged to seek safe footing for himself and his horse, in the defiles among steep ravines and streams, swelled by heavy rains. Passing these streams was dangerous, and there only did the guide hang back. At one brook which seemed by the noise, to be deep and large, he refused to cross, saying his horse would not go on, and that we could not get over in the dark. However, Vogelborg was not to be so stopped. Leaving his own horse stuck fast in a slough, he scrambled through, hauling my horse after him by the bridle. Holding by my horse's long tail, and driving him on, I scrambled after: Vogelborg then went back, and with the guide brought the others over. In several places, while in the ravines, I had recourse to the tail of the guide's horse for my support and dragged my own animal after me, for it was hopeless to remain on his back, so often was he stuck fast or down in the mud. The last man, Fuller, fared the worst, as he had no one behind him to drive his horse on; and frequently we were obliged to stop and holla to one another, to avoid parting company. At last we emerged from the wood and from those horrible ravines. Before us we could then see that there was space, nothing interfering between our eyes and the clouds; but while under the trees and in the water courses, utter blackness surrounded us to a degree I never witnessed in any other place. Our eyes were not of the least use, for I could not even see the white poncho of our guide, though close before me. Feeling and hearing alone availed. Heavy rain during the whole time prevented the mud from forming too thick a coat upon us. Another hour brought our small party to an Indian settlement, near the river Leübu; and as we rode by the huts, our guide talked to those within at the utmost pitch of his voice, as if determined no one should be ignorant of his adventure. Hearing their conversation carried on in the Indian language, was rather an impressive novelty. We continued our route, and at last reached the Leübu.

The north side of this river (on which we were), is low and sandy near the sea, but the south side rises to a high, remark-

able headland, called the 'Heights of old Tucapel,'—('Altos de Tucapel viejo.') The breadth of the river is about one hundred yards. Tucapel was the name of one of the more powerful caciques who united under Caupolican, to resist and expel the Spaniards. In his district and near his usual residence, which bore the same name, the daring but avaricious Valdivia was overwhelmed by numbers and taken prisoner, though not until every one of his small party had desperately fought and devotedly died for the cause which many among them considered that of God and their king.

Religion had so much influence over the minds of the earlier Spaniards, and was so warped and misinterpreted by the priests of their day, that actions, in themselves most unjustifiable, found defenders and active supporters among churchmen, and energetic performers among those who trusted their consciences to other men's keeping. An enthusiastically religious feeling, strengthened them to persevere under all trials and disappointments, and helps to account for the wonderful energy and constancy, shown in discovering, exploring and subduing the New World. This high sentiment of religion, urging them to conquer in order to convert to Christianity, and to honour God by serving their king, was an impelling motive in the minds of the early adventurers, at least as strong as the desire of riches. I here allude to those leaders who first opened the roads, which crowds of inferior men afterwards followed. One proof of this feeling is the fact, that the last of Valdivia's faithful companions who fell, was his chaplain, without whom, it appears, he did not even go to battle.

Valdivia had set out in the morning with only fifty Spaniards, besides a body of friendly Indians, intending to attack and disperse the multitude of his opponents. As he approached Tucapel, some fugitive friends* entreated him not to proceed, assuring him that twenty thousand Indians were there who had sworn to take his life, or sacrifice their own. Despising the natives and used to conquer, Valdivia listened

* Friendly Aborigines.

to no cautions. The three thousand Indians, supposed to be friendly, accompanied him to the battle but turned against him: and his own page, Lautaro, who there immortalized his name among his countrymen, was the first to set the example and proved himself the most daring in the fight. (It should be mentioned that Lautaro's servitude was compulsory, having been brought up against his inclination, in the Spaniard's house.)* Onward dashed Valdivia, at the head of his small band, and was speedily surrounded by a countless throng. Hemmed in on every side, and overpowered by men who till then used to fly from a man in armour and mounted on a horse, all that desperate brave men could do, was done: but their horses tired, slaughter appeared to diminish neither the number nor rage of their opponents, and one after another sunk to the ground. Valdivia's chaplain fell the last, except the general himself, who fought like a lion at bay: till, seeing that he was alone, he turned and fled. The goodness of his horse enabled him to escape for a little while, but he was hunted by the swiftest and strongest, whose speed exceeded that of a tiring horse. His steed failed, and he was taken prisoner to be tortured and put to death, after suffering every torment that savage ingenuity could devise. When he was at the stake, the rage of the older Indians could not be repressed: and an aged man named Leocato, who had suffered long and severely by Spanish oppression, struck him on the head with his club, and at one blow deprived him of life.

Although surrounded by a multitude, so resolute and energetic were the companions of Valdivia, that they were actually gaining the day, until Lautaro rallied the retreating Indians, and by his heroism turned the tide of victory against the Spaniards. The natives' superstitious awe of these superior men, once thought gods, added to their being mounted on

* Lautaro was the son of an Araucanian chieftain, who fell in battle against the enemies of his race. Though brought up and educated in the family of Valdivia, from a mere child, he had never ceased to long for an opportunity of turning his forced acquirements to the disadvantage of his instructors, and revenging the death of his father.

horseback and clad in armour, were such immense advantages, that to oppose the progress of a few resolute Spaniards even by the numbers of a multitude, was a daring effort.

In consequence of this and many subsequent acts of valour and conduct, the young Lautaro became a most celebrated leader, and was chosen by Caupolican as his lieutenant and successor.

But I must return to the banks of the Leübu, which we were approaching as fast as our tired horses could drag their hoofs through deep, loose sand, when a solitary light moving on the dark side of the opposite high land, showed the place where our countrymen were anxiously waiting for assistance: we had heard that their encampment was under Tucapel Heights, and close to the river's mouth.

As soon as we arrived at the water side, I hailed as loudly as I could call, but no answer was returned. Again I hailed "Challenger's a-hoy," and a faint 'hallo' repaid us for every difficulty. "Send a boat!" I called. "Aye, aye!" echoed from the hills. Lights appeared directly coming down the hill: a little boat came across the river, and very soon we were embarked in the Challenger's dinghy,* the only boat saved. The master and one man were in her, from whom we heard that all the party were well, and that they had not yet been molested by natives.

Captain Seymour was at the landing place. Old friends, meeting under such circumstances, can say but little. Hastening to the encampment, where all had turned out to hear the welcome news of assistance being at hand, we made their hearts rejoice by saying that the Blonde was at Talcahuano, and coming to their relief. With the officers, I found our excellent consul, Mr. Rouse.† At the first intimation of the Challenger's loss, he had hastened to the spot without an hour's delay; well aware how useful his influence and information would prove, and supposing that the officers would not be

* At midnight. The horses were sent back to the Indian huts, with whose owners our guide held such noisy intercourse as we passed.

† H. B. Majesty's consul at Concepcion.

conversant in Araucanian habits and language, even if they should have made a slight acquaintance with those of Chile. His assistance proved to be of the utmost consequence, for not only did his explanations intimidate and discourage open or disguised enemies, who were not wanting, but his credit and influence procured daily supplies of provisions: while to his address and good sense every one of the shipwrecked crew was much indebted in many transactions.

Daylight found Seymour and myself still talking, though he had given me his bed. Partly at that time, and partly in subsequent conversations, he gave me the following account of the loss of the Challenger; but without mentioning his own exertions or conduct, which I heard of from his officers.

I will take this opportunity of mentioning that there is a large fox, called 'culpen,' in the Araucanian country, which was mentioned to me as being more like a wolf than a fox; but at that time I paid very little attention to the subject. Stevenson says, "the culpen is rather more foolish than daring, but not void of the latter quality. It will advance within eight or ten paces of a man, and after looking at him for some time, will retire carelessly." "Its colour is a dark reddish brown, with a long straight tail covered with shaggy hair; its height is about two feet."—Stevenson's South America, vol. i. p. 115. (Is not this like the Falkland animal?)

(Note referred to in page 423.)

(*a*) Ulloa said that the word 'cochayuyo' meant 'lake herb.' His authority is too good to be lightly questioned, otherwise I should have had no doubt that the word was derived from 'cochun,' 'salt,' or 'bitter,' and 'yu,' a thread: as the plant grows with long thread-like stalks, which taste salt, like most sea-weed: and 'lavquen' is the word generally used for 'lake,' as well as 'sea,' rather than 'cocha.'

CHAPTER XX.

Challenger sails—Sounds off Mocha—Wrecked on the main-land—Crew saved—Stores landed—Camp formed—Great exertions and excellent conduct—Mr. Consul Rouse—Leübu—Plague of mice—Curious rats—Return to Blonde—Ulpu—Araucanian dress—Arauco—'Boroanos'—Tubul—Bar rivers—Apples—Ferry—Blonde sails—Seek for the Leübu—Schooner Carmen—Errors and delay—Embark Challenger's crew—Rescue the Carmen—Talcahuano—New Concepcion—Valparaiso—Coquimbo—Challenger's sail in Conway—Reflections.

THE Challenger sailed from Rio de Janeiro on the 3d of April 1835: she had much bad weather off Cape Horn, which lengthened her passage considerably.

On the 18th and 19th of May, strong north-west winds, with thick weather and heavy rain, prevented observations being taken; except a few for time only. The ship was approaching the land, and her position estimated by dead reckoning from the last observations.

At five P.M. on the 19th, the Challenger hove-to, bent cables, unstowed the anchors, and sounded, but no bottom was found with two hundred and ten fathoms of line. This sounding was taken as a matter of form rather than utility, for no one supposed that the ship could be less than fifty miles from a steep coast, off which soundings extend a very little way. At this time, she was really about twelve miles from Mocha, which bore from S.E. to S. The weather was clear overhead, but too hazy near the horizon to see land, or any object distant more than four or five miles. Mocha is high, bold land, which in clear weather may be seen at thirty, forty, or even fifty miles distance; but soundings are no guide in its neighbourhood. They are irregular, and indeed not to be got, except very near the land.

A course was shaped for passing Santa Maria, and approaching the entrance of Concepcion Bay; and with a strong wind from W.N.W., the ship ran eight or nine knots an hour, under treble-reefed topsails, courses, and jib, steering N.b.E. until

eight o'clock, when it was thought prudent to haul to the wind until daylight. By many on board even this step was deemed unnecessary caution. Captain Seymour proposed putting her head to the south-west till daylight; but the master felt so confident of the ship's place, and so much disliked the idea of losing both time and ground, that his opinion was preferred, and her head was kept to the northward. About nine, or soon after that time, the Challenger was lying from N. to N. ½ E., going about four knots, under the sail before-mentioned. The wind had moderated; but a thick haze surrounded the ship, though the sky overhead was clear.

Captain Seymour had been walking the deck for some time, and had only just gone to his cabin, when a change in the appearance* of the water alongside, and an unusual motion of the ship, startled the officer of the watch, and induced him to order the 'helm' down and 'about ship,' while a midshipman was sent to tell the captain there was a suspicious alteration in the water. Just then breakers were seen by the look-out men and by the officer of the watch at the same moment; and as the captain flew up the ladder, (the ship coming round) he saw her position, and gave the order, 'mainsail haul,' as she was rising to a heavy rolling breaker. The after-yards swung round, but while bracing them up, she struck heavily; then 'hauling the head-yards,' and bracing up, she seemed to 'gather way;'—the foam alongside, from the recoiling waves, probably deceiving their eyes. A high breaking sea struck her bows—and astern upon the rocks, a helpless wreck, the proud Challenger was dashed.† Again, a great roller approached, threatening to overwhelm her; but it broke short, and only drenched her fore and aft with force sufficient to wash men overboard. While bracing-up, the topmen had been ordered aloft to shake the reefs out, and readily they went, without

* Lines of foam, and intervals of light-coloured water.

† When the ship was thus hove violently astern, her rudder, stern-post, dead-wood abaft, gun-room beams, cabin-deck, and many timbers, besides planking, crashed awfully as they broke at once before the resistless power of an ocean swell.

a moment's hesitation. They were, however, quickly recalled —a few moments sufficing to show that saving lives was all that could be attempted. Each succeeding sea drove the ship's stern higher than the bow* upon the shore, and along shore withal, inside some rocks, which partly deadened the fury of the great south-west swell, that rolls in directly against this part of the coast. That the sea did not break at first upon the hull of the vessel, and drive every thing before it, is accounted for by her position—with the bow to seaward—and by the defence afforded by a large rock near her bow which received the first shock of each wave.

Heavily the ship continued to beat upon the shore, reeling from side to side as seas struck her, yet her masts, though tottering at every shock, did not fall; nor did her strong hull yield to the continual striking, until hours had passed. Then, indeed, the rising of the tanks and contents of the hold showed that her frame had given way, and that the well-built Challenger would never float again. There was scarcely any wind; but the roar of the breakers and the clouds of spray would have almost stupified the crew, had not life been at stake. No land could be discerned till after the moon had risen—no one could even conjecture where the ship had struck, excepting only the master, who thought they must be on the Dormido shoal, off the island of Santa Maria. The purser collected the ship's papers, and saw them headed up in a water-tight cask: each person endeavoured to secure some valuable:—till daylight came further preparation would have availed nothing.

The captain was asked to cut away the masts; but he refused to let more than the mizen-mast be touched, because their weight, after the first few seas, steadied the ship, as she lay over, and prevented her rolling to seaward with the recoiling waves. When she first struck, he was asked to let go the anchors; another request which he wisely refused, rightly judging that having struck, anchoring could not improve their

* The peculiarity of her form—drawing as much water forward as she did abaft—may have been partly the cause of her bow remaining to seaward, which contributed so much to the preservation of lives.

condition, but might prevent their drifting past the rocks and nearer to the shore; both anchors, however, were kept in readiness, in case the water astern should deepen, which might have happened had they struck upon an isolated shoal, like the Dormido.

Soon after the moon rose, at about two in the morning, land was seen astern of the ship, not far distant. It seemed to be rather extensive, though not high; and as there was no longer any doubt of their having struck upon the mainland, better hopes of saving life relieved the torturing, anxious suspense they had hitherto endured. Daylight shewed them the shore on which they were. Near the ship lay an extensive sandy beach, and beyond it, gradually rising in the interior, a thickly wooded country appeared to reach to distant mountains. The mizen-mast was then used to form part of a raft; the jolly-boat was lowered over the stern; and in her Mr. A. Booth (mate), after a long struggle, reached the shore, with the end of the deep-sea lead-line. Mr. Gordon (midshipman), next tried to land in another boat, to assist in hauling a rope ashore, but the boat was upset, rolled over and over, and Mr. Gordon and one of the men were drowned. The other man was saved. Mr. Gordon was one of the most active and able young men of his age, and very much esteemed by all his shipmates.* His fellow-sufferer, John Edwards, was one of the best men in the ship.

A stream of tide or current, setting two or three knots an hour, along the shore, much increased the difficulty of reaching it, or of assisting those who were making the perilous attempt. Meanwhile, each succeeding heave of the sea forced the ship higher upon the sandy beach, and rendered the situation of those on board less critical.

The men who reached the land safely, hauled stouter ropes ashore with a line; rafts were then made; the large boats got overboard; the sick landed, and a party was sent ashore to protect them. A few Indians appeared at a distance, whose approach, with numbers of their countrymen, was a serious evil in prospect.

* He had anxiously sought to go in the first boat.

Before much had been done in landing stores, a great many Indians and some creole natives had assembled. Nearly all came on horseback, and many assisted in hauling the rafts ashore, or helping the people to land. Even the Indian women rode into the furious surf, and with their lassoes helped very materially: some took the boys up behind their saddles, and carried them ashore; others fixed their lassoes to the rafts. Thus instead of molesting the sufferers, these 'uncivilized barbarians' exerted themselves much for them. What a lesson to the 'wreckers' of some other coasts, whose inhabitants are called civilized!

But notwithstanding these friendly acts, Captain Seymour was too prudent to put confidence in the natives. He remembered the saying, 'Nunca, nunca fiarse à los Indios;' and forming a small encampment upon the beach, he barricaded it with spars, boats, casks, and other moveables.* There every thing was carried when landed, and put under care of the guard. All this day was anxiously occupied in landing stores and provisions. A small party remained on board; but the rest were on shore, during the night of the 20th.† Throughout the following days, some of the officers and all the men who were not on guard ashore, were constantly occupied in bringing provisions, ammunition, and stores from the wreck. Heavy and laborious as this duty proved, it was persevered in until every transportable article of value was removed. Two boat carronades were mounted on shore, which, with small arms and the barricade above mentioned, would have kept off a considerable force of Indians.

On the 21st, Lieutenant Collins and Mr. Lane (assistant-surgeon) set out to go to Concepcion: whence, directly after they arrived, Mr. Rouse set out, with horses and mules, taking such few useful things as he could carry, among which were two small tents, that had belonged to the Beagle, and were lent to Mr. Rouse, when his own house was shaken down by the destructive earthquake of February.

* The barricade was finished on the 25th.

† It was on this day that the Swede saw the unfortunate Challenger.

Wherever Mr. Rouse went he carried with him the thorough good-will and high respect of the inhabitants of the province of Concepcion—a feeling inestimably valuable at such a time, and totally different from the mere outward formal civility shown to him as the British consul! This feeling forwarded him on his journey, induced others to assist in earnest, and afterwards enabled him to procure a large supply of fresh provisions for the shipwrecked crew.

From Concepcion Lieutenant Collins went to Talcahuano, to hire a vessel. Only one fit for such a purpose was in the port, the Carmen, an American schooner, but her owner asked a price so utterly unreasonable, that the Lieutenant refused to engage with him, and returned to the wreck.

After Lieutenant Collins was despatched to Concepcion, Captain Seymour and the master went to examine the mouth of the river Leübu, about eighteen miles to the N.N.W. of Point Molguilla, where the ship struck. They found that boats might enter and leave the river with most winds; that there was no bar at the entrance; and that under Tucapel Heights* there was a spot very suitable for their encampment, until some means of embarkation should offer. Travelling overland so great a distance as to Concepcion, in such a country, would have been almost impracticable, except as a last resource; for it must have involved the total loss of every thing which they could not carry on their backs, and rendered useless the many days hard labour, in a raging surf, by which so much had been landed. It was therefore resolved, that as soon as all valuable stores which could be removed were landed, measures should be taken for shifting their camp to the Leübu.†

When the consul arrived his advice strengthened the opinion

* Immediately over the entrance of the river.

† While Captain Seymour was away at the Leübu, the officers availed themselves of the opportunity to get the greater part of his stores and private property, books, &c. landed; for he would not allow any of his own things to be moved, or a man to be employed about them, while an article of the ship's stores could be saved, though his private property was very valuable.

of Captain Seymour, and their immediate removal was decided upon. Though the Indians as yet had been inoffensive, Mr. Rouse had heard as he came of a large body who were approaching from the interior, and whose intentions he suspected to be hostile. The tribe then about Molguilla was that of an Indian cacique, in alliance with the Chilians, and therefore inclined to be civil, while the plunder was not very tempting, and while all the party were well armed and on the alert.

A few days after the ship was wrecked, this cacique gave a fine young heifer to Captain Seymour, who thanked him for his present, and expressed regret that any thing he could offer in return must be very trifling; when he was startled by a violent exclamation from the chieftain, who indignantly refused to accept any thing from men in distress. He would not take the paring of a nail from them, (biting his thumb-nail angrily as he spoke).

By Mr. Rouse's exertions and assistance, as interpreter and adviser, several yoke of oxen were procured, as well as many horses, mules, and donkeys; but even with such unhoped-for help, the removal of the heavy stores which had been saved was a tedious and difficult undertaking. Once established, however, at Leübu, they felt comparatively secure: tents were made out of sails; a palisade was fixed and a ditch dug: but the guns, spars, anchors, cables, and large boats, were left on the beach, as they were too heavy for removal overland; and to transport them by sea, from such an exposed coast, was out of the question.

Leaving their good ship a wreck upon the shore, in the hands of those who would soon destroy her, to get at the copper and iron, was to all a melancholy sensation. But the feelings of her captain at that moment—how little those who obeyed orders had to feel, compared with him who gave them!

On the 8th of June the wreck was abandoned: and the whole party were encamped at Leübu. Time passed away but no tidings of assistance arrived. Sickness began its insidious attacks: for cold wet weather had succeeded to a duration of fine dry days unusual at that time of year. Some of their

essential articles of provision were exhausted: inactivity and uncertainty were depressing the minds of all, and Captain Seymour had begun to concert measures for abandoning the ships' stores, which had been so painfully saved, and travelling overland to Concepcion, when the letters from Commodore Mason were given to him. It ought not to be forgotten that Mr. Rouse decided to remain with Captain Seymour, and share his fate, whatever plan he might adopt.

Among evils of magnitude trifling vexations are little noticed; an absolute plague of mice caused amusing occupation, rather than annoyance. The ground, the tents, their beds, everything and every place was infested by mice: nothing was safe from their teeth; provisions were hung up, and people were obliged to watch them. Hundreds were killed every hour, for they literally swarmed over all that part of the country, and curiously enough the old people attributed their appearance to the earthquake! Besides these mice, which had feet like those of a lizard, enabling them to climb in all directions, even along the smallest line or branch of a tree, there were animals that they called rats, about the encampment at Leübu, which deserve mention, not on account of their numbers (as there were comparatively few) but because they were formed like opossums, having a pouch to contain their young for some time after birth.

Early the next morning (24th) I went up with Captain Seymour to the heights of Tucapel, which overlook the river and command an extensive view of the sea. Flag-staffs had been erected there, and large piles of wood collected, in order that flags might be kept flying by day, and fires burning at night. The little camp below presented a regular and very respectable appearance: fourteen or fifteen tents, pitched in regular order, and surrounded by a palisade with a ditch, would have caused even a large body of Indians to hesitate before they attacked it. I was much struck by the strength of the position, and the ease with which it might be defended by a small force against numbers, and still maintain communication with the sea. There was formerly a small settlement there, called a

town, though in truth only a very small village: but latterly, the river Leübu has scarcely been noticed, except as the last retreat of the pirate Benavides. Nevertheless it is a situation admirably adapted for a commercial as well as agricultural settlement.

Though bread and other things were deficient, the shipwrecked party never knew the want of water, and they had always an abundant supply of a very fine kind of potato, which perhaps is hardly to be surpassed in size or quality by any in the world. Not one of the officers of the Challenger had seen its equal, and I never recollect eating any that were so good, and at the same time so large.* Neither beef nor mutton were scarce, in consequence of the 'credit' obtained by Mr. Rouse. Money was soon exhausted, but the high character of the consul was known all over the country, and the natives trusted implicitly to his word.

The report of a 'wreck' had quickly drawn numerous plunderers, even from Concepcion and Talcahuano: but those pilferers satisfied themselves secretly, I believe, without attempting any daring robbery. During the confusion of the first day no doubt much was stolen by Indians, and hidden in the neighbourhood: since many articles were sold to the Talcahuano people for spirits or tobacco, and being taken by them to that place, occasioned a report of the officers and crew having been stripped and plundered.

But it must not be supposed that Captain Seymour and his officers had no internal troubles, and that strangers were their only foes. Shameful acts of robbery were committed by some of the Challenger's own party: a very few of her marines scrupling not to rifle chests and boxes belonging to officers. This conduct, in connexion with a spirit of insubordination which began to show itself, among some of those who knew Captain Seymour the least, occasioned his calling the crew together on the beach, and causing one man to be corporally punished.

* The officers of the Blonde were of a similar opinion, after trying a great many that were sent on board from the Leübu.

On this trying occasion Captain Seymour animadverted on the thoughtless conduct of a few who talked of what ought to be done, as if they were on equal terms with those whose authority at such a time was more than ever necessary; and who, in their unguarded conversations, heeded not who was listening, or which of their inferiors might be influenced by their opinions. He reminded them of the treacherous and often hostile disposition of those Indians who then surrounded them, and were daily increasing in numbers; and made known not only his own determination to stay by the stores, at all hazards, but that those who attempted to desert should do so at the peril of their lives. He well knew that the majority (and that majority included all the worthiest and best) would stand by him to the last, and think little of difficulties or dangers incurred in doing their duty.

After this well-timed public admonition not a word more was heard about "abandoning the stores, and making the best of the way to Concepcion." Neither was there again occasion to inflict punishment. This one act of necessary justice, executed so properly and decidedly, was probably the means of saving much property, of upholding character, and even of preserving many lives: for when once anarchy begins, who can foretel all its consequences?

Anxious to return as soon as possible to tell the Commodore how easily the Blonde might take off both people and stores, at the mouth of the Leübu, that he might lose no time in effecting the embarkation—I recrossed the river and was galloping towards Quiapo, before noon (on the 24th) hoping to reach Arauco ere midnight; and, certain of fresh horses, I and my two companions spared neither whip nor spur. Our guide dropped behind, but as we could find the path by our tracks of the previous day, we did not wait for him. Such ravines (quebradas) as we passed: how we got through them during the black darkness of the preceding night astonished me, for we could hardly scramble along in broad daylight: and had I known the nature of those passes, I certainly should not have tried to get through, excepting by day.

At Quiapo we had a mixture of corn and water, which I thought tolerably good. It is a common mess among the lower class of natives in many countries besides Chile.* A few handfuls of roasted corn, roughly pounded between two stones, were put into a cow's horn, half full of cold water, and well stirred about with a stick until changed into a substantial mess of cold porridge. Our haste shortened the journey, and we should have reached Arauco in good time, had not a second guide (the man who waited at Quiapo with the Arauco horses) mistaken the road, and taken us along a track which was crossed by two rivers, not then fordable. His error was not discovered until too late, and to pass the rivers we were obliged to make a delay of several hours. The tract of country we traversed this day, was as fine as any that I have attempted to describe. I do not think we rode over or even saw an acre of unproductive land. The woody districts were very pleasing to the eye, and as specimens of a rich and fertile country almost in a state of nature, equally so to the mind. In many places our road lay through an open forest, where fine trees stood at considerable distances apart, and not being surrounded by underwood allowed us to gallop between them as we pleased. I thought of England's forests in the 'olden time.'

In one of the quiet woodland glades we passed through, some of the finest cattle I ever saw were grazing. One immense animal would have attracted admiration, even by the side of show-cattle in England. Very large, well-shaped, and extremely fat, he looked and moved as if few things had ever caused him to turn against his will. These cattle have owners, I was told, but are seldom molested: once perhaps in some years a large number may be killed for the sake of their hides and tallow; and even then so extensive and so little known are these woods, that a considerable proportion of the cattle are not seen by their indolent destroyers, nor yet at the almost nominal musters which take place annually. The

* Among the Araucanian aborigines it is made with maize, and called ulpu.

soil being usually of a tenacious, clayey nature, and streams of water numerous, moisture sufficient for vegetation is ensured, even at the dryest periods. Indeed, these countries never have suffered from drought; their climate being a happy mean between the dry, parching heat of Northern Chile, or Peru, and the continual wet, wind, and chilliness of Chilóe.

The first river we had to cross was not more than fifty feet wide, but the banks were hollow and rotten. Our guide looked along the stream till he found a tree which had fallen across, so as to form a bridge over two-thirds of the width: and with a pole in his hand, he climbed as far as the boughs would bear him: then finding that the water beneath was not above his middle, he waded through the remainder. Unsaddling, we sent all the gear across by help of the tree and lassoes, and turned the horses over, much against their will, for they had to plunge in and scramble out.

Again using our spurs, we hoped to pass the second river also before dark, but in vain; there was only just daylight enough left to see that it had overflowed its banks, and seemed to be wide and rapid. Even Vogelborg thought it impossible to cross before the next morning, so we turned back to look for some hut in which we might obtain shelter from heavy rain, which was beginning to pour down. The night was very dark and our prospect rather comfortless, when we were fortunate enough to find a 'rancho,' and there we gladly took refuge. Its owners were absent at a merry-making in the 'neighbourhood' (about twenty miles off!); their daughters, however, and an Indian captive (from Boroa) were not deficient in hospitality. Poor girls! they were rather frightened at first, at their house being so suddenly occupied, but our guide quieted their alarm. As soon as the horses were provided for, we looked about for food for ourselves, and could find nothing but potatoes, till, hearing Vogelborg call for help in his broken English, I ran to him thinking he was hurt or attacked. He was struggling with a sheep which he had caught, and was dragging to the hut. Greatly were the poor girls alarmed when they saw that the sheep was to be sacrificed; they ex-

claimed that their father would beat them terribly, that the sheep was worth eight rials!* A dollar for the sheep, and another for each of themselves, altered their tone; and before long we had such a fire and supper as the old 'rancho' had not witnessed since the wedding-day of its owners.

But what a night of penance we passed—the place swarmed with fleas, not one moment could I rest, though very tired; and it was raining too hard, and was too cold to sleep outside in the open air. These insects are the torment of travellers in Chile. The natives appear either not to feel, or not to be attacked by them, but an unlucky stranger who ventures to sleep within the walls of an inferior kind of house, or even any country house, in Chile, is sure to be their victim. When I stripped to bathe the next day, I found myself so covered, from head to foot, with flea-bites, that I seemed to have a violent rash, or the scarlet fever.

As the day broke (on the 25th) we mounted our horses, eager to get away from such unceasing tormentors: and the Indian girl undertook to show us a place where we might pass the river, even flooded as it was. By the help of fallen trees, lassoes, and poles, we conveyed ourselves and the saddles across; but to get the horses over was very difficult. The stream being rather wide and rapid, and the banks steep and rotten, occasioned so much difficulty, that two whole hours were spent in getting the animals across and out of the river. Our united strength applied to good lassoes, was barely sufficient to help the struggling and frightened creatures up the muddy broken banks. When one had passed, the others followed in their turns more readily; but I thought we should have lost one of them. From this river to Arauco was not above an hour's ride, at the pace we went, though it is called seven leagues.

During the last two days I had seen several Indians of pure Araucanian blood, in their native dress, and was much struck by the precise similarity of that worn by the women, to the dress of the aborigines of Peru, as described and figured in Frezier's voyage. The square cloak, or mantle, thrown over the shoulders,

* Or a dollar, equal to about four shillings.

and fastened in front by a pin with a very large flat head, the size of a dollar, or even the palm of a hand; the broad band round the waist ornamented with beads; and the beaded or brass ornaments in the hair, ears, and round the neck, caught my eye sooner than their features, which are so similar to those of the almost Indian breed who live on the borders, that at first sight the difference was hardly noticed. Perhaps the eye of one of those Indians who has never lived with civilized people, is the only feature which differs strikingly: so much have the lower classes of Chilian creoles mixed with the aborigines. In the eye of a free, wandering Indian, there is a restless suspiciousness, which reminds one of the eye of a wild animal: but this peculiar expression is soon removed by civilization.

The clothing of the Araucanians, made by themselves, is very strong good cloth. Indian ponchoes will keep out rain longer than any others. Dark blue is the usual colour of their clothes, from ponchoes to petticoats; and they are all of woollen manufacture.

The women dress their hair with some pains, and ornament it with beads, bits of brass, or large-headed pins, such as those I have described. Some few have ornaments of gold: and to see an Indian woman dressed in her national costume, with large golden ornaments, quite transports the imagination to the days of Cortes and Pizarro. I saw but one so ornamented, a fine-looking young woman, the daughter of a cacique, who had accompanied some of her tribe to look at the ship-wrecked white men. Her horse was a beautiful animal, looking as wild as herself.

At Arauco the worthy colonel welcomed me to breakfast, but regretted that I had been prevented from proceeding to the wreck: he thought some accident had happened, and hardly could believe that we had actually passed a night at the Leübu. D. Geronimo told me he had received intelligence of a large body of Indians, about three thousand strong, who were marching northward against Colipi, and his allies, the Chilians. He thought it probable that they would molest the Chal-

lenger's people, for the sake of plunder as well as because they had been on friendly terms with Colipi.

This hostile tribe, whose visit he was anticipating, was that called 'Boroanos,' by the Chilians ('Boroa-che,' by the Indians). I have before said that in Boroa there are fair Indians; and that I saw, when at Valdivia, one of the natives of that district. The Indian girl, whom I mentioned just now as a captive, agreed exactly in what she stated of them, with the account I had previously heard. She and the 'Boroana' at Valdivia both said, that "their fathers had told them that the 'rubios' (meaning red and white, or red-haired people) were children of the women whom their ancestors took prisoners when they destroyed the seven cities." Many of these 'rubios' had blue eyes, with rather fair complexions; and some few had red hair. If this is the true story, they must be gradually losing such striking peculiarities; and the assertion made a century ago that there were white Indians in Araucania, might well be thought erroneous now. Both of the 'Boroanos' whom I saw had dark blue or grey eyes, and a lighter complexion than other Indians; but their features were similar to those of their countrywomen, and they had long black hair.

In our way to Arauco this morning, we passed by Tubul, a place admirably adapted for a large town, but now occupied only by a few poor families living in huts. Hills surround a fine plain, through which the river Tubul winds to the sea: lying in that river, I saw the remains of a whaler (the Hersilia) captured by Benavides, when at anchor near the island of Santa Maria.* She was brought into the Tubul, plundered, and partly burned.

Some years ago, ships of two hundred tons could enter the mouth of this river, and pass up nearly a mile; but the late earthquake had raised the land so much, that only very small vessels could enter at this time. May not changes of relative level, similar to this, have occurred at the rivers

* Captain Hall's Journal, vol. i. p. 312-13.

Cauten, Tolten, and Bueno? The Cauten, or Imperial, is spoken of by the earlier writers on Chile, as admitting ships of burthen; but now the entrance of each of those rivers is almost closed by a bar.

In opposition to this idea it may be urged, that where a large river runs into the sea exactly against the direction of the prevailing wind and swell, a bar of sand, shingle, and mud must be formed by deposition from the opposing waters; and that it is only where a river runs uninterruptedly into the sea, protected from wind and swell by a projecting islet or point of land, that a perfectly clear entrance may be expected; and, therefore, that the Spanish accounts must have been incorrect. I suspect that they described those rivers as they found them at some distance in-land, not at the mouth.

Leaving the hospitable colonel assembling a remarkably awkward squad, whom he was anxiously preparing for the threatened attack of the 'Boroanos,' we rode away upon the good horses which, three days previously, had brought us from Concepcion.

At the Carampangue there was no balsa. What was to be done? To wait until some one brought a boat from the opposite shore might expend the day; but the river was wide and deep, and the weather too cold for so long a swim: nevertheless, five dollars excited our guide, or rather horse-keeper, to make the trial, and during several minutes I thought he must have been drowned: for, instead of slipping off the horse, and holding by the mane or tail when he began to swim, the man sat bolt upright, so that the poor horse's head was scarcely visible; and both horse and man appeared to get confused, turning round in the stream two or three times, while the current was carrying them down the river. At last they struggled out, to my infinite joy, and galloped off in search of the men whose business it was to attend at the ferry with a balsa. While we were anxiously waiting, a large party appeared on the opposite bank, with whom were the balsa-men. They had been merry-making, the previous day having been the feast of St. John; and as they had hardly recovered from the effects of 'chicha,'

and other favourite libations, to carry so large a number across upon a small raft, was a difficult undertaking. Talking at the pitch of their voices, laughing and tumbling about, their reaching the opposite shore without a cold-bath, was attributed by Vogelborg to the protection of the saint whose anniversary they had so dutifully celebrated. The 'chicha,'* is sometimes fermented, and then soon affects a person's head, if drank to excess: but these votaries of St. John had doubtless improved its insipid taste by aguardiente. During the chicha season, or autumn, the Indians are said to be more dangerous than at other times, as they indulge in this, their favourite beverage, to excess.

Apple trees are now abundant in southern Chile, throughout the Indian as well as Spanish territories. They were also plentiful on the eastern side of the Andes, particularly about the river Negro and the great lake 'Nahuelhuapi,' in the middle of the last century. Whether they are indigenous, or were planted by the early missionaries, has been much disputed in that country; but as the Indian name for them is 'manchana,'† I should incline to think they were introduced by the first missionaries.

Our road over the heights of Villagran was much worse than at our former passage. Heavy rain and constant traffic, in consequence of the wreck, had worn it into a curious succession of steps: and each animal endeavouring to place his feet in the holes made by those which had previously passed—the rain having filled up the hollows with mud and water—had worked the clayey track into a continuation of transverse ridges and trenches. A man might step from ridge to ridge without wetting his feet; but the horses always planted their legs, up to the knees and hocks, in the mud and water of the trenches. Their motion was just as if they were stepping over logs of timber: unpleasant enough for the rider, and extremely tiring to themselves. We helped them however as much as possible, to the surprise of our lazy guide, by dismounting and leading them up the hills as well as down.

* 'Chicha' is made with maize, apples, or other things.

† Manzana is Spanish for apple.

We reached 'Playa Blanca' as it got dusk. The heights near Point Coronel were difficult, in the dark, but we passed without worse disaster than a roll in the mud, from my girths breaking while struggling in a slough. Along the level lands of Don Juan de Dios Rivera we galloped briskly, until we were completely bewildered in the darkness. At last we found ourselves among enclosures, and by pulling up rails and breaking fences, made our way to a farm-house, where such information was obtained as enabled us to reach San Pedro, on the south bank of the Bio Bio, soon after midnight. No inducement could prevail upon the owner of the ferry-boat to let her take us across before daylight, so we sat down by a fire, after feeding our excellent horses, and dozed till daybreak.

With the first dawn we drove the lazy boatmen to their barge, urging them alternately with money, entreaties, reproaches, and threats. The river was exceedingly swollen by late heavy rains, so that it was almost twice as wide, and quite as rapid, as usual. Our heavy ferry-boat was 'tracked' up it until it seemed possible for us to reach the other bank before the current swept us out to sea; but the appearance of the boat and men, and the utter uncertainty caused by a very thick fog, gave me no great hopes of reaching Concepcion in any reasonable time, though a vivid expectation of passing a few hours upon a sand-bank at the mouth of the river, if we escaped being hurried into the open sea. In this clumsily-built, flat-bottomed boat (a sort of large punt) were five horses, a troublesome young bull, six men, and three nominal boatmen, one of whom merely attempted to steer. With very long poles our unwieldy craft was pushed into the stream, and while the shore could be distinguished through the fog, made progress in a proper direction, though most crab-like was the movement. When fairly out of sight of land, the boatmen became alarmed and puzzled; but just then a large bell was heard tolling at Concepcion, which served to animate them, and to ensure our trying to go in the right direction. After an hour's unpleasant work, in a very cold morning, we landed about a mile below Concepcion, having started about as much above it on the oppo-

site side. No time was then lost in galloping to Talcahuano, and going on board the Blonde, so that Captain Seymour's letter was delivered to Commodore Mason soon after ten.

I found that the commodore had engaged an American schooner* to go in search of the crew of the Challenger; and that Mr. Usborne had been sent in her, with the second master of the Blonde,† three seamen of that ship, my coxswain, and the whale-boat which I took from the Beagle; she was a poor craft, and wretchedly found, though reputed to have sailed well, and to have been a fine vessel in her time. They left Talcahuano on the day after a gale from the north-west (on the 24th), which, by all accounts, was one of the severest that had been experienced during many years.

The Blonde sailed from Concepcion Bay on the 27th, the morning after I arrived; but unfortunately, during all that day, thick weather and half a gale of wind from the northward, prevented our having even one glimpse of the land, as we were running towards the entrance of the Leübu.

On the 28th, thick weather kept us in the offing. On the 29th, at daylight, the schooner Carmen was seen, and soon afterwards, through the haze, we made out Tucapel Head. At this time, neither Vogelborg (who was on board as local pilot) nor I, knew that the Heights of Tucapel Viejo were identical with the headland we recognized by the name of Tucapel Head. We both thought that Tucapel-Viejo was in the bay where the river 'Lebo' is placed in the old Spanish charts. This error appears almost unaccountable to me now; though both he and I were then drawn into it by a variety of reasons unnecessary to detail here, and we therefore advised the commodore to run along-shore towards the supposed place of the Leübu (or Lebo), which he did; but the weather was so unfavourable, so thick and hazy, that nothing could be seen distinctly. Scarcely indeed could we discern the line of the surf, heavily as it was beating upon the shore; and at noon we were obliged to haul off, on account of wind and rain.

* The Carmen; for which such exorbitant demands had been made in answer to Lieutenant Collins. † Mr. Biddlecombe.

I should have mentioned that we spoke the schooner at eight in the morning, when Mr. Usborne said they had seen nothing in their run along-shore on the 26th, the only clear day they had had. After speaking us, he kept to the northward, intending, as we concluded, to close the land about Tucapel Head, and again run along-shore to the southward. In the haze we quickly lost sight of the schooner; but thinking that we should soon meet again in clearer weather, little notice was taken of this circumstance, which was afterwards so much regretted. Continual thick weather prevented any observations being taken, as well as the land from being seen, until the 2d of July, when Tucapel Head was indistinctly made out in the distance. But strong wind and a high swell were reasons sufficient to keep the Blonde far in the offing, while thick hazy weather lasted; and after making the land we actually stood to sea again, without even attempting to show the ship to the poor fellows on shore. In the course of this night a few stars were seen; and their altitudes were the only observations that could have been obtained at any moment since we left Concepcion Bay, during six days of constantly clouded and hazy weather, in which neither sun, moon, nor stars, nor even the horizon could be seen!

On the 3d, Tucapel Head was again made out indistinctly; but nothing was done, a wide offing being still preserved.

On the 4th, the weather had improved enough to allow of a partial view of the coast between the supposed place of the Leübu and Cape Tirua; but no signal-fire, nor any thing like a flag, could be perceived on any of the heights.

Land appears so different when viewed from an offing at sea and when seen closely, especially from the land side, that it is less surprising that Vogelberg, who had visited the Leübu dozens of times by land, and also by sea in a boat, should be as much at a loss as myself to recognise the height which we had both ascended with Captain Seymour.

How it happened that I, who had surveyed this coast, should be ignorant of the real place of the Leübu, as I then certainly was, is another affair entirely, and one which I feel bound to

explain. A momentary reference to my instructions shows that the Beagle was only expected to "correct the outline, and to fix the positions of all the salient points"* of the coast between Chilóe and Topocalma (near Valparaiso); and the Beagle's charts of that coast prove that a great deal more was accomplished than was thought practicable when those instructions were framed.

Between Cape Tirua opposite Mocha, and Tucapel Head, the shore was laid down on our chart as determined by triangulation connected with the ship under sail, her distance from the land varying from one mile to five miles; and as no river was seen thereabouts, nor any break in the coast-line where a river's mouth could be, our chart contained merely a note, saying, "River Lebo, according to the Spanish chart." Now, the erroneous place of this Lebo (meant for Leübu) was twenty miles south of the real position, which, shut in behind Tucapel Head, could never have been seen from any vessel sailing past, however near the shore she might have been. The coast-line in the Beagle's chart was proved to be perfectly correct; but the place of the Leübu, which could only have been obtained by landing, or having a local pilot on board, was not known; and not being a navigable river, I did not deem it of sufficient consequence to be worth our delaying on an exposed coast, without an anchorage or a landing-place—so far as I then knew—while it was sought for.

Considering the multiplicity of places the Beagle had to visit subsequently, I often found it necessary to sacrifice such details as seemed to me of least consequence. Every seaman knows how very difficult it is to make out the openings of some small rivers, while he is sailing along a coast little known, and all marine surveyors know that there is seldom any way of making sure of such openings without landing; or entering them in a boat. I do not say this to excuse neglect—not feeling culpable—but simply to explain how the case stood.

On each day, when near the land, guns were fired at intervals, and sometimes three or four were fired at once; blue

* Hydrographer's Memorandum, p. 31.

lights also were occasionally burned during the nights, in hopes that the schooner might see them.

On the 5th of July, the day broke clearly for the first time during the longest week I ever passed, and we saw the land distinctly, from Cape Rumena to Tirua, with Mocha Island, strange to say, for the first time—near it as we had often been. Now that the tops of the hills were quite free from fog or cloud, I recognised the Heights of Tucapel at the first glance; and after looking for some minutes at their summits, through a good glass, I distinctly saw smoke rising. Standing towards them—in half an hour flags were discerned on the heights, and there was no longer any doubt; yet no steps were taken until near one o'clock, though it was a beautiful, and almost calm day. From nine in the morning until one, the Blonde lay almost becalmed, about five miles from the land. At one, three boats were sent to the mouth of the Leübu, with some money and a small supply of bread; but a current setting along the shore from the northward delayed their reaching the entrance of the river until evening.

We found the greater part of the Challenger's crew still in health; but delay and bad weather had increased the sick-list, and two of her party (the assistant-surgeon and a young midshipman) were in danger: waiting so long in uncertainty, and without employment, in a wet, dirty place, had tried all their constitutions severely. It was too late to attempt going out into the offing after the Blonde, (which was standing to sea) with the gig and cutter, two indifferent boats; so manning the barge with a double crew, one crew being men of the Challenger, and taking one of her officers (Lieutenant Collins) with me, I hastened out of the river as the sun was setting. A light breeze from the land favoured us, and though the Blonde was hull down in the south-west when we started, we were happy enough to get on board at about eight o'clock.

In going off to the ship after it became dark, we kept the end of a piece of old gun-breeching burning, held up in the bow of the boat. The light, as strong almost as that of a false fire, was seen plainly on board the ship, and then she was hove-to.

As soon as the barge was hoisted in, the frigate again made sail off shore; but a fortunate mistake caused the main-yard to be squared about midnight, and at daybreak next morning we were in a good position off the entrance of the river. The Blonde then steered towards the land, and at nine anchored near the River Leübu, about a mile from Tucapel Head. Every boat was hoisted out, and the work of embarkation proceeded rapidly. Though a swell made the ship roll heavily, and delayed the boats along-side, the weather was so fine and a south-east wind so favourable, that the quickness of going and returning made amends for some delay in discharging each cargo. At six in the evening, Captain Seymour came on board with the last party of his crew, and at eight, the Blonde weighed and made sail, before a fresh and favourable breeze.

Most of the tents remained standing, being of very little value, and some of the stores were left. For what was abandoned, both there and at Molguilla, the commodore appointed Vogelborg to be agent, leaving him on the spot to take charge: and he wisely asked one of the Chilians who lived in the neighbourhood, and had generally supplied the shipwrecked crew with provisions, to join him in his undertaking. Between them they might have recovered many things of value to individuals, but, to the British Government, nothing worth the great expense of carriage to Concepcion.

Mr. Rouse sent his servants back by land, with his horses and mules, and accompanied his esteemed friend, Captain Seymour, in the Blonde. The numerous Indians and others whom we left gathering round the encampment, in all probability saved Vogelborg and his partner the trouble of taking care of much of the property. They reminded me of the vultures which in those countries gather round the places where men are slaughtering cattle.

During the night of the 6th, the Blonde passed rapidly northward, running before a fresh southerly breeze; and at eleven in the morning of the 7th, she was off Point Tumbes, when seeing a dismasted vessel, with an English blue ensign hoisted, about five miles to the northward of us, the frigate stood towards

her, and finding that she was the schooner Carmen, closed and took her in tow. But for the Blonde's opportune arrival, she would have been drifted to the northward, and obliged to run into any port she could reach. Mr. Usborne came on board, and as soon as he had refreshed himself by a few hours' sleep, gave me the following account of his proceedings and accidents.

After leaving Talcahuano, wind and weather favoured the Carmen until she had run along the coast from Tucapel Head to Cape Tirua, at about a mile from the surf, without seeing either smoke, flags, people, or wreck; but, during one night, a fire was seen on Tucapel Head. When Mr. Usborne spoke the Blonde, on the morning of the 29th, the schooner was on her way to the place where she had seen the fire; and he would have said so when the Blonde hailed him had he had time, but as she passed on without stopping, and he felt sure that the Challenger's people were not in the direction which she was taking, he kept a different course. At about two in the afternoon of that day, while four seamen were aloft on the topsail yard, furling the topsail, the schooner gave a sudden plunge into a high swell, and away went the foremast head, fore-topmast, and topsail-yard. The four men were carried overboard, but saved; though one (James Bennett) was severely bruised. The mainmast followed, being dragged downwards and broken by the rigging attached to the head of the foremast; and in this state, a mere wreck, the Carmen drifted towards Mocha. So wretchedly was the vessel provided in every way, that the only tools which they had to cut the laniards of the rigging with, were knives and a cooper's old adze.

After clearing the wreck, they got up a small spar abaft, on which was set the Beagle's boat's sail; and by means of cleats,* Bennett and J. Nutcher (boatswain's mate of the Blonde), got to the head of the stump of the foremast, although, being loose in the step, it swayed to and fro as if it would go overboard, and fixed temporary rigging. A staysail and trysail were then set, and just saved her from going ashore upon the wea-

* To secure these cleats to the mast, they were obliged to draw nails out of the vessel's beams, having no others.

ther side of Mocha, while it was blowing hard, with a high sea running; and in all probability, not one person would have been saved had she struck. If Mr. Usborne had not known this land well, from his late survey, it is not likely that they would have escaped, because when they found themselves about half a mile from the breakers, the tack which appeared to the others to be by far the best, was in truth the worst: had they gone on that tack, nothing could have saved them. Mr. Usborne saw their position exactly, and knowing how the current would affect them, determined upon what they thought the wrong tack, and rescued them. I say that Mr. Usborne did this; because Mr. Biddlecombe was sick, and the master of the vessel reluctantly yielded to the person who he saw was at home, while he himself was utterly bewildered.

After this narrow escape, the schooner was drifted to the southward, as far as the latitude of Valdivia, before the southerly wind, which took the Blonde to the mouth of the Leübu, drove the Carmen back slowly to the northward. Mr. Usborne and his companions had almost entered the opening of the Bay of Concepcion early in the morning of the day on which the Blonde took them in tow, but had been drifted away again by a fresh wind, and were falling to leeward fast, for want of sail, when the Blonde arrived. Mr. Usborne recovered from his fatigue in two or three days, but Bennett was ill for a fortnight.

During the few days they were away, they suffered much. As for the ten men belonging to the vessel, they were utterly useless, being frightened or sick during the whole time; so that but for the exertion of the Blonde's seamen, of Bennett, of the master of the vessel (Mr. Thayer), of Mr. Biddlecombe, and above all, Mr. Usborne, the Carmen might have left her remains on the shore, when perhaps few, if any, would have survived to tell the fatal tale.*

The Blonde worked to windward, with the schooner in tow, during the remainder of the day and early part of the night, and at midnight they both anchored off Talcahuano.

* Mr. Usborne's narrative of this affair is in the Appendix, No. 27.

Until the 10th, it was necessary to remain at anchor, as there were accounts to settle between the commodore, the consul, the pursers, the officers, and the owner of the schooner; there were visits to the Authorities, to thank them for their assistance, and, as usual on board men-of-war, there was much to do in very little time. To Don José Alemparte, the yntendente of the province; to Colonel Boza, the principal military authority; to D. Miguel Bayon, the governor of Talcahuano; and to Don Pablo Delano, captain of the port, sincere thanks were really due for their earnest exertions. Mr. Rouse took his leave of us on the 10th, and we then sailed.

While the Blonde was lying off Talcahuano, I had a few opportunities of looking about, and seeing that both Concepcion and Talcahuano were rising out of their ruins, and that their unfortunate inhabitants had, at least, roofs over their heads. Concepcion was, and is still nominally, a city: but it will be long before it again appears as such to the eye of a stranger. Some idea may be formed of the low scale to which every thing was there reduced, when I mention that it was very difficult to find a carriage of any kind in which the Commodore could go to visit the Yntendente.

Great discussions had arisen on the subject of rebuilding the city. The government party wished to remove the site to a better position; but there was so strong an opposition, that the result was likely to be the gradual rebuilding of the town in the same place, while the removal was still undecided, and under consideration. Two situations were named as much more eligible than the former: one on the banks of the little river Andalien, about a mile from the old city; and the other, on a rising ground about two miles on the Talcahuano side of Concepcion. This latter position has many and great advantages, as all acknowledged; but people were reluctant to move; each one had or fancied an advantage in the old situation of his house, encumbered as it was with ruins. Besides, many more serious difficulties would arise in leaving small freeholds, and obtaining equivalents in another place: however, an active government might have accomplished so desirable a change without injuring

any one, by purchasing the ground, and distributing it so fairly that each man should gain rather than lose. The sum necessary for purchasing ground for a new city, would not have been greater than might have been borrowed; and repaid in ten years out of the custom-house.

Perhaps there is not a situation in the world much more advantageous to the prosperity of a commercial city than this of which we are speaking. Centrally placed between the great and navigable river Bio Bio, the port of San Vicente, the noble bay of Concepcion, and an easy communication by land with the best part of Chile, a part which may well be called one of the finest countries in the world:—with a large extent of level and fertile land on all sides—with the means of obtaining water by sinking wells to a small depth, as well as by an aqueduct from the Bio Bio—and with the blessing of an unexceptionable climate—how could the New Concepcion fail to thrive, and increase rapidly? It might be shaken down and destroyed by an earthquake as soon as built, may be said. Probably, may be replied, if the inhabitants should be so unwise as to build houses of brick and stone, one or two stories in height, and with heavily tiled roofs. But let them try another mode of building. Wood is abundant, and let them make that the only material of which either walls or roofs shall be composed. A strong frame-work, similar in some measure to that of a ship, lightly covered or ceiled with thin planks, and roofed with shingles,* would, if placed on the ground and not let into it as foundations usually are, withstand the convulsions of any earthquake which has yet happened in that tormented country. Why do not the Chilians pay more attention to the remark of the aborigines of Peru, who, when they saw the Spaniards digging deep foundations for their buildings, said, "You are building your own sepulchres?"†

The houses of the natives of Peru were in those days built without foundations, simply upon the levelled ground; and they withstood the severest shocks. No house should extend far

* Small pieces of wood, like tiles. † Ulloa, vol. i. p. 340.

upwards. Nothing should be above the ground floor but a light strongly-secured wooden roof: and they should be placed upon firm ground—if possible, upon rock. The principal objections against the present site of Concepcion are—that the earth upon which the houses stand is every where loose, and sandy, and that it is too near the river.

One day, while visiting a gentleman at Talcahuano, he called three little Araucanian boys into the room where Mr. Rouse and I were sitting with him, and desired them to harangue or make speeches to one another in their own way. The little fellows stepped forward boldly, and one of them spoke to the other two in a very fluent and expressive manner; but ended every marked sentence, or portion of his subject, by the singular sharp rise of the voice which has so often been noticed as a peculiarity in the oratory of Indians in this country. Another boy replied in a similar manner; and then they began to fight with their fists. This part of the display of course we stopped; but we were much interested by the composure and readiness with which the little boys spoke. One of the speakers was son of a cacique. All three had been obtained by actual (though secret) purchase from their countrymen, through the intervention of one of the 'Capitanes de los Amigos,'* one of whose offices is to take the part of and protect the natives. Perhaps, in the first instance, these boys had been stolen or taken prisoners, and were not the children of those who sold them to the 'captain of the friends.' In the family of Don —— those boys found a comfortable and a happy home; he had taken them from the rascally 'capitan de los amigos' as an act of charity, and intended to give them employment and land on his estate. I thought of Lautaro, as I noticed the bright eye of the little cacique.

When I took leave of the Yntendente, he said that he was about to make a journey to the frontier, for the sake of inspecting the outposts and securing the assistance of the friendly Indians: and this, I afterwards understood, was in consequence

* See page 399.

of the rumoured approach of those hostile tribes of whom Colonel Valenzuela had spoken to me at Arauco.

We sailed from Talcahuano with a fair wind, which carried us quickly and pleasantly along-shore; but crowded, and anxious as we were, the ship could not go fast enough for us. The sick people, excepting Mr. Lane, were improving when we reached Valparaiso on the 13th. Much attention and kindness were shown to Captain Seymour by his acquaintance at Valparaiso; but it could not be expected that he should be cheerful, or inclined to see people, excepting intimate friends, at that time; particularly as the death of Mr. Lane was an additional blow much felt by him. I was very glad when we weighed anchor, on the 17th, for every hour caused an increase of painful feeling.

A fresh fair wind drove us in twenty-four hours to Coquimbo, where the Conway was at anchor ready for sea. It was then arranged, that all the officers and two-thirds of the crew should go home in the Conway; and, of course, no small bustle of preparation for so many passengers was caused. Captain* and Mrs. White already occupied one-half of the captain's cabin, and their luggage a considerable space below; but as both Captain Eden and the senior lieutenant, Johnstone, were bent upon accommodating the ship-wrecked party to the utmost of their power, stowage-room was cleverly contrived.

How striking the contrast appeared between the fertility and verdure of the Concepcion country, and the dry barrenness of the naked earth or rocks about Coquimbo. Scarcely any one went on shore; a mixture of unpleasant feelings occasioned a gloomy heaviness in most of our minds.

On the 22d, both ships sailed from Coquimbo, and soon afterwards parted company. The Conway stood to the westward, 'close-hauled;' while the Blonde steered towards the north with a fresh southerly wind.

What caused the loss of the Challenger?—is a question not easy to answer with certainty. The error in her reckoning

* Then Vice-Consul at Valparaiso.

amounted to more than forty miles; and the only way in which I can account for it to my own satisfaction is, that while the north-west wind was blowing, a current set to the southward and eastward, for which no allowance was made, as those on board could not be aware that such a current might be found, its existence not being known. A south-east current was not to be expected thereabouts; for the general set of the waters is northerly, excepting near the land, and they thought themselves in the offing. But currents are very uncertain and treacherous in most places. Unusual winds, peculiar seasons affecting the weight of the atmosphere, and those powerful interrupters of all order—earthquakes, have immediate effect upon the great ocean, as well as upon small bodies of water, though not always so visibly.

Scarcely four months had elapsed since that tremendous earthquake, which destroyed so many towns in Chile, had altered the movements of the Pacific Ocean upon all the extent of coast which reaches from latitude forty-five to the parallel of twenty-five. Even in July, the land about Concepcion was scarcely considered to be at rest, and recovered, as it was said, from those awful convulsions. Can it then be considered improbable that the currents of that sea should have taken unusual directions, and betrayed even cautious seamen, such as Captain Seymour and Mr. Macdonald (the master) were well known to be. So much care and judgment had always been shown in conducting the Challenger, and she had visited so many places in the Atlantic, in the Pacific, and among the South Sea Islands, that of all the King's ships at that time in commission, those who sailed in her (unconnected even with her management) thought her one of the last that would end a voyage disastrously.* The surprising manner in which the hull of the Challenger held together, and so long resisted heavy shocks, reflects infinite credit upon her architect (Hayes), and upon the dockyard where she was built.

* This I have heard from several persons who were wrecked in the ship, whose opinions I have reason to respect.

CHAPTER XXI.

Andes—Aconcagua—Villarica—Islay—Powder—Callao—Rejoin Beagle—Constitucion—Plans—Wilson—Carrasco—'Galápagos'—Iguanas—Lava Rocks—Land-tortoises—Craters—Turtle—Shells—Dye—Volcanoes—Settlement—Albemarle Island—Cyclopian Scene—Tagus Cove—Tide Ripples—Settlers—Climate—Salt—Dampier—Birds—Transportation of Tortoises—Currents—Temperature of Water.

THE irreclaimably barren appearance of the sea coast of Northern Chile, is very repulsive to an eye accustomed to woodland scenery: yet there is an effect in its lofty mountains, which seem to rise abruptly almost from the ocean, that charms one for a time. Just before sunrise is generally the most favourable moment for enjoying an unclouded view of the Andes in all their towering grandeur: for scarcely have his beams shot between their highest pinnacles into the westward vallies, when clouds of vapour rise from every quarter, and during the rest of the day, with few exceptions, obscure the distant heights.

It has been long supposed that the Andes are higher about the equator than near or beyond the tropic; but the Beagle's measurements of Aconcagua* and Villarica,† prove that there is still much to be ascertained on this subject. Few results, depending upon angular measurement, are more difficult to obtain with accuracy than the heights of distant mountains. With respect to Aconcagua, though a variety of measurements, taken by different officers at various times, agreed together so closely as to give from 23,200 to 23,400 feet for the vertical elevation of that volcano above the level of the sea, I would not claim to be much nearer the truth than within 500 feet.

The Blonde touched at Cobija, Arica, and Islay—hapless arid dwelling-places for either man or beast, as I have ever

* Lat. 32°. 39′. S.: height, 23,000 feet above the sea level.

† Lat. 39°. 10′. S.: height, 16,000 feet above the sea level.

seen. Of these and other ports along the coasts of Northern Chile and Peru, nautical information will be found in the Appendix. I will only delay the general reader with one or two observations.

From near Iquique to Arica the precipitous coast is so lofty, and approaches so much to the character of enormous cliffs, about a thousand feet high, that it is really sublime. Near Islay, the land is in several places covered with a whitish powder, or dust, which lies many inches thick in hollows or sheltered places, but is not found abundantly in localities exposed to wind. Much difference of opinion has arisen about this powder. People who live there say it was thrown out of a volcano near Arequipa a great many years ago: other persons assert that it is not a volcanic production, and appertains to, or had its origin, where it is found. My own idea was, before I heard any thing of the controversy, that there could be no doubt of its having fallen upon the ground within some hundred years, for it was drifted like snow, and where any quantity lay together, had become consolidated about as much as flour which has got damp in a damaged barrel.

In one of the old voyages there is a passage which seems to throw some light upon this subject: "As they (of Van Noort's ship) sailed near Arequipa, they had a dry fog, or rather the air was obscured by a white sandy dust, with which their clothes and the ship's rigging became entirely covered. These fogs the Spaniards called 'arenales.'"—Voyage of Van Noort, in 1660, from Burney, vol. ii. p. 223.

On the 9th of August, the Blonde anchored in Callao Bay, and I enjoyed the satisfaction of finding all well on board the Beagle. She had touched at Copiapó and Iquique, for Mr. Darwin, in her way to Callao, where she arrived on the 19th of July. Lieutenant Sulivan brought his little vessel safely to an anchor near the Beagle on the 30th, having accomplished his survey in a very satisfactory manner. So well did he speak of the Constitucion, as a handy craft and good sea boat, and so correctly did his own work in her appear to have been executed, that after some days' consideration I decided to buy

her, and at once set on foot an examination of the coast of Peru, similar to that which Mr. Sulivan had completed of the coast of Chile. Don Francisco Vascuñan had authorized the sale of his vessel at Callao: she was purchased by me for £400, and immediately fitted out afresh.

I could not spare Lieutenant Sulivan to remain on the coast of Peru, while the Beagle would be crossing the Pacific, on her return to England by way of the Cape of Good Hope; but there was Mr. Usborne, able and willing to undertake the task, who, from his station, could be spared without prejudice to the duties yet remaining to be executed on board the Beagle, and a better man for the purpose I could not have desired. With him Mr. Forsyth volunteered to go, and Commodore Mason was prevailed upon to allow Mr. E. Davis, a master's assistant of the Blonde, to join the little expedition; who, with seven good seamen, and a boy, volunteers from the Beagle, completed Mr. Usborne's party.

A stranger might well smile at the idea of such a boat affair being started to survey, in eight or at most ten months, the whole coast of Peru, from Paposo, near Atacama, to the River Guayaquil; but the task was completed; the charts are now engraved; and very soon seamen will be able to test their accuracy.

Most people are aware that the coast of Peru is free from storms; that the wind blows moderately along the land or from it; and that there is little or no rain. Consequently, as the sea is seldom much disturbed (except by a south-west swell), and there are neither 'races' nor dangerous streams of tide, an open boat might undertake such a task, if safety alone were to be considered, provided that she did not try to land in a surf. The real impediments to surveying that coast are—the surf caused on those steep rocky shores by an occasional heavy swell, almost amounting to rollers, from the south-westward; the delays and doubts created by prevalent fogs; and the loss of positions, as well as time, consequent upon being drifted by currents during a calm. Mr. Usborne had also to prepare for, and provide against, as much as possible, difficulties of a very different nature—those arising out of the disturbed state

of that country—the anarchical internal dissensions which are the bane of all South America, but especially of Peru. In this respect there were so many prospective dangers, as well as difficulties, that I should not have ventured to let him encounter them, had we not had such a man as Belford Hinton Wilson* to rely upon for foresight, advice, influence, and as hearty unflinching assistance, as any one public servant could afford to another. Mr. Wilson's exertions were unceasing, until he procured every passport and document that could by any possibility be required for Mr. Usborne. He introduced him as well as myself, to the hydrographer (Don Eduardo Carrasco) who assisted us in many ways most materially; and after I left the coast he showed every possible attention and kindness to all the Constitucion's party; winding up by advancing a large sum of money out of his own purse, to forward the service in which they were engaged, and increase their comfort during a long passage to England round Cape Horn.

Captain Carrasco, formerly in the Spanish navy, and now Director of the Nautical School at Lima, gave me, and afterwards Mr. Usborne, every particle of information which he and I thought might be useful—both verbally and in writing—besides which he ransacked the archives for manuscripts, charts, and books, from which he allowed extracts to be taken or copies made, in the most truly liberal manner; and I long to see the results of our voyage, whatever they may be, laid before him and his friends, as an acknowledgment—however slight—of their free assistance and co-operation.

On the 6th of September Mr. Usborne sailed.† He was to commence near Paposo; work along the coast thence to Guayaquil, and afterwards return to Callao.

The following day the Beagle left Callao, and steered direct towards the Galāpagos Islands, of which, as they are novel ground, I shall be rather minute in my description.

15th. Uncertain of the strength, and even of the direction of the currents—though aware that at times the former is very

* Then consul-general, now chargé d'affaires of H.B.M. in Peru.

† Orders in Appendix.

considerable—we were anxiously looking out for land, when what appeared to be an islet was seen from the mast-head. This seeming islet turned out to be the summit of Mount Pitt, a remarkable hill at the north-east end of Chatham Island. (Charles Island of Cowley, 1684). As the breeze and current carried us onwards, the tops of other hills successively appeared, and for a short time looked very like a cluster of islets.

Gradually rising above the horizon, the greater part of Chatham Island became distinctly visible: in this neighbourhood it is not often that the air near the water is clear enough to allow of very distant high land being thus gradually raised above the horizon of an eye at the mast-head; for, in general, clouds hang about these islands, and the atmosphere itself is hazy. Towards evening the higher parts of the land were clouded over, but we were near enough to see that the island was very rugged—in some places quite barren—in others covered with a stunted and sun-dried brushwood—and that the heights, on which the clouds hung, were thickly clothed with green wood. The shores seemed to be bold, and easy to approach, though not to land upon, because of a continual high surf.

A number of little craters (as they appeared to be) and huge irregular-shaped masses of lava rock, gave a strangely misleading appearance to the lower parts of the island; and when first seen through that indistinct glimmer which is usually noticed over land on which a hot sun is shining, were supposed to be large trees and thick wood.* Hood Island, small and rather low, was seen before dusk, when we tacked and stretched to seaward for a few hours.

16th. Assisted by a current running to the westward, we worked up to Hood Island during the night, and at daylight lowered a boat down and prepared her for Mr. Chaffers,

* This glimmering haziness is at times a great impediment to making accurate measurements of an object, when both it and the observer's eye are near the ground. Raising either some few feet higher, remedies this inconvenience, which is much felt when using a micrometer for measuring a base.

who, with Mr. Mellersh, was to examine this island and the anchorages about it. Under the land we saw two whalers at anchor, which showed North American colours. The island is small—neither high nor low—rugged, covered with small sunburnt brushwood, and bounded by a bold, rocky shore. Some small beaches of white sand are visible here and there.

As soon as Mr. Chaffers had set out, the Beagle steered towards Chatham Island, with a moderate breeze, which allowed us to prepare the yawl for another party, under Lieutenant Sulivan. At noon, Barrington Island was visible from the deck, and appeared to be distant about twenty miles; when with Messrs. Stewart and Johnson, and ten chosen seamen in the yawl, Mr. Sulivan left us to examine the central islands of the archipelago.

In continuing our course, we passed through several ripplings, apparently caused by the meeting of streams of current which set along the shores of Chatham Island, from the east towards the west. If not so caused, they must be the effects of currents passing over very uneven ground, but we got no bottom, with fifty fathoms of line. When such appearances are created by shoals, it should be remembered that the shallowest place is generally under the smoothest part, close to the ripple. Favoured by smooth water and fine weather, we passed close to the low south-west extreme, and anchored directly that point was found to defend us from the swell.

This part of the island is low, and very rugged. We landed upon black, dismal-looking heaps of broken lava, forming a shore fit for Pandemonium. Innumerable crabs and hideous iguanas started in every direction as we scrambled from rock to rock. Few animals are uglier than these iguanas; they are lizard-shaped, about three feet in length; of a dirty black colour; with a great mouth, and a pouch hanging under it; a kind of horny mane upon the neck and back; and long claws and tail. These reptiles swim with ease and swiftness—but use their tails only at that time. At a few yards from the water we found vegetation abundant, though the only soil seen was a little loose dusty earth, scattered upon and between the

broken lava. Walking is extremely difficult. A hand-barrow was lying at the landing-place, which showed that terrapin were to be got near us, though we did not then see any. The men from whalers and sealing vessels carry the large terrapin, or land-tortoises, on these barrows.

Ascending a little hill, we were surprised to find much brush or underwood, and trees of considerable size, as large in the trunk as one man could clasp. These were prickly pears, and a kind of gum-tree: how their roots are able to penetrate, or derive nourishment from the hard lava, it is hard to say; for earth there is scarcely any. Wild cotton shrubs are numerous. This first excursion had no tendency to raise our ideas of the Galāpagos Islands.

17th. Weighed and stood alongshore, sounding. There was good anchorage, until near the south-west point of Stephens Bay, off which the water is shoal, and the bottom uneven. We anchored in Stephens Bay, and found an American whaler lying there. This bay is large, and the anchoring ground generally good; but the landing is bad at low water. There is no fresh water: and it is frequently difficult to enter, as well as to leave, because usually becalmed by high land, it seldom feels the true wind. Enderby Cove is only fit for a boat; at low water it is full of rocks. The Kicker Rock is a curious mass of stone, rising almost perpendicularly from the bottom of the sea, where it is thirty fathoms deep; and in the offing is another (called the Dalrymple, by Colnett), which looks exactly like a ship becalmed, with all sail set. Seeing a remarkable hill at the north-east side of the bay, which had not an appearance like other parts of the island, I went to it in a boat, hoping to find water near the foot, and to have a good view from the summit. Disappointed in both ways, the hill being composed of a crumbling sand-stone, and almost inaccessible, I returned to the ship early next morning. Several new birds were seen by those who were on shore, and many fish were caught on board, of which the best and most numerous were a kind of rock cod, of large size.

18th. Weighed and stood alongshore until noon, when we

anchored close to a low rugged point, near the north-east end of the island: employed two boats in examining the shore, and landed a party to look for terrapin: Mr. Darwin and Mr. Stokes went to the top of a neighbouring hill. Throughout this day it blew so fresh a breeze, that double-reefed topsails were as much as could be carried: but I think this strength of wind only prevailed under the lee of the island, where the wind rushed down in squalls, after having been intercepted and checked by the high land. All the hills appear to have been the craters of volcanoes: some are of sandy mud, others are lava. There is plenty of wood hereabouts, though stunted and dry. On no part of this shore is there a chance of finding water; all is stony, without any soil which could either collect or carry it off.

Our party brought eighteen terrapin on board. In size they were not remarkable, none exceeding eighty pounds. This animal appears to be well defended by nature; but, in truth, it is rather helpless, and easily injured. The shell is slight, and becomes weaker (in proportion to the animal's size), as the tortoise grows older.

19th. Sailed round the north-east extremity of the island, and worked to the southward against a tide, or rather current, setting strongly to the north-west.

20th. At daylight we were off the south-east part of the island; and continued working to the south-west, during the forenoon, along a shore quite bold, excepting the small rocks above water in 'Middle' Bay. At noon, seeing a small cove, I went in a boat to examine it, and look for water. We found no signs of any in that place; but a little farther west, a fine stream was seen falling from a lava cliff, about thirty feet high. Mr. Low had described this waterfall correctly; and his account of the watering place near it was soon verified, by our discovering a cove half a mile to the westward of the cascade. We landed on a stony beach in the cove, and found a fine stream of excellent water: two others were likewise seen, but they were inaccessible. This water runs from the highest parts of the island (which are almost always enveloped in

clouds) down a large valley.* All this southern side of the island is well wooded; and on the higher ground the wood is very green.

Continuing our course along shore, we arrived at our former anchorage in Stephens Bay soon after dark, when Mr. Chaffers returned on board, having reached the anchorage in the morning.

22d. So generally cloudy is the weather here, that a day such as this proved to be, of hot, vertical sunshine, was much felt by every body; and to show how objectionable our anchorage was in this respect, I may mention that a fresh breeze was blowing all day in the offing; yet in the bay only light variable airs were felt.

Some fine turtle were brought on board, the first we had seen here; they are rather like the green turtle of the West-Indies, but not exactly. Among the shells found about the islands one is common, which reminded me of the purple murex, as the fish emits a strongly dyeing liquid of a similar colour.† A kind of mangrove grows near the water, on the sandy beaches of this island; and the shape and colour of that curious tree are some relief to an eye tired of looking at rugged lava or withered bushes.

23d. While becalmed we tried the clamms ‡ in fifty fathoms water, and brought up as much sand as would fill a bucket, but nothing curious. Afterwards we had a breeze, and passed Barrington Island pretty closely. It is not high, yet the shores are bold and fronted by cliffs; the more elevated parts appear to be level, and rather woody. This night was spent under sail between Charles and Hood Islands.

24th. While we were endeavouring to reach the anchorage in Post-Office Bay (Charles Island), Mr. Chaffers and Mr. Mellersh went away in a boat to visit the islets that lie near the eastern side of that island: and it was found that they had all

* There is no other place in the Galápagos where ships can water at all times of the year. † Found also on the coast of Peru (Ulloa).

‡ An indifferent contrivance of mine, made and put together by our own armourer.

been the summits of volcanoes. Charles Island is peculiar in its outline: for a succession of round topped hills, precisely similar in shape, though differing in size, shews on every point of view. This exact similarity is very remarkable. Must not all these volcanoes* have been thrown up under the same circumstances, such as similar action of the ocean, or even a strong wind—perhaps at the very same time? †

The highest and largest of these hills rises 1,800 feet, the next about 1,700; the rest are of various smaller heights. The northern sides of the island are wooded, but the wood looks as brown as that on the lower parts of Chatham Island. Post-Office Bay is sheltered, easy of access, has excellent anchorage, and only wants fresh-water to make it a most desirable harbour for shipping. Its name is the result of a custom established by the whalers: a box was placed on a post, to receive letters, and homeward-bound ships examined the directions, taking with them all which they might have means of forwarding; but since the island has been peopled the box has been empty, for letters are now left at the settlement.

25th. Mr. Nicholas O. Lawson, acting for the governor of this archipelago, ‡ came on board. With him and me a party went to another anchorage called Black Beach Road, landed, and walked up towards the settlement. In 1832, the republic of the 'Ecuador' decided to use these islands as a place of banishment, and sent a small colony to Charles Island. 'La Floriana' is the name given to this island by the Guayaquilians, though by the Spaniards it was once called 'Santa Maria de l'Aguada.' The governor, at the time of our visit, was Don José Villamil. There were then about eighty small houses, or huts, and nearly two hundred souls upon the island, most of whom were convicts.

After walking rather more than a mile along a good path, through the underwood (which as the ground rises becomes very thick), we reached a small spring of water, near which are a few huts, but no cultivated ground. The water from this

* For volcanoes they certainly have been. † See page 493.

‡ An officer of the republic of the Equator.

spring might be conveyed to shipping by means of leaden pipes, without much difficulty, but it is not of very good quality. Having ascended gradually during another half-hour's walk, we reached the ridge of that height which limited our view from the sea; when surprisingly sudden and agreeable was the change. Heated and tired by a dusty uphill walk, through sun dried trees and over rugged lava stones, our bodies were here refreshed by a cool breeze, while our eyes enjoyed the view of an extensive, fertile and cultivated plain. Surrounded by tropical vegetation, by bananas, sugar canes, Indian corn, and sweet potatoes, all luxuriantly flourishing, it was hard to believe that any extent of sterile and apparently useless country could be close to land so fertile, and yet wear the most opposite appearance. Our eyes having been accustomed to the desert shores of Peru and northern Chile, during many months, were completely dazzled by a sight so new and unforeseen.

It appears that rain falls very frequently on these higher grounds, and is absorbed by rich black mould of a nature sufficiently clayey to enable it to retain moisture. During the wet season this plain becomes quite muddy, while the little rain that falls on the lower ground is so quickly absorbed, or finds its way so soon through the loose lava stones that its effects are not there visible.

Most of the houses are in this fertile space, but it appears that a house on the dry ground, and plantations in the moist valley, would answer better: for at Mr. Lawson's house salt cannot be kept dry, books and paper become mouldy, and iron rusts very quickly. At his table we found the welcome of a countryman, and a variety of food quite unexpected in the Galāpagos Islands, but fully proving their productiveness. At the foot of a hill we saw water dropping plentifully, and from this spring, called the "Governor's Dripstone," the inhabitants obtain a certain supply throughout the year.

Although most of the settlers were sent here against their wish, there are many who do not desire to return to the continent. Some are married and have children on the island.

In a small cave near the "governor's dripstone," an old sailor lived during several years: he had been unfortunate, and was tired of the world. Terrapin and potatoes were his food, till a former friend, the master of a whaler, recognised him, and carried him away by force. So strongly was the old man attached to his cave, that he shed tears when taken away.

There are goats and hogs upon this island, but they are scarce and wild, not having yet had time to increase much; they are hunted with dogs, though it would be wiser to let them alone for a few years. The settlers have abundance of vegetables, and depend chiefly upon terrapin for their meat. Many of these animals being large and heavy, the people who go in search of them kill and open them on the spot, then take out the fleshy pieces and put them in a bag. Thus one man can carry away the useful parts of more terrapins than several men could lift.

The quantity of tortoise shells lying about the ground, shows what havock has been made among these helpless animals. On the lower ground, near the spring, I saw an apology for a garden, in which the large terrapin shells were used to cover young plants, instead of flower pots. In a place one has not seen before, some marked peculiarity occasionally reminds one, more forcibly than the ordinary novelties of scenery, that all around is strange and new. The palm-trees and arid appearance of St. Jago, the sedan chairs of Bahia, the boats of Rio de Janeiro, the beef carts of Monte Video, the travelling waggons of Buenos Ayres, the 'toldo' of the Patagonian, the wigwam of the Fuegian, the wooden houses and clogs of San Carlos de Chilóe, the stockades of Valdivia, the effects of earthquake at Concepcion, the concentrated bustle of Valparaiso, the quiet and uniform serenity of Coquimbo, women riding astride and troops of ill-used donkeys at Lima, are a few instances among the multitude of such local peculiarities.

Small birds are numerous on this island, and so remarkably tame that they may be knocked down with a stick. Lizards are also numerous; and there are a few small snakes, but those

we caught were not venomous. Among the useful vegetables we noticed the plaintain, pumpkin, yuca, Quito orange, castor oil plant and melon, besides those before mentioned.

Returning on board we met Mr. Stokes on his way from the southern parts of the island: he described the lava thereabouts as having such a form and rugged surface as the sea would present if suddenly congealed, while ruffled by a very strong wind.

26th. After completing the necessary observations in Post-Office Bay, we weighed and worked round to an anchorage off Black Beach: and at nine in the evening Mr. Chaffers returned, having been round the south side of this island after visiting the small eastern islets. He found much difficulty in landing on them, but succeeded, and from the top of Gardner Islet saw a dangerous breaker about a mile to the south eastward.

27th. Being Sunday, many of the officers and ship's company were on shore in the afternoon, and some of the officers went to the top of the highest hill, which has a crater, as have all the hills we examined about these islands; and these craters are all similarly broken down on the side towards the south.

28th. Having taken on board live pigs and a quantity of vegetables, we weighed and stood towards Albemarle Island. Four small islets, the remains of volcanoes, lie near the low south-east extreme of this island, and together with Brattle Islet, are extremely useful in warning vessels of their approach to a very dangerous piece of coast. So low are the south-eastern extremities of Albemarle Island that they are not discernible until you see the surf on the shore. A heavy swell setting towards the land, and generally light winds, add to the danger of getting near this coast; but there is anchorage in case of necessity.

Albemarle Island is a singular mass of volcanic ejections. Six volcanoes have there raised their summits from two to four thousand feet above the ocean, and from them immense quantities of lava have from time to time flowed towards the

sea; so that this island, large as it is, may be literally described by saying that it consists of six huge craters, whose bases are united by their own overflowed lava. The southern side, which is exposed to the trade wind, and completely intercepts it, with all the clouds it brings, is thickly wooded, very green, and doubtless has fresh water; but how is that water to be obtained where such a swell rolls upon the shore? The weather side of Chatham Island is partially protected from the great south-west swell of the Pacific by Hood Island, yet even there it is difficult to land.

We passed this night under easy sail, off the south-west extreme of Albemarle Island; and on the 29th we found a small cove, in which we anchored; but such a wild-looking place—with such quantities of hideous iguanas as were quite startling! Hence I despatched Mr. Mellersh and Mr. King, to examine the depth of Elizabeth Bay, and rejoin us beyond Narborough Island; we then weighed, and continued our examination of this unearthly shore. Passing a low projecting point, our eyes and imagination were engrossed by the strange wildness of the view; for in such a place Vulcan might have worked. Amidst the most confusedly heaped masses of lava, black and barren, as if hardly yet cooled, innumerable craters (or fumeroles) showed their very regular, even artificial looking heaps. It was like immense iron works, on a Cyclopian scale!

When this lava flowed from the heights it must have been stopped rather suddenly (cooled) by the water; for the lava cliffs are in some places twenty, and in others forty feet high, while close to them there is water so deep that a ship could not anchor there, even in a calm while the sea is quite smooth. Until we rounded this point the wind was very strong, eddying round the high south-west cape; but here we were becalmed, and passed some anxious hours, till at length light variable airs carried us off-shore.

30th. This morning we passed a remarkably fine American whaler, the Science, carrying nine whale-boats! On the south-

eastern height of Albemarle, smoke was seen issuing from several places near the summit, but no flame. Profiting by every breeze, we hastened towards Tagus (or Banks) Cove.

Narborough Island is exactly like a part of Albemarle—a great volcano, whose base is surrounded by an extensive field of lava: it is utterly barren and desolate. A few mangroves, on the sandy beaches near Albemarle Island, are not seen in the distance; neither are there enough of them even to diminish the dismal appearance of the island.

We entered the passage in the afternoon, and anchored in the little cove first described by Capt. Pipon, who then commanded H.M.S. Tagus. This cove is the crater of an extinct volcano, and its sides are so steep as to be almost inaccessible.*

1st October. Our first object was to find water: none could be got in the cove, but at a short distance from it a few holes were found, out of which a bottle might be filled in an hour. Around this scanty spring draining continually through the rock, all the little birds of the island appeared to be collected, a pretty clear indication of there being then no other fresh-water within their reach: yet during the rainy season there must be considerable streams, judging by gullies which are worn in the rock. All the heights hereabouts, and the sides of the craters, are composed of sandstone that looks like fine sandy mud half baked; but the low grounds are lava. The crater in which we anchored gave me the idea of its having been a mud volcano. The climate is very different from that of the Windward Islands; for wind clouds and rain appear to be obstructed in their northward passage, by the heights on the southern part of this island. The heat is here far greater than in other parts of the archipelago, and the land is more sterile. Numbers of another sort of iguana were seen for the first time, and many were killed and eaten. In size and shape they resemble the black kind, but their colour

* In 1825 H.M.S. Blonde, commanded by Lord Byron, anchored here. In her voyage (pp. 92, 93, 94) the black and the red (or brown) iguanas are described, and it is stated that a specimen of the black kind was brought to England from Mexico. Lord Byron saw a volcano burning on Narborough Island.

is a dirty orange red, inclining to reddish brown above and yellow beneath. These reptiles burrow in the earth like rabbits, and are not bad eating. Of the black kind a vast number run about the rocks near the sea, living either upon fish or sea-weed. As we went afterwards in a boat along the ragged irregular shore, we saw numbers of turtle. There are small sandy beaches here and there, to which these animals approach in the evenings: when, as it gets dark, they land and usually lie on the beach during the night, even if it is not the season in which they seek a place for their eggs.

From a height near Tagus Cove dismal indeed was the view, yet deeply interesting. To see such an extent of country overwhelmed by lava, to think of the possible effects of the seven dormant volcanoes then in sight, and to reflect that at some one period all was activity and dreadful combustion where we then witnessed only silent desolation, was very impressive.

2d October. We passed this day and the following night in Banks Bay. On the 3d, Mr. Mellersh returned, having examined Elizabeth Bay and the western shore of Narborough Island. We then went round the north-west end of Albemarle Island, and passed the night under sail off the north extreme. At daybreak, on the 4th, we made all sail towards Abingdon Island, which is small, rather high, and tolerably covered with stunted wood; we did not maintain a position even near where I wished to pass the night, but were carried about forty miles away, dead to leeward, during only a few hours of light wind. The current hereabouts runs between one and four knots an hour to the north-westward, yet the depth of the water is unfathomable by ordinary means: excepting for which it is like a vast river in the sea.

5th. While working to windward, endeavouring to regain our lost ground, we saw Bindloes Island: and passed through many ripplings, some of them dangerous for a boat; these were northward, and rather eastward of Abingdon. During the 6th, other indications of a strong current were noticed, besides ripplings such as these, which, in very deep water, and in the open sea, are difficult to explain: sometimes at night, while all

around was smooth and tranquil—a short, deep plunge suddenly startled every one: but in a minute afterwards the ship was again quiet. We continued to work to the southward in order to reach James Island, and meet Lieutenant Sulivan.

7th. While working to windward we saw Towers Island, which is different in appearance from all the other islands of this archipelago, being low and flat. We passed it about noon, and Bindloes at sunset. The latter has an irregular hilly surface, partially wooded, but like the rest is a mass of lava, and indurated sandy mud.*

8th. The Beagle was close to James Island, a high, large, and well-wooded tract of ground, or rather lava. We anchored at the northern end, and a boat came alongside loaded with fish, for there was a party of settlers here, detached from Charles Island, whose employment was salting fish and extracting oil from terrapin.† This oil is of a light colour, and exceedingly good quality, being very like pure olive oil. Lieutenant Sulivan returned with his party, and I then detached Mr. Chaffers in the yawl, accompanied by Mr. Johnson and six men, to examine Bindloes, Abingdon, and Towers Islands. As Mr. Darwin anxiously desired to see as much as possible of the productions of this central and large island, he was landed, accompanied by Mr. Bynoe, besides his servant and H. Fuller, to remain until the Beagle's return. Although there is abundance of water on the higher parts of this island, so broken and dry are the lower grounds that it does not arrive at the shore: at two places only can enough water for even a boat's crew be procured, in the dry season; and for a ship there is scarcely hope of a sufficiency. The poor fellows who brought us the fish had been living so long upon terrapin, and the produce of their lines, without any thing else, that half a bag of biscuit (50 lbs.) which we gave them, appeared to be an inestimable treasure, for which they could not sufficiently thank us. We sailed in the evening, but made very little

* Of course much of the information given in these pages was collected by the officers.

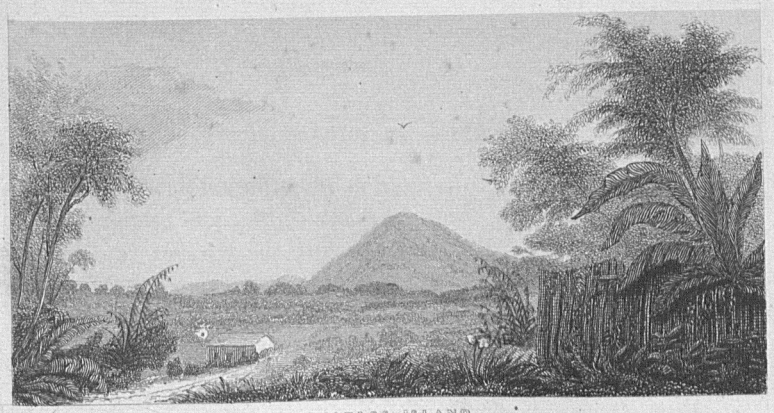
† They also salt the terrapin; or tortoise.

progress towards our destination (Chatham Island) this day (9th). The winds appear to be much lighter and more variable, to leeward of the archipelago, while the current is considerably stronger.* We got pretty close to Chatham Island at dusk, worked to windward during the night, and on the following morning stood along the weather shore towards the watering place.

11th. How remarkably different is the climate of the windward and leeward islands of this group! Here we were enveloped by clouds and drizzling fog, and wore cloth clothes. At Tagus Cove and James Island, a hot sun, nearly vertical, overpowered us;—while the south side of Albemarle, Charles, and Chatham Islands, were almost always overshadowed by clouds, and had frequent showers of rain. We anchored close to the watering place: but it appeared strange to remain at anchor in such a spot, only three cables' lengths from a surf breaking high upon a steep cliffy shore, with nothing but the ocean between us and the antarctic; and such was our position; yet it was a safe one, because the great south-west swell of the Pacific is interrupted by Hood Island, and the southerly trade, or perennial wind is so moderate, that it has neither power to raise a sea nor to harm a vessel lying at anchor, if her ground tackle is not defective.

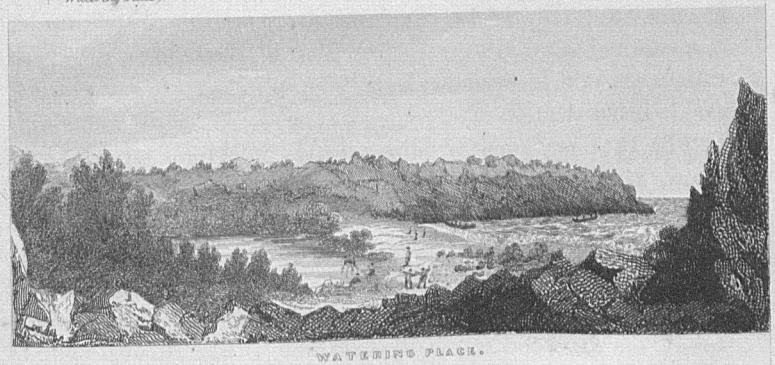
The 12th was spent in filling water, washing, cutting some wood, and bringing thirty large terrapin on board. These animals abound hereabouts; and some are very large, deserving the name of elephant-tortoises. Two of our party tried to reach the higher and thickly wooded part of the island, but found their task impracticable, in so short a time as they could spare, for the wood grows impenetrably thick, though none is straight or of a large size. The upper grounds have a rich loamy soil, lying upon rock, in which the terrapin wallow like hogs, and may be found by dozens. This was a very hard day's work for so few men as were then on board our small vessel. (13th) We had some difficulty in 'casting,' so as to

* It appears that the Norfolk Island of Colnett, is the north-east extreme of Indefatigable Island.

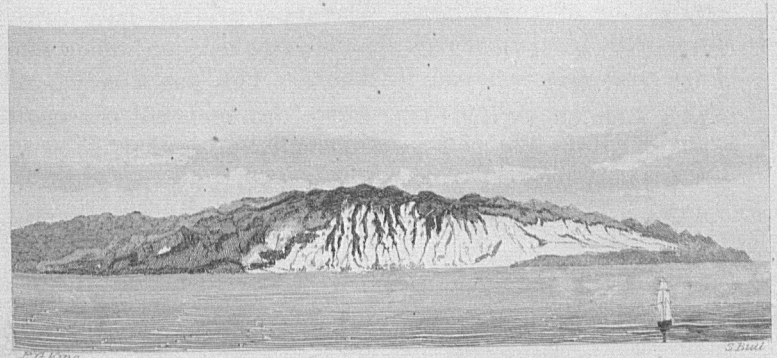


(Dripstone) CHARLES ISLAND.

(Watering Place) CHATHAM ISLAND.



WATERING PLACE.



P. King S. Bull

ALBEMARLE ISLAND.

clear the land, but got out of the scrape and were working towards Hood Island when the man looking out aloft reported a breaker, which proved to be on a rock at the west end of MacGowen shoal. When first seen it was on the horizon, and hardly differed from the topping of a sea;—once only in about ten minutes it showed distinctly. We steered for it, lowered two boats, and employed the rest of the day in examining this very dangerous shoal, and fixing its position. One rock at the west end is just a-wash, but there is another under water, except in the hollow of a swell, about half-a-mile to the eastward, which is exceedingly treacherous. We had two narrow escapes this day; while weighing from Chatham Island, baffling winds sent us a great deal too close to the cliffs before our anchor was up, or the ship under command; and while sounding along the edge of MacGowen shoal we were drifted so close to the second rock, mentioned above, that I was not sure on which side of us it lay.

14th. Anchored and examined Hood Harbour, having heard there was a sunken rock in it which our boat had not discovered, but we found nothing dangerous for a ship. Shoal water and large blocks of lava lie near the shore in the harbour; but a vessel must have stood too close in if she touches thereabouts. Left Hood Island at noon, and steered for the southern part of Charles Island. Having a fine breeze we rounded Saddle Point at eight, and anchored at nine off Black Beach.

15th. I went to Post-Office Bay and near the best landing place, found some excellent salt, which though but small in quantity gives a hint that more may be got elsewhere.

16th. Weighed in the afternoon, having obtained the necessary observations, and went to Black Beach Road to take in wood, potatoes, and pigs. We there found a small schooner at anchor, just arrived from Guayaquil, and having, among other things, a bag of letters from England, for the Beagle. That very evening we were to leave Charles Island; not to return! In the schooner were some emigrants; who brought cattle, and information that the governor, Villamil, might be

expected to arrive in a few days, with a vessel laden with animals, and supplies for the settlement. We stood across, during the night, to the four islands near Point Woodford; and at daylight next morning (17th) resumed our usual occupations, while sailing along the east side of Albemarle Island. At noon we steered for Albany Islet, to embark Mr. Darwin and Mr. Bynoe; and after our party were on board, we returned towards the shore of Albemarle Island, and there passed the night under sail, in order to start early from a particular position. Our landsmen had enjoyed their stay and profited by it, though the heat was oppressive, and the sky nearly cloudless by night and by day: how different was this from the weather we had had on board! The higher grounds of James Island are extensive, and would be adapted to cultivation if the wood, which now grows thickly, were cleared. There is a fine salt spring, or lake, in an old crater; the salt is excellent, in colour and quality: and the men employed by Mr. Lawson were using it daily for curing their fish and terrapin.

When at some height upon the island, among the thick wood, it is extremely difficult to find the way: men have been lost thereabouts, and it is said that some of the bodies never were found. The day we re-embarked Mr. Darwin there was a man missing, belonging to an American whale ship, and his shipmates were seeking for him. The master of this whaler was very obliging to our party, supplying them with water, and offering his hearty assistance in any way which lay in his power. The earnest wishes to be of use, and the attentions of North Americans to us on all occasions, have been often and gratefully remarked by many on board the Beagle.

18th. Continued our examination of Albemarle Island. When off the northern volcano, the black streams of lava, which have flowed in every direction down the sides of the mountain, looked like immense streams of ink. Thence we steered for Abingdon Island to meet Mr. Chaffers. I thought the current less strong, and setting more to the west, than when I was here on a former day.

On the 19th we were close to Abingdon Island, where there

is a fine bold-looking cliff, at the west side, considerably higher than any I had seen in the Galapagos. Mr. Chaffers soon came alongside after we closed the land; when, his orders being all executed, the boat was hoisted in, and we made sail to the north-west in search of Wenman and Culpepper Islets.

Next day (20th) we saw and steered for Wenman Islet, another crater of an extinct volcano. It is high, small, and quite barren: correctly speaking, there are three islets and a large rock, near each other, which, at a distance, appear as one island, but they are fragments of the same crater. We afterwards passed Culpepper Islet, which is a similar rocky, high, and barren little island. At sun-set we made all sail and steered to get well into the south-east trade wind, so as to expedite our passage towards the dangerous archipelago of the Low Islands, and thence to Otaheite (or Tahiti). While sailing away from the Galapagos, impelled westward over a smooth sea, not only by favouring easterly breezes but by a current that set more than sixty miles to the west during the first twenty-four hours after our losing sight of Culpepper Islet, and from forty to ten miles each subsequent day until the 1st of November,* I will look back at those strange islands, and make a few more remarks on them.

There are six principal ones, nine smaller, and many islets scarcely deserving to be distinguished from mere rocks. The largest island is sixty miles in length, and about fifteen broad; the highest part being four thousand feet above the sea. All are of volcanic origin, and the lava, of which they are chiefly composed, is excessively hard. Old Dampier says,† "The Spaniards, when they first discovered these islands, found multitudes of 'guanoes' and land-turtle, or tortoise, and named them the Galapagos‡ Islands." Again, "the air of these islands is temperate enough, considering the clime. Here is constantly a fresh sea-breeze all day, and cooling refreshing winds in the night; therefore the heat is not so violent here

* Lat. 10°. 14′. S. long. 120°. 35′. W.

† Dampier's Voyage round the World, 1681—1691. (At the Galapagos in 1684).

‡ Galăpăgo being Spanish for tortoise.

as in most places near the equator. The time of the year for the rains is in November, December, and January: then there is oftentimes excessive dark tempestuous weather, mixed with much thunder and lightning. Sometimes before and after these months there are moderate refreshing showers; but in May, June, July, and August, the weather is always very fair." * I can add nothing to this excellent description, except that heavy rollers occasionally break upon the northern shores of the Galapagos during the rainy season above-mentioned—though no wind of any consequence accompanies them. They are caused by the 'Northers,' or 'Papagayos,' which are so well known on the coast between Panama and Acapulco. Colnett also gives a good description of these islands:—in his voyage, p. 58, he says, "I consider it as one of the most delightful climates under heaven, although situated within a few miles of the equator." The buccaneers often resorted to them for refreshments, and as a place where they might refit their vessels, share out plunder, or plan new schemes of rapine, without any risk of being molested.

Striking instances of the manner in which high land deprives air of its moisture may be seen at the Galapagos. Situated in a wind nearly perennial, those sides only which are exposed to it (the southern) are covered with verdure, and have water: all else is dry and barren, excepting such high ground as the passing clouds hang upon indolently as they move northward. In a similar manner may we not conclude that western Peru is deprived of rain—since the easterly trade wind which carries moisture, and consequent fertility, to eastern Peru, is drained, or dried, as it crosses the Andes? And may we not extend this reasoning to other countries similarly situated, such as Patagonia, perhaps Arabia, and even Africa, upon whose arid deserts no moist wind blows? Currents of air, moving from ocean to land, convey vapour; but as these currents pass over

* During the rainy season, or from November to March (which is not, however, at all to be compared to a continental rainy season) there are calms, variable breezes, and sometimes westerly winds: though the latter are neither of long duration, nor frequent.

high land, or even a considerable extent of low country, much if not the whole of their aqueous contents is discharged, and until such a body of air has again acquired moisture, it is found to be dry, parching, and unfavourable to vegetation.

All the small birds that live on these lava-covered islands have short beaks, very thick at the base, like that of a bullfinch. This appears to be one of those admirable provisions of Infinite Wisdom by which each created thing is adapted to the place for which it was intended. In picking up insects, or seeds which lie on hard iron-like lava, the superiority of such beaks over delicate ones, cannot, I think, be doubted; but there is, perhaps, another object in their being so strong and wide. Colnett says, p. 59, "they observed an old bird in the act of supplying three young ones with drink, by squeezing the berry of a tree into their mouths. It was about the size of a pea, and contained a watery juice, of an acid, but not unpleasant taste." "The leaves of these trees absorb the copious dews which fall during the night; the birds then pierce them with their bills for the moisture they retain, and which, I believe, they also procure from the various plants and evergreens.' "The torch thistle contains a liquid in its heart, which the birds drank, when it was cut down. They sometimes even extracted it from the young trees by piercing the trunks with their bills." For thus squeezing berries, and piercing woody fibre, or even only stout leaves, a slight thin beak would be scarcely available. Colnett* observes, that some of the birds which he saw resembled a few that he had seen at New Zealand, but as he also remarks that all the dead shells which he found upon the beach were familiar to him, I think one may suspect the accuracy of his eye, if not his memory, in those instances.

Mr. Stokes made some notes about the tortoises (terrapin), while with me, and as he and I are satisfied as to the facts, I will add them. Fresh water was first discovered on Charles and on James Islands, by following the terrapin paths. These animals visit the low, warm ground to seek for food and de-

* Colnett's Voyage to the South Seas, pages 52, 55, 57.

posit their eggs; but it must be a toilsome journey indeed for them to ascend and descend the rugged heights. Some that Mr. Stokes saw in wet, muddy places, on high ground, seemed to enjoy themselves very much, snuffling and waddling about in the soft clayey soil near a spring. Their manner of drinking is not unlike that of a fowl: and so fond do they appear to be of water, that it is strange they can exist for a length of time without it; yet people living at the Galapagos say that these animals can go more than six months without drinking. A very small one lived upwards of two months on board the Beagle without either eating or drinking: and whale-ships have often had them on board alive for a much longer period. Some few of the terrapin are so large as to weigh between two and three hundred weight; and, when standing up on their four elephantine legs, are able to reach the breast of a middle-sized man with their snake-like head.* The settlers at Charles Island do not know any way of ascertaining the age of a terrapin, all they say is, that the male has a longer neck than the female.† On board the Beagle a small one grew three-eighths of an inch, in length, in three months; and another grew two inches in length in one year. Several were brought alive to England. The largest we killed was three feet in length from one end of the shell to the other: but the large ones are not so good to eat as those of about fifty pounds weight—which are excellent, and extremely wholesome food. From a large one upwards of a gallon of very fine oil may be extracted. It is rather curious, and a striking instance of the short-sightedness of some men, who think themselves keener in discrimination than most others, that these tortoises should have excited such remarks as—"well, these reptiles never could have migrated

* When their long necks and small heads are seen above low bushes they look just like those of snakes.

† Their eggs were found in great numbers in cracks of a hard kind of clayey sand; but so small were the cracks that many of the eggs could not be got out without being broken. The egg is nearly round, of a whitish colour, and measures two inches and a half in diameter—which is about the size of a young one when first hatched.

far, that is quite clear," when, in simple truth, there is no other animal in the whole creation so easily caught, so portable, requiring so little food for a long period, and at the same time so likely to have been carried, for food, by the aborigines who probably visited the Galapagos Islands on their balsas,* or in large double canoes, long before Columbus saw that twinkling light, which, to his mind, was as the keystone to an arch. Honest Dampier immediately reverted to the tortoises of the West Indies, and of Madagascar,† when he saw those of the Galapagos. He had observed too many varieties caused by climate, soil, food, and habits, to entertain a doubt of their being other than a variety of the tortoise kind. As to the 'guanoes' they were, to his eye, familiar objects.

The currents about these islands are very remarkable, for in addition to their velocity, which is from two to five miles an hour, and usually towards the north-west,‡ there is such a surprising difference in the temperature of bodies of water moving within a few miles of each other, that this subject must be reserved for further discussion. On one side of an island (Albemarle Island) we found the temperature of the sea, a foot below the surface, 80°. Faht.; but at the other side it was less than 60°. In brief, those striking differences may be owing to the cool current which comes from the southward along the coasts of Peru and Chile, and at the Galapagos encounters a far warmer body of water moving from the bay of Panama, a sort of 'gulf stream.' The retentive manner in which such ocean rivers preserve their temperature has been frequently remarked: and must have a great effect upon the climates of countries near whose shores they flow.

* I have heard that driftwood, not the growth of these islands, is frequently found on the south-east shores. On this subject Colnett says (p. 58), "*on several parts of the shore there was driftwood, of a larger size than any of the trees that grow on the island*: also bamboos and wild sugar canes, with a few small cocoa nuts at full growth, though not larger than a pigeon's egg." † Dampier, vol. i. p. 102.

‡ *In the twenty-four hours immediately previous to first making these islands*, the Beagle was set fifty miles to the west north-west.

CHAPTER XXII.

Dangerous Archipelago of the Low Islands—Krusenstern—Squalls—Discoveries—Otaheite—Matavai—Natives—Houses—Point Venus—Theft—Singing—Pomare—Sugar—Papiete—Church—Mr. Pritchard—Thierry—Shells—Mr. Nott—Bible—Paamuto Natives—Falkner—'Ua'—Papawa—Relics—Divine Service—Hitote—Henry—Audience—Queen—Missionaries—Roman Catholics—Forming head—Meeting at Papiete—Dress—Behaviour—Eloquence of natives—Honourable feelings—Interesting discussion—Venilia.

AFTER sailing before the wind twelve days, our approach to land was indicated by a black tern which flew past the ship.* Tropic birds were seen on the previous day (2d), but they roam farther than tern. On the 9th we saw Honden Island, one of the low coral formations, only a few feet above water, yet thickly covered with cocoa-nut trees.† Our observations corroborated the position assigned to it by Admiral Krusenstern,‡ in his excellent chart and memoir, the only documents of any use to us while traversing the archipelago of the Low Islands. This archipelago is indeed extremely deserving of its appellation, 'Dangerous;' for numerous coral islets, all low, and some extensive, obstruct the navigation, while unknown currents and strong squalls, and a total want of soundings, add to the risk of sailing there at night. Singular interruptions to the trade-wind are caused by these low lagoon§ islands; not only does the easterly wind often fail among them, but heavy squalls come from the opposite direction, and more frequently by night than by day. This is especially the case from November to March.

I have before remarked (pp. 65, 66), that extensive shallows, such as the Abrolhos and Bermudas, are liable to heavy squalls;

* 3d November, lat. 11°.45′ S., long. 126° W.

† About 110 feet from the water level to the top of the trees.

‡ Admiral Krusenstern had the kindness to send me a copy of his Atlas of the Pacific Ocean, accompanied by an elaborate memoir.

§ Most of them are little better than dry reefs encircling a shallow lake or lagoon.

and so far as I have heard or observed, it is usually the case that on land, a wide tract of flat country, without hills, or at sea, a considerable space of partly-covered ground, nowhere rising much above high-water, is subject to more frequent and violent blasts of wind than mountainous or even hilly regions, whether continental or island.

Clouds are certainly attracted, even if their formation be not hastened, by land; especially when it is covered by trees: and as low islands (such as those of the Dangerous Archipelago, between 14° and 20° south) have no hill or height of any kind, about which clouds attracted by the archipelago (taken together) can gather and discharge a portion of their contents, electrical as well as fluid, it may, I think, be inferred, that the want of such a conductor as would be furnished by a mountain five or six thousand feet high, is the reason why clouds in various electrical conditions unite or oppose one another, as the case may be; and, in consequence, cause rapid changes in the atmosphere around them; of which the effects are seen in squalls (sometimes with heavy rain, sometimes without), and even in whirlwinds. Where high land acts as a conductor between the earth and certain portions of our atmosphere, there may be a continual, though unperceived, electrical action. In connection with this subject I would, if I were able, consider the effects of rapidly varying temperature over land, and comparatively uniform temperature over ocean during twenty-four hours; which latter fact I might suspect to be one reason why the great Humboldt could not discover any particular electrical action, as indicated by his electrometers, while sailing from Europe to Brazil: although those same instruments were far from inactive after he landed. But I feel myself out of my depth, and will leave such speculations to those who are qualified to indulge in them.*

On the 13th, after having passed some anxious nights in very squally weather,† we were gratified by seeing an islet whose existence we had not suspected. Tairo is the name by

* See note (*a*) at the end of this chapter.

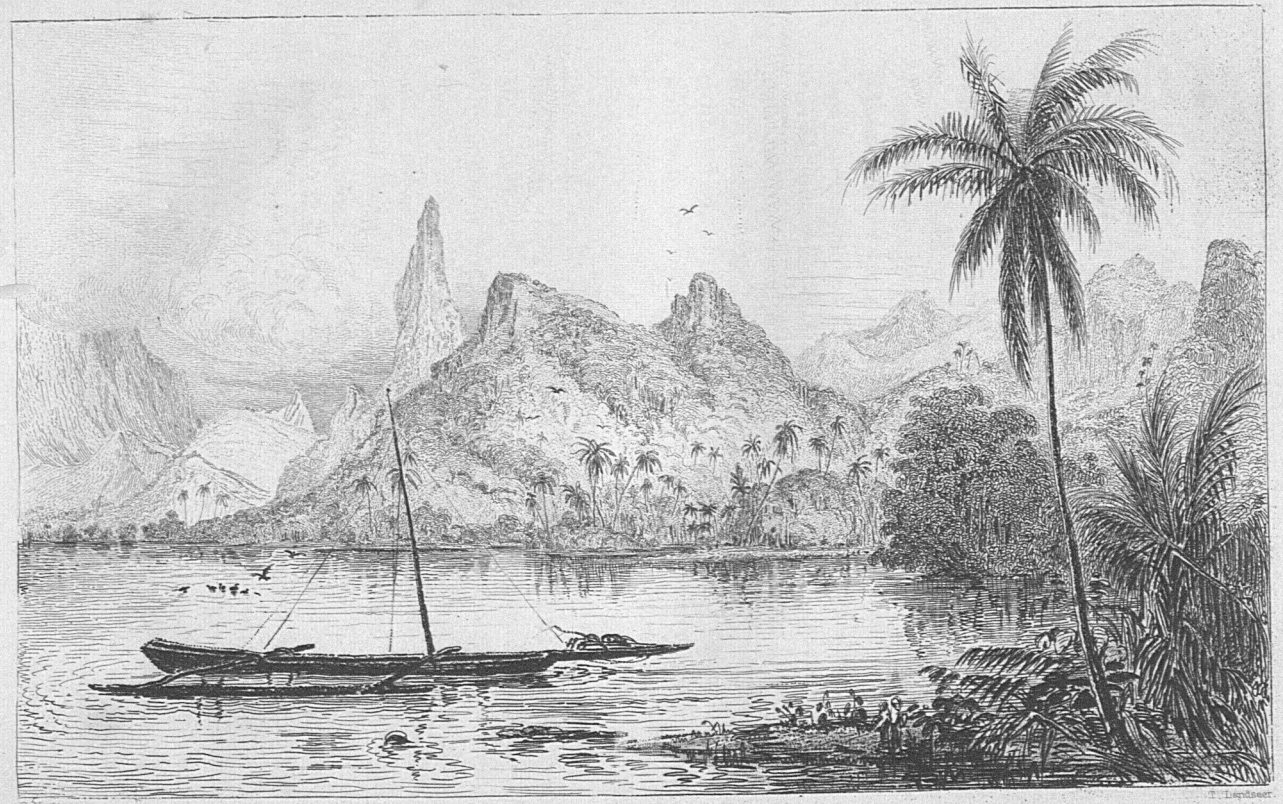
† All the squalls were from the westward.

which it is known to the islanders of the archipelago. A few hours afterwards we ranged along the shore of another and much larger island, or rather group of islets, till then not laid down in any chart, the native name of which is Cavahi. We saw a number of islets covered with cocoa-nut trees, surrounding a lagoon; but could not delay to examine the south side, because we had been so unexpectedly detained by contrary winds, and I was very anxious about the chronometer measurement, the interval being already considerable.

Hastening on, therefore, we passed between the Elizabeth and Wittgenstein (or Faarava) groups, which are similar to Cavahi in appearance, and carried a press of sail to reach the Society Islands. It was singular that directly we were clear of the Low Islands, we got into a steady trade-wind, such as we had enjoyed before seeing Honden Island; and were no more troubled by westerly wind, or squalls, till long after we had left Otaheite* and were approaching near New Zealand.

15th. Early this morning we saw Otaheite; but clouds hanging over the high land and a haziness about the horizon, at first disappointed our expectations. As the sun rose higher, the clouds shrunk away, vanishing as they rolled along the grandly formed mountains: high, sharp, irregular peaks, and huge masses of rock appeared between the mists, and again were hidden—deep vallies or glens showed darkly, and while the shadows passed, seemed to be denied the light of day. Strikingly different in appearance were the lower hills and dales, and the richly wooded land at the sea-side. There the bright sunshine heightened the vivid and ever-varying tints of a rich verdure. The beautiful alternation of light and shade, each moment changing as the flitting shadows passed over every kind

* Some diversity of opinion has arisen respecting the spelling of this name. No person now doubts that Tahiti is the native word, and therefore the most correct to be used when talking to Polynesian islanders, or writing for them; but as our immortal countryman, Cook, wrote Otaheite, and it is difficult to hear or see the word without thinking of him, I shall beg to be allowed the same privilege that Frenchmen claim when writing 'Londres,' or Englishmen when they write 'Sicily;' and for the future use only the word Otaheite.



C. Martens. T. Lupdseer.

OTAHEITE OR TAHITI.

Published by Henry Colburn, Great Marlborough Street, 1838.

of green; the groves of graceful palm-trees; the dazzling white foam of the breakers on the coral reefs, contrasted by the deep blue of the sea, combined to form a most enchanting view. At a distance in the west, Eimeo (Moorea) showed a picturesque outline, and added to the beauty of a scene which surpassed our ideas, even heightened as they had been by the descriptions of former voyagers.

Passing Point Venus, and avoiding the Dolphin Shoal, we worked up to an anchorage in Matavai Bay. No pilot appeared, but had we waited in the offing, a very good one* would have offered his services. With a fresh breeze, we gained the anchorage so quickly that few natives had time to hasten on board, as is their usual custom: only one long canoe came alongside while we sailed in: it was made of half a tree, hollowed out, with a narrow rough plank laced to each side, and an out-rigger, consisting of two crooked branches, secured to the canoe and to a long piece of light wood which floated in the water parallel to it. This out-rigger extended eight or ten feet from the ticklish conveyance, and enabled four men to sit at their ease in the narrow trunk of a tree that had never exceeded a foot in diameter.

The personal appearance of these men was to me most remarkable: tall and athletic, with very well-formed heads and a good expression of countenance, they at once made a favourable impression, which their quiet good-humour and tractable disposition afterwards heightened very much. To my eye they differed from the aborigines of southern South America in the form of their heads; in the width or height of the cheek-bones; in their eye-brows; in their colour; and most essentially in the expression of their countenances. High foreheads; defined and prominent eyebrows; with a rich, bronze colour, give an Asiatic expression to the upper part of their faces; but the flat noses (carefully flattened in infancy), and thick lips, are like those of the South Americans.

By the time the vessel was secured, a number of canoes had

* Called James Mitchell, though an aboriginal Otaheitan.

assembled, each containing from two to ten persons. A few, indeed, were so small that they could only hold one man each. The outriggers hindered their approach, as much as hoops impeded the motions of our maternal ancestors; but those who could not get near looked equally happy at a distance. All were cheerful, tractable, and patient, though eager to see the 'manuâ' (their corruption of man-of-war), and dispose of their merchandize (shells and fruit) to the new-comers.

The work necessary for securing the ship being completed, permission was given to admit the natives; and on board they swarmed like bees. In a minute, our deck became a crowded and noisy bazaar. 'One dălă' (dollar), and 'my ty' ('maitai,' meaning 'good, fine, agreed,' &c.) sounded in all tones, except those of women, none of whom appeared afloat. The current price of every article was 'one dala': a pig, a shell, a whole basket of shells, a roll of cloth, a heap of fruit, or a single fish-hook, of the worst description, were offered as equivalents for the coveted dollar. Old clothes, if of cloth, they would not take, unless as a gift; but linen was acceptable. Every man had a light linen or cotton garment, or the remains of one, of some kind; the more respectable wore shirts, and loose wrappers for trowsers; a few had jackets and trowsers. Many had straw hats; some had a wreath of leaves, some flowers in their hair: only a few of the youngest boys were nearly naked.

Mr. Darwin and I went to Point Venus, and landed among a mob of inquisitive, laughing, and chattering natives, most of whom were women and children. Mr. Wilson, the respected missionary, so long resident at Matavai, met us on the beach; and with him we went, attended by the younger part of the mob, to his house. Ten minutes' walk along level land, every where, except at the sea-side, covered or shaded by thick underwood, tall palms, and the rich foliage of the bread-fruit tree, brought us to the quiet dwelling. The free, cheerful manners of the natives who gathered about the door, and unceremoniously took possession of vacant seats, on chairs, or the floor, showed that they were at home with their benefactors; and that any seclusion or offensive intimation of superiority had

not existed in the conduct of Mr. or Mrs. Wilson. Two chiefs, of inferior rank, made acquaintance with us; they walked into the room, shook hands, sat down at their ease, and conversed with Mr. Wilson in exactly the manner of respectable English farmers. They were large, but inactive-looking men, and round-shouldered—suitably clothed, above the knees, in clean white jackets, shirts, and wrapper trowsers, with their closely-cut hair hidden by a large straw-hat—their appearance was very respectable. 'Ia-orana,' pronounced 'yoronha,' was a salutation we soon learned; but one of my younger shipmates was a little perplexed during his first excursion, "Why does every one call me 'Your honour,'" said he. Most of our officers and many of the men passed the evening on shore, and Mr. Darwin and myself rambled about until darkness summoned all on board.

Often as the native houses have been described, I found them different from the idea I had formed. Perhaps they are now rather slighter, and not constructed exactly like those of other times. Upon slight posts, placed in the ground in a long ellipse, a very light and elegant frame-work of 'purau'* is supported. This frame-work forms the low, but extensive roof; and upon it a thatch of pandanus leaves,—simply doubled upon twigs or reeds placed crosswise on the purau-wood rafters, which have their ends outwards,—forms a light covering, impervious to water, regular, indeed pretty to the eye, impenetrable by heat, and easily replaced once in eight or ten years. The middle of the roof forms an obtuse angle, as a common low roof does elsewhere; but the ends are rounded. The purau rafters are placed at equal distances around the circumference, converging as radii to the centres and central line of the ellipse. All of them are of equal length and size, and their ends are generally ornamented with a neat matting, made of a mosaic† pattern. Each line of twigs, holding the leaves, is straight and equi-distant from the next; and as, in the house, only about three inches of the smooth surface of each leaf is seen between the lines of twigs, the flat under surface, of an uniform appearance and

* The 'purau' is something like bamboo. † Or arabesque.

light straw colour, aids the smooth, round purau in agreeably surprising the eye of a stranger by a new kind of architecture, as admirable as it is simple. Around the house, instead of a wall, are strong canes, regularly placed between the supporting posts, at distances (one or two inches) equal to the diameter of the canes; they are driven into the ground, and secured to the roof; one opening only is left for a door. Within are some screens of native cloth, or framed bed-places, or simply mats spread upon dry grass. There are a few low stools, some baskets, joints of bamboo holding cocoa-nut oil, and calabashes with water, besides a variety of smaller things, which I had not time to examine. What house in a tropical climate could be more agreeable than one of these elegant wicker-work cottages, shaded round by large trees, and profiting by the fresh air of every breeze?

Pretty shades for the face (they cannot be called hats, as they encircle and project from, without covering the head) are made with the palm-leaves. When fresh, adorned by white, or deep red flowers, and tastefully placed, this head-dress is unique and pleasing.

Perhaps my eyes were prejudiced in favour of features and complexion; for the shambling gait and flat noses of the native women had no charms for me. I saw no beauty among them; and either they are not as handsome as they were said to be, or my ideas are fastidious. The men, on the other hand, exceed every idea formed from the old descriptions.

On this day, with us the 16th, but to agree with the reckoning of Otaheite and those who came from the west, changed to the 17th, I was fully occupied in making observations upon the spot where once stood Cook's observatory, a classical, and to us, important place. Upon the situation of this celebrated point, Venus, depend most of the geographical positions of islands in the South Sea; and its locality upon our globe has been deemed well known. Messrs. Wales, Green, and Bayley are particularly entitled to the greatest share of credit for having by their observations attained to so great a degree of accuracy.

While we were engaged with the instruments on shore, a crowd of natives were eagerly displaying their merchandise along side or on board the ship. From the dawn of day, until they were admitted at breakfast time, canoes had been approaching from every direction. Their occupants had heard of the dollars, and every canoe within reach had been loaded. This sort of competition could not last; so I thought it better to give them as much opportunity to dispose of their wares as our small deck allowed; and desired Lieut. Wickham to let the market be held till trade grew dull. Some wanted to build us a house; many asked to be allowed to wash our clothes. There appeared to be no want of will to work, if dollars were to be gained.

On shore it was difficult to make the required observations, among a crowd of curious observers of ourselves and our instruments; for though they readily drew back as far as we wished, it was quite impossible to keep them from running about and shaking the ground. While employed with the dipping needle under a tent, I thought myself fortified: but they besieged the small opening so closely, in their eagerness to see the sight, that the heat caused by a vertical sun was soon increased to that of an oven, from their thus blocking up the only air-hole.

At my return to the ship in the evening, I found that the fair had not lasted above an hour after breakfast. All the natives had behaved well excepting two; one of whom absconded with the top of a brass stanchion. The other tried to carry off an axe; but was detected, and pointed out to the more respectable of his countrymen, who said he should be tried, and that his sentence would probably be a fine of ten hogs.*

This evening some of our party were much pleased by hearing the pretty plaintive songs of the children, as they sat in groups upon the shore. Their voices accord in the most perfect manner; and, although the tunes are rather monotonous,

* The man who tried to steal the axe wa fined eight hogs and a large piece of cloth. Five of the pigs went to the queen, and three were sent on board the Beagle. The cloth was given to the man who caught the thief.

they detained us, sitting upon the sandy beach, till we could stop no longer.

18th. Mr. Wilson went with me in a boat to Papiete, the most frequented harbour of Otaheite. We passed inside the reefs, by narrow twisting passages among the coral rocks. Seeing two marks set up on an extensive rocky flat, partially covered by the water, I concluded they were placed as beacons; but was told they were tabu (taboo) marks to keep people from fishing or picking up shells upon the queen's 'preserve.' We passed the royal burying-ground, which is adorned by that peculiar tree, the aito, whose wood is so hard that it is called iron-wood. This tree looks like the English yew. It is purposely planted by the natives near their burying-grounds, and used to be considered sacred. Another remarkable tree, resembling (although larger and finer than) the ilex, also casts a solemn shade over the tomb of Pomare.*

The point of land on which the tombs and one of the royal houses stand, is one of the most agreeable places on the island, in point of position; and was a favourite residence of old Pomare. A portion of their superstition hangs about the natives yet: I could not persuade them to approach the tomb of their king, although they told me to go and look at it. The tomb is a plain mass of masonry, sheltered by a roof of wood.

At Toanoa, between this place (called Papawa) and Papiete, we saw Mr. Bicknell's sugar-mill. The sugar made there from native cane is of a very good quality, and cheap. Mr. Bicknell told me that the natives brought their canes to him; and that latterly he had given up growing and attending to them himself. Noticing a large deficiency in some lead-work, he remarked: "That lead was stolen in the last civil war; our books were then in high request, not to be read, but to make cartridges." That such a sad misapplication of numbers of books sent out by missionary societies, has also occurred in New Zealand, as well as among the eastern Indian nations, I have heard from many quarters.

* The late king.

Papiete is a pretty and secure little bay. Around it is low land, ornamented with trees and European as well as native houses: but immediately behind the level part, hills rise to a height of two or three thousand feet. Lying to leeward of the island it enjoys less sea-breeze, and is therefore hotter than other harbours. In the middle of the bay is a little island belonging to the queen, where the colours of Otaheite (red, white, red, horizontal) are displayed.

Several neat-looking white cottages showed that European ideas had extended their influence hither: but I was sorry to see the new church, a large wooden structure capable of holding six hundred people, covered by a partly Otaheitan roof, in lieu of one formed completely in their own style. Instead of the circular end, an ugly gable terminates a high box-shaped house, resembling a factory.

Mr. Pritchard* arrived from Eimeo as we landed. Leaving him for a short time, I went to see a person who styled himself Baron de Thierry, King of Nuhahiva† and sovereign chief of New Zealand. About the house in which resides this self-called philanthropist,—said to be maturing arrangements for civilizing Nuhahiva and New Zealand—as well as for cutting a canal across the Isthmus of Darien,—were a motley group of tattowed New Zealanders, half-clothed natives of Otaheite, and some ill-looking American seamen. I was received in affected state by this grandee, who abruptly began to question me with—"Well, Captain! what news from Panama? Have the Congress settled the manner in which they are to carry my ideas into effect?" I tried to be decently civil to him, as well as to the 'baroness'; but could not diminish my suspicions, and soon cut short our conference.

In his house was a pile of muskets, whose fixed and very long bayonets had not a philanthropic aspect. He had been there three months, and was said to be waiting for his ships to arrive and carry him to his sovereignty. Born in England, of French emigrant parents; his own account of himself was that

* Now Her Majesty's Consul. † One of the Marquesas.

he was secretary of legation to the Marquis of Marialva, at the congress of Vienna; and that in 1815 he belonged to the 23d Light Dragoons (English). In 1816 he was attaché to the French ambassador in London. In 1819 he was studying divinity at Oxford. In 1820-21, he was a student of laws at Cambridge. Afterwards he travelled on the continent: and lately had been sojourning in the United States. He visited and brought letters from the Governor of St. Thomas, in the West Indies. He showed papers to prove these assertions: had a wife and four children with him; and he had succeeded in duping a great many people.

Mr. Pritchard had seen the queen (by courtesy called Pomare, after her father, though her name was Aimatta) at Eimeo, the day before he arrived at Otaheite; and as she had not intimated an intention of coming thence, I agreed to go with him in a few days to pay my respects to her, and to make a formal application upon the subject of the Truro, a merchant vessel plundered and destroyed by the Low Islanders in 1830-31.* I returned to Matavai in the evening, and, after landing Mr. Wilson, remained nearly two hours listening to the natives singing. I asked them to dance; but they said it was forbidden, and that the watchman would take them to the governor of the district, who would fine them heavily. Singing, except hymns, is also forbidden to the grown people, but they seemed to like listening to the children.

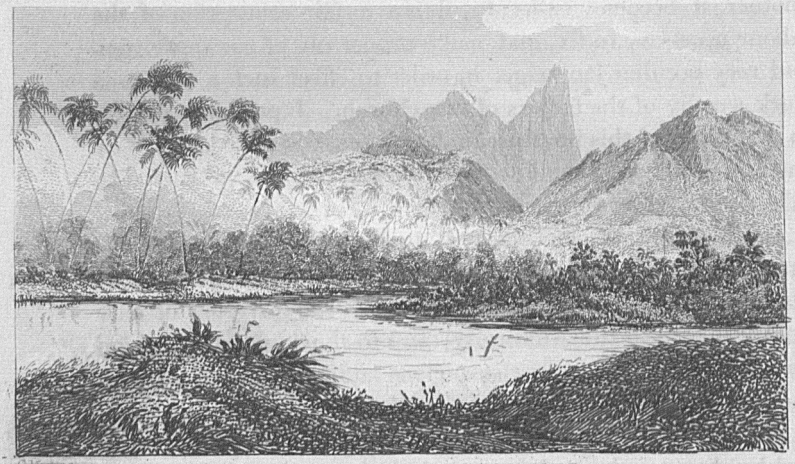
This evening, before dark, there was a sight upon the Beagle's deck, which delighted us who wished to collect shells but had not time to look for them. An Englishman† had spread out a large collection which he had just brought from the Low Islands, and soon found eager purchasers.

19th. We weighed anchor, and went into the little cove of Papawa, for the sake of watering quickly, without exposing the men and boats to a heavy surf. It is easy to avoid the numerous rocky patches, while there is a breeze, and the sun

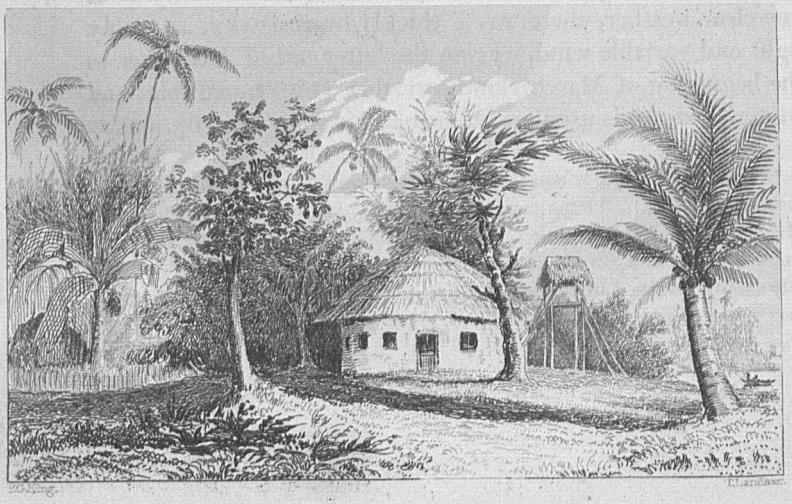
* This I was requested to do by Commodore Mason.

† John Middleton.

EIMEO NEAR OTAHEITE.



NEAR MATAVAI IN OTAHEITE.



Mr NOTT'S OLD CHAPEL.

OTAHEITE OR TAHITI.

Published by Henry Colburn, Great Marlborough Street, 1838.

shining on either side, or astern; but if the sun is a-head, it is almost impossible to distinguish the reefs, by the colour, or relative smoothness of the water. Walking to the house of Mr. Nott, I saw an elderly native writing in a cottage, and apparently very intent upon his employment. He showed me what had engaged his attention, an Otaheitan version of the book of Jeremiah, in Mr. Nott's writing, which he was copying in a very distinct, good hand.

Mr. Nott, the senior missionary upon the island, had then almost completed a great work, the translation of the Bible.* When we consider the judgment and persevering industry required to translate the Bible from one written language into another, it becomes easier to obtain a fair conception of the labour necessary to fix, and make proper use of an unwritten, and very peculiar language, in order to effect such a work,—a work worthy of the fathers of our church. I paid my respects to the author of this immense undertaking, and asked his advice and opinion respecting the affairs in which I was instructed to take a part, while on the island.

In the course of another visit to Papiete, I again met the titular king of Nuhahiva, and told him my suspicions, so plainly, that he said he should appeal to the governor of New South Wales, to the Admiralty, and to the king of England himself, against the unjust suspicions and improper conduct of the captain of the Beagle!

Since the 17th the weather had been too cloudy, by night and by day, to admit of astronomical observations. Instead of fine clear weather, there was a thickly overcast sky, and only light and variable wind. From the latter end of December to the beginning of March cloudy weather (with much rain, and westerly winds) is usual at Otaheite. Singular interruptions to

* This noble work is completed. I have now lying by me a copy of the entire Bible, in the language of Otaheite, translated and compiled by Mr. Nott, who has just sailed from England on his return to Otaheite, carrying with him an ample number of copies of the Book of Books. I felt deeply gratified by that good man's kindness in giving me one of the first copies which were printed.

the regularity of the trade-wind occur among all the tropical islands of this ocean. One instance has already been given of the uncertain and changeable state of the weather among the Low Islands, and many more may be found in the narratives of voyages in the Pacific between the tropics.

20th. While conversing with Middleton about those Low Islands (where he had passed much time), I was very much struck by the unpleasant personal feeling shewn by him when alluding to the missionaries, and their regulations, as contrasted with the strong terms in which he mentioned the good effects of their intercourse with the Low Islanders; and how much more missionaries were required. His own words, as I find them in a paper of remarks he gave me, are, "the inhabitants (of the Low Islands) are familiarized to Europeans; and are partly civilized, owing to the Gospel having been preached to them by the missionaries." In another place he says, "there are inhabitants enough to require the constant residence of one or two missionaries. They have some books of the Gospel in their hands, but are yet too ignorant to profit by their contents." His own antipathy to the missionaries had arisen, I found, in consequence of their restraints upon his conduct, while at Otaheite.—Among other information he said that the natives of Chain Island told him frequently, that the first ship they ever saw was manned with black people; but the captain, whom the natives styled the 'King of the Spirits,' was a white man. They were much alarmed when they saw the vessel come close to their island, and their old men deemed it an omen of impending disasters. Soon after this event, the island was inundated by the sea, and many people perished. They were then cannibals, and always at war with the natives of the neighbouring islands: since that time, which was 'long ago' (how long he could not ascertain), the Chain Islanders have invaded and successively conquered the other Low Islands, invariably killing and eating the greater proportion of their captives. (The Low Islands are called Paamuto.)

Middleton arrived at Otaheite from Chain Island, only two days before this conversation took place, He came in his

own open whale boat, with a crew of five natives; two being Chain Islanders, one a native of the Gambier Islands, one from the Marquesas, and one from the ferocious set who live upon an island called Aura.* Knowing their habits, and understanding their language, radically the same though differing in dialect, had assisted his daring and enterprising disposition in a series of wanderings about all the islands which lie in this quarter of the Pacific. He sold me a chart, made by himself, in which, he said, every one of the Low Islands was marked, though not correctly.† From him I obtained their native names also, with the proper pronunciation. He says the natives are great talkers, and have very good memories: for hours at a time he has often listened, with the deepest interest, to their traditions, and to the terrible tales of their inhuman warfare. About the year 1800, as near as he could ascertain, a ship was cast away upon the low island Arutua:‡ her crew were Europeans (meaning white men). The people of Arutua offered no violence, but the blood-thirsty natives of Aura hearing of the wreck, repaired to the place in a body, and massacred every man.

In the year 1831, the master and mate of the unfortunate Truro, passing by Aura in a small boat, were invited ashore by many friendly signs. They suspected no danger, landed together, without arms, were instantly speared by the treacherous natives, and fell, embracing each other.§ Those islands are supposed, by Middleton, to have received their earlier inhabitants from the Marquesas; and a few, latterly, from Otaheite.

By frequent intercourse, by presents, and by some slight knowledge of medicine, Middleton thought he had established

* Excepting the savages of Aura the natives of Chain Island have conquered, successively, all the other islanders in their neighbourhood. On Chain Island there are more hogs and fruits than on any other low island.

† Some of these data were used in adding to Admiral Krusenstern's chart. ‡ I do not know its position.

§ I remarked that the heads of the Otaheitans and those few of the Chain Islanders whom I saw, were strikingly different, but truly conformable to their respective characters.

himself among the low islanders so securely that he scrupled not to visit any of their islands, Aura alone excepted. How necessary it must be for a missionary to have a knowledge of medicine and surgery. The Jesuit, Falkner, wandered alone in safety among the tribes of South American Indians, owing, in a great measure, to his knowledge of the healing art.*

21st. I went to see 'Ua,' an old man, who remembered 'Toote' (Cook); yet was still strong and active: he told me that in those days he was a little boy. There were many more people then in Otaheite; ten to one, as compared with the present numbers: but sickness had destroyed a great many, he thought. The island was not so healthy as in former times; and they had caught diseases, in those days unknown. Asking who brought this or that disease, he imputed the worst to the ships which came after Cook's first visit, and left men upon the island until

* "Mr. Thomas Falkner was the son of a surgeon of eminence at Manchester, and was brought up in his father's profession, for which he always manifested the most promising disposition. To complete his professional studies, he was sent to London to attend St. Thomas's Hospital; and, happening to lodge in Tooley-street, on the Surrey bank of the Thames, he made an acquaintance with the master of a ship, employed in the Guinea trade, who persuaded the young surgeon to accompany him in his next voyage in his professional capacity. On his return to England, he engaged to go in the same situation on board a merchant ship to Cadiz, from which he continued his voyage to Buenos Ayres, a Spanish settlement on the River La Plata. Here he fell sick, and was in so dangerous a state when his ship was ready to depart, as not to be in a condition to be carried on board; so she sailed without him. The Jesuits, of which there was a college at Buenos Ayres, nursed him during his illness with the greatest care and kindest assiduity; and perceiving the very great advantage which they would derive, in their missions, from possessing a brother who was so well skilled in medicine and surgery, spared no pains to win his affection and secure his confidence. In short, they so worked upon his mind, as to persuade him to enter into their college, and finally to become one of their order. He now entered upon his ministry among the Indians who inhabit the vast track of country between the River La Plata and the Straits of Magellan. His skill in the cure of diseases, and in performing chirurgical operations, together with his knowledge of mechanics, rendered his mission successful beyond example. In this country he remained near forty years, and was among the persons appointed

their return the following year.* Curvature of the spine, or a hump-back, never appeared until after Cook's visits; and as he had a hump-backed man in his ship, they attribute that deformity to him. 'Ua' told me that I need not yet have any anxiety about a westerly wind, or bad weather. "The wind would be light and variable during that day, but on the morrow would draw round to the eastward, and two days afterwards the sky would be nearly free from clouds." Thanking the old man with some presents, I returned on board; and the Beagle then got under weigh, 'swept' out of the harbour, and, by the sails and sweeps, alternately employed, regained her former anchorage in Matavai Bay. In the course of a walk among the cottages between Papawa and Matavai, I found numerous tokens of industry, such as I had not expected in a South Sea island. In an enervating climate, where abundance of food is easily procured, one ought not to expect the contented natives to distress their minds or bodies, with anxious and industrious endeavours to supply wants which they do not feel, in any degree like the inhabitants of cold or temperate climates; yet the men of Otaheite undergo great fatigue, and carry heavy burthens up and down most difficult tracks in the

pointed by the Spanish government to make a survey of the coasts between the Brazils and the Tierra del Fuego, Falkland Island, &c. When the society of Jesuits was dissolved, he was sent back to Spain, and after an absence of near forty years, arrived in his native country. Soon after his return to England he became domestic chaplain to Robert Berkeley, esquire, of Spetchley, near Worcester, a Roman Catholic gentleman of distinguished knowledge, most respectable character, and large fortune. There he wrote the account of Patagonia, which has been quoted in this volume, and was afterwards published, with a map corrected from that of D'Anville, according to his own observations. Mr. Falkner possessed a very acute mind, a general knowledge, and most retentive memory. Of his medical experience and practice, I have heard physicians of eminence speak in the highest terms of commendation. His manners, as may be supposed from the tenor of his life, were at once singular and inoffensive: and he retained somewhat of his Indian habits to the last. He died, as I have been informed, about the year 1781."—Colnett's Voyage, page 25, note.

* Spanish ships, from Lima, in 1774-6.

mountains, in a manner astonishing, if not impossible, to Europeans. Mr. Darwin, who made a three days' excursion among the wildest parts of the mountains, was quite enthusiastic in his account of the strength, activity, and above all, the excellent disposition and good conduct of the two natives who were his companions and guides.

At the door of one house I saw the owner reading a book attentively. It was the New Testament translated into his native language. His wife was rolling up some of the large green leaves which they use as substitutes for plates; and two merry little children had been running after me, singing, in hopes of a present of some trifle. The superior expression of that man's countenance, and his unaffected employment (for I came upon him suddenly, and unperceived till the children spoke), made an impression upon my mind, which, I hope, will not be forgotten.

In my way back, passing some tall palm trees, I asked a native to get me some cocoa-nuts. Putting a strip of bark between his feet, he threw off his shirt, and jumped 'at' the tree, catching the trunk with his feet and hands at the same moment; then moving his hands alternately, and his feet by short jumps, the band of bark assisting their hold on the slender trunk, in a few seconds he was at the top of a tree seventy feet in height, quite straight and perpendicular, and tapering in size from a foot to six inches in diameter.

Some curious relics of former times were found for me, which had long remained in dusty quiet; among them were tortoise-shell masks, and head pieces surmounted by feathers of the tropic bird; also an apron, ingeniously, or rather laboriously made of small pieces of mother of pearl. So long was it since they had been used, that a native about thirty years of age did not know what they were for: but from the signs and expressions of the old man to whom they belonged, I think they formed part of the dress of a priest, used when sacrificing a (perhaps human) victim.* Two English sixpences also found their way to me, bearing the date 1787; memorials of the ill-fated Bounty.

* A whole dress may be seen at the British Museum, brought to England by Cook in 1771.

News arrived that the queen intended to return to her head-quarters at Papiete, and that she had ordered a present of fruit and pigs to be prepared.

22d. Sunday. Early this morning a party went with me to Papiete, and others went to Mr. Nott's church, while those who could not go far from the ship attended Mr. Wilson, to hear as well as see the natives at divine service. At Mr. Pritchard's church we found an orderly, attentive, and decently dressed congregation. I saw nothing "grotesque," nothing "ludicrous," nor anything which had a tendency to "depress the spirits," or "disappoint one's expectations."*

The church was quite full and many were sitting outside; I suppose six hundred people were present besides children, who, like others of their happy age, required an occasional touch with the white wand of a most stern looking old beadle, to prevent their chattering to one another about the strangers, and their 'money.'†

Mr. Pritchard's fluent delivery in the native language surprised and pleased us much. The greater part of the natives were very attentive. Two were making notes upon paper, of the subject of his discourse. A few were careless, but only a very few; and their eye-wanderings were caused chiefly by the strangers in uniform. Where is the English congregation of five or six hundred persons, in which a captious observer could not occasionally detect inattention to the clergyman? Hymns were sung with much propriety, and a very pleasing musical effect. The language is so soft and so full of vowels, that the good voices and very correct ears of the natives succeed admirably in hymns. After the service in the native language had ended, we repaired to the English chapel with Mr. Pritchard, who performed divine service in the manner of the Independents. Occasional visitors from ships at the island, and the few European residents who are within reach, frequent this chapel.

* I had read Kotzebue's voyage a few days previously.

† All gold or silver is by them called 'money;' the gold lace on a coat, an epaulette, a gold coin, or a dollar, is 'money.'

It was certainly better to suppress altogether, rather than only to restrain and alter their former licentious amusements, but it seemed to me that some kind of innocent recreation was much wanted by these light-hearted islanders. There is a void in the mind where a naturally thoughtless and volatile disposition exists, which it is extremely difficult to fill with serious thoughts of any duration. To such minds "a quiet reflecting day," (as my respected and much lamented messmate in the Thetis, the Rev. Henry Hall, used to term Sunday), is, in a great measure, a vacant time of leisure, which if not occupied by innocent thoughts which interest without doing harm, is certain to be seized upon by evil imaginations and bad passions.

During the time we passed in the churches it was sufficiently plain that there was no harshness usually shewn towards the children: for they clustered round their minister so closely when he moved about, that he was obliged to push them away, good naturedly, several times. From the manner of elderly, as well as young natives, I should conclude that "Pritate,"* as they called Mr. Pritchard, was a favourite.

23d. With Mr. Henry (the son of the missionary) a well known chief, 'Hitote,' came on board to share our breakfast. Captain Beechey has introduced him in his work and described his character. Mr. Henry was born upon the island, and had never visited England, yet a more English countenance, or more genuine English ideas, I have seldom met with in any part of the world. From him I received some information, to me very interesting, and to those for whom it was my duty to collect nautical intelligence, I hope useful.† Afterwards I hastened to Papiete to pay my respects to Queen Pomare. I was in time to see her arrive from Eimeo, sitting on the gunwale of a whale-boat, loosely dressed in a dark kind of gown, without anything upon her head, hands, or feet, and without any kind of girdle or sash to confine her gown, which was fas-

* Having so few consonants in their language, obliges them to change most of our names.

† Mr. Henry's data were also used in adding to Krusenstern's chart.

tened only at the throat. There was no reception at landing: no attendance, no kind of outward ceremony showed that the 'Queen of the Isles' had arrived at her home.

Some time afterwards, when I heard that she was inclined to give an audience, I went to the royal cottage with Mr. Pritchard. A parcel of half-dressed merry looking damsels eyed us with an amusing mixture of shyness and curiosity. These, I concluded, were a part of the 'Queen's mob,' as our interpreter had ignorantly or democratically called the royal attendants. Only a few men were about the house, one of whom was the queen's foster-father ('feeding father' in the Otaheitan language) and another her husband.

Entering a small room, 'Ia-orana Pomare,' with a shake of the hand, was the salutation given by Mr. Pritchard, and by myself, following his example. On the only three chairs in the room we sat down, but the queen looked very uncomfortable, and certainly not at all dignified. I could not help pitying her, for it was evident she was expecting a lecture on the subject of the Truro, and felt her utter helplessness: I was therefore glad, after a few words of compliment, to see her mother, husband, and foster-father enter the room, though they sat down upon chests or the floor.

I delivered a letter from Commodore Mason, which she asked Mr. Pritchard to interpret, and sent out to her secretary. A meeting of the chiefs, herself presiding, was proposed and decided to be held on the following day. Some conversation then passed on other subjects, and we took our leave by shaking each individual by the hand. This is certainly preferable to pressing noses, but I was sorry to see that the missionaries had attended but little to the outward demeanour, to the manners, to the attendance, and to the dwelling of the sovereign of a people whose happiness and improvement would certainly be increased by raising the character, and improving the condition of their ruler. While called a queen, Pomare ought to be supported by some of those ceremonious distinctions, which have, in all ages and nations, accompanied the chief authority. That the missionaries should interfere harshly

or sweepingly, would doubtless irritate; but a beneficial influence, almost unnoticed except in its effects, might be exerted in these temporal, and seemingly trifling affairs, which might assist hereafter in a day of need.

I have been told that the natives have been very ungrateful to the missionaries. Perhaps they are not all aware what a debt of gratitude they owe. Certainly, the better informed and the older inhabitants understand and appreciate the kindness and the labours of their devoted teachers; but whether the younger or the lightly-disposed have, generally speaking, a kindly feeling towards them I doubt. More temporal enjoyments, and more visible or tangible benefits are asked for by the younger inhabitants, who are daily becoming more aware of the manners and habits of civilized nations. Surely the queen, a young and lively woman, is likely to compare her own habits and personal comforts, and the degrees of attention or deference shown to her, with those of foreigners, either resident in or visiting Otaheite.

Dispensing temporal benefits, with an evident desire to better their condition in every way, excites the gratitude of ignorant minds, and often paves the way towards teaching them to acquire abstract ideas, and to wage war against many of those things which they would rather do than leave undone. There is a Roman Catholic mission at the Gambier Islands, amply provided with presents and property fit for the natives, and it is said that they are succeeding well. At Otaheite the missionaries were afraid that the doctrines of the Roman church would obtain a greater influence, and agree better with the disposition of the natives than the strict discipline in which they have hitherto been held. Unless preventive measures are taken in Europe, religious strife and internal warfare may again be caused in these islands, even by those whose aim is peace. Already there is a remarkable bitterness of feeling on the subject, which is unlikely to diminish if the success of the Roman Catholic mission increases.

But I have wandered away from Pomare—her small ill-furnished room and her awkwardly-contrived house, neither Eng-

lish nor Otaheitan. Before she became sovereign, she was known by the name of Aimatta, which signifies 'eye-eater;'* but Pomare has since been adopted as the royal name. In affixing her signature, 'Vahine' is added, which means 'female'—thus 'Pomare Vahine.' Her husband is a young, intelligent man; but he has no share in the government, being only king-consort. This man was the only native of the island, that I saw, whose nose was sharp and projecting. It is amusing to think that they call a man 'long nose,' in this country, when they wish to wound his feelings deeply.

During the first few days after a child is born, the mother or her attendants keep pressing the back of the infant's head with one hand, and the forehead and nose with the other, to make the head high and the nose and brow flat. Children of the higher ranks undergo more compression, because they are more carefully attended.† How the queen's husband escaped, or could be chosen by her with such a nose, I am at a loss to discover.

24th. With all the officers who could be spared from the duty of the ship, Mr. Darwin and I repaired early to Papiete. Mr. Wilson, Mr. Henry, and Hitote, were of the party. Arrived at the hospitable abode of Mr. Pritchard, we waited until a messenger informed us of the queen's arrival at the appointed place of meeting—the English chapel. From our position we had just seen the royal escort—a very inferior assemblage. It appeared that the chiefs and elderly people had walked to the chapel when our boats arrived, leaving only the younger branches of the community to accompany Pomare. The English chapel is a small, wooden structure, with a high, angular roof; it is about fifty feet in length and thirty feet wide; near the eastern end is a pulpit, and at each corner a small pew. The rest of the building is occupied by strong benches, extending nearly from side to side; latticed windows admit light and air; the roof is thatched in a partly Otaheitan manner; none

* I need not remark upon the offering made to the king in the time of human sacrifice.

† Mitchell, the native pilot, described this process to me minutely.

of the woodwork is painted, neither is there any decoration. Entering the chapel with my companions, I turned towards the principal pews, expecting to see Pomare there; but no, she was sitting almost alone, at the other end of the building, looking very disconsolate. Natives sitting promiscuously on the benches saluted us as we entered:—order, or any kind of form, there was none.

The only visible difference between Pomare and her subjects was her wearing a gay silk gown, tied however round the throat, though entirely loose elsewhere; being made and worn like a loose smock-frock, its uncouth appearance excited more notice from our eyes than the rich material. In her figure, her countenance, or her manner, there was nothing prepossessing, or at all calculated to command the respect of foreigners. I thought of Oberea,* and wished that it had been possible to retain a modified dress of the former kind. A light under-garment added to the dress of Oberea might have suited the climate, satisfied decency, and pleased the eye, even of a painter.

Disposed at first to criticise rather ill-naturedly—how soon our feelings altered, as we remarked the superior appearance and indications of intellectual ability shown by the chieftains, and by very many of the natives of a lower class. Their manner, and animated though quiet tone of speaking, assisted the good sense and apparent honesty of the principal men in elevating our ideas of their talents, and of their wish to act correctly.

Every reader of voyages knows that the chiefs of Otaheite are large, fine-looking men. Their manner is easy, respectful, and to a certain degree dignified; indeed on the whole surprisingly good. They speak with apparent ease, very much to the

* Queen of Otaheite in 1767. "Both men and women are not only decently, but gracefully clothed, in a kind of white cloth, that is made of the bark of a shrub, and very much resembles coarse China paper. Their dress consists of two pieces of this cloth: one of them, a hole having been made in the middle to put the head through, hangs down from the shoulders to the mid-leg before and behind; another piece, which is between four and five yards long, and about one yard broad, they wrap round the body in a very easy manner."—Wallis's Voyage Round the World, 1767.

purpose in few words, and in the most orderly, regular way. Not one individual interrupted another; no one attempted to give his opinions, or introduce a new subject, without asking permission; yet did the matters under discussion affect them all in a very serious manner. Might not these half-enlightened Otaheitans set an example to numbers whose habits and education have been, or ought to have been, so superior?

It had become customary to shake hands with the queen, as well as with the chiefs. This compliment we were expected to pay; but it seemed difficult to manage, since Pomare occupied a large share of the space between two benches nearest to the wall, and the next space was filled by natives. However, squeezing past her, one after another, shaking hands at the most awkward moment, we countermarched into vacant places on the benches next in front of her. The principal chiefs, Utaame, Taati, Hitote, and others, sat near the queen, whose advisers and speakers appeared to be Taati and her foster-father. It was left for me to break the silence and enter upon the business for which we had assembled. Desirous of explaining the motives of our visit, by means of an interpreter in whom the natives would place confidence, I told Mitchell the pilot to request that Queen Pomare would choose a person to act in that character. She named Mr. Pritchard. I remarked, that his sacred office ought to raise him above the unpleasant disputes in which he might become involved as interpreter. The missionaries had approached, and were living in Otaheite, with the sole object of doing good to their fellow-men, but I was sent in a very different capacity. As an officer in the service of my king, I was either to do good or harm, as I might be ordered; and it was necessary to distinguish between those who were, and ought to be always their friends, and men whose duty might be unfriendly, if events should unfortunately disappoint the hopes of those interested in the welfare of Otaheite. These expressions appeared to perplex the queen, and cause serious discussions among the chiefs. Before any reply was made, I continued: "But if Mr. Pritchard will undertake an office which may prove disagreeable, for the

sake of giving your majesty satisfaction, by forwarding the business for which this assembly was convened, it will not become me to object; on the contrary, I shall esteem his able assistance as of the most material consequence."

The queen immediately replied, through the chieftain at her right hand, Taati, that she wished Mr. Pritchard to interpret.

Removing to a position nearer the queen and chiefs (he had been sitting at a distance), Mr. Pritchard expressed his entire readiness to exert himself on any question which might affect the good understanding and harmony that hitherto had existed between the natives of Otaheite and the British; and he trusted that those persons present who understood both languages, (Messrs. Wilson, Bicknell, Henry, and others,) would assist and correct his interpretations as often as they thought it necessary.

Commodore Mason's letter to me, authorizing my proceedings, was then read—in English, by myself—and translated by Mr. Pritchard. Next was read an agreement or bond, by which Queen Pomare had engaged to pay 2,853 dollars, or an equivalent, on or before the 1st day of September 1835, as an indemnification for the capture and robbery of the Truro at the Low Islands.

The queen was asked whether her promise had been fulfilled?

Taati answered, "Neither the money nor an equivalent has yet been given."

"Why is this?" I asked. "Has any unforeseen accident hindered your acting up to your intentions; or is it not to be paid?"

Utaame and Hitote spoke to Taati, who replied, "We did not understand distinctly how and to whom payment was to be made. It is our intention to pay; and we now wish to remove all doubts, as to the manner of payment."

I observed, that a clear and explicit agreement had been entered into with Capt. Seymour; if a doubt had arisen it might have been removed by reference to the parties concerned, or to disinterested persons; but no reference of any kind had been made, and Mr. Bicknell, the person appointed to receive the money, or an equivalent, had applied to the queen, yet had not obtained an answer.

I then reminded Pomare of the solemn nature of her agreement; of the loss which her character, and that of her chiefs, would sustain; and of the means England eventually might adopt to recover the property so nefariously taken away from British subjects. I said that I was on my way to England, where her conduct would become known; and if harsh measures should, in consequence, be adopted, she must herself expect to bear the blame.

These words seemed to produce a serious effect. Much argumentative discussion occupied the more respectable natives as well as the chiefs; while the queen sat in silence.

I must here remark, in explanation of the assuming or even harsh tone of my conduct towards Pomare, at this meeting, that there was too much reason for believing that she had abetted, if not in a great measure instigated, the piracy of the Paamuto people (or Low Islanders). For such conduct, however, her advisers were the most to blame. She was then very young; and during those years in which mischief occurred, must have been guided less by her own will than by the desires of her relations.

I had been told that excuses would be made; and that unless something like harshness and threatening were employed, ill effects, instead of a beneficial result, would be caused by the meeting: for the natives, seeing that the case was not taken up in a serious manner, and that the captain of the ship of war did not insist, would trouble themselves no farther after she had sailed away; and would laugh at those by whom the property was to be received.

The 'Paamuto,' or Low Islands, where the piracies have occurred, in which she and her relations were supposed to have been concerned, were, and are still considered (though nominally given up by her), as under her authority and particular influence. Her father was a good friend to all the natives of those islands; and the respect and esteem excited by his unusual conduct have continued to the present time, and shown themselves in attachment to his daughter. So much hostility has in general influenced the natives of different islands, that

to be well treated by a powerful chief, into whose hands a gale of wind, or warfare throws them, is a rare occurrence.

The Paamuto Isles are rich in pearl oysters. Pomare, or her relations, desired to monopolize the trade. Unjustifiable steps were taken, actuated, it is said, by her or by these relations; and hence this affair.

They soon decided to pay the debt at once. Thirty-six tons of pearl oyster-shells, belonging to Pomare, and then lying at Papiete, were to form part of the equivalent; the remainder was to be collected among the queen's friends. Taati left his place near her, went into the midst of the assembly, and harangued the people in a forcible though humorous manner, in order to stimulate them to subscribe for the queen. After he had done speaking, I requested Mr. Pritchard to state strongly that the innocent natives of Otaheite ought not to suffer for the misdeeds of the Low Islanders. The shells which had come from those ill-conducted people, might well be given as part of the payment; but the queen ought to procure the rest from them, and not from her innocent and deserving subjects. A document, expressing her intention to pay the remaining sum within a stated time, signed by herself and by two chiefs, with a certainty that the property would be obtained from the Low Islanders, would be more satisfactory than immediate payment, if effected by distressing her Otaheitan subjects, who were in no way to blame.

Taati replied, "The honour of the queen is our honour. We will share her difficulties. Her friends prefer assisting her in clearing off this debt, to leaving her conduct exposed to censure. We have determined to unite in her cause, and endeavour to pay all before the departure of the man-of-war."

It was easy to see that the other principal chiefs had no doubt of the propriety of the demand; and that they thought the queen and her relations ought to bear the consequences of their own conduct. Taati, who is related to her, exerted himself far more than Utaame, Hitote, or any of the others. This part of the business was then settled by their agreeing to give the shells already collected, such sums of money as her friends

should choose to contribute, and a document signed by two principal chiefs, expressing the sum already collected and paid; and their intention of forthwith collecting the remainder, and paying it before a stipulated time. Difficulties about the present, as compared with the former value of the shells, were quickly ended by arbitration; and their value estimated at fifty dollars per ton: the ready way in which this question about the value of the shells was settled, gave me a high idea of the natives' wish to do right, rather than take advantage of a doubtful point of law.

I next had to remark, that the queen had given up the murderers of the master and mate of the Truro in a merely nominal manner, and not in effect; and that she must expect to receive a communication upon that subject by the next man-of-war.

She asked me—whether I really thought they would be required from her by the next man-of-war?

I replied: "Those men were tried and condemned by the laws of Otaheite. Your majesty, as sovereign, exercised your right of pardoning them. I think that the British Government will respect your right as queen of these islands; and that his Britannic Majesty will not insist upon those men being punished, or again tried for the same offence; but the propriety of your own conduct in pardoning such notorious offenders, is a very different affair. It will not tend to diminish the effect of a report injurious to your character, which you are aware has been circulated."

After a pause, I said, "I was desired to enquire into the complaints of British subjects and demand redress where necessary. No complaints had been made to me; therefore I begged to congratulate her majesty on the regularity and good conduct which had prevailed; and thanked her, in the name of my countrymen, for the kindness with which they had been treated."

I then reminded Pomare of the deep interest generally felt for those highly deserving and devoted missionaries, whose exertions, hazardous and difficult as they had been, and still were, had raised the natives of Otaheite to their present en-

lightened and improved condition; and that every reason united to demand for them the steady co-operation of both her and her chiefs. Finding that they listened attentively to Mr. Pritchard's interpretation, which I was told was as good as it appeared to me fluent and effective, I requested permission to say a few words more to the queen—to the effect that I had heard much of her associating chiefly with the young and inexperienced, almost to the exclusion of the older and trustworthy counsellors whom she had around her at this assembly. To be respected, either at home or abroad, it was indispensably necessary for her to avoid the society of inferior minds and dispositions; and to be very guarded in her own personal conduct. She ought to avoid taking advice from foreigners, whom she knew not, and whose station was not such as might be a guarantee for their upright dealings: and she ought to guard carefully against the specious appearances of adventurers whose intentions, or real character, it was not possible for her to discover readily. Such men could hardly fail to misinform her on most subjects; but especially on such as interested themselves; or about which they might entertain the prejudices and illiberal ideas which are so prevalent among ignorant or ill-disposed people. I tried to say these things kindly, as the advice of a friend: Pomare thanked me, acknowledged the truth of my remarks, and said she would bear them in mind.

Turning to the chiefs, a few words passed, previous to Taati asking me, in her name, "Whether they were right in allowing a foreigner to enlist Otaheitans to serve him as soldiers; and in permitting them and other men to be trained, for warlike purposes, upon their island?"* My reply was, "If Otaheitan subjects, so trained, almost under the queen's eye, act hostilely against the natives of any other island, will not those natives deem her culpable? To my limited view of the present case, it appears impolitic, and decidedly improper to do so." After a few words with Utaame and Hitote, Taati rose and gave notice that no Otaheitan should enlist or be trained to serve as

* With reference to the so-called Baron de Thierry.

a soldier, in a foreign cause. By this decree de Thierry lost his enlisted troops, except a few New Zealanders, and whaling seamen.

One of the seven judges, an intelligent, and, for an Otaheitan, a very well educated man, named 'Mare,' asked to speak to me. "You mentioned, in the third place," said Mare, "that you were desired to enquire into the complaints of British subjects, and demand redress, if necessary. You have stated that no complaint has been made, and you have given us credit for our conduct: allow me now to complain of the behaviour of one of your countrymen, for which we have failed in obtaining redress." Here Mare detailed the following case of the 'Venilia,' and said that no reply to their letter to the British government, had yet been received. Mare then added, in a temperate though feeling manner, "does it not appear hard to require our queen to pay so large a sum as 2,853 dollars out of her small income; while that which is due to her, 390 dollars, a mere trifle to Great Britain, has not obtained even an acknowledgment from the British government?"

I ventured to assure Mare that some oversight, or mistake, must have occurred, and promised to try to procure an answer for them, which, I felt assured, would be satisfactory.

The letter on the subject of the Venilia, very literally translated, is as follows: it is, for many reasons, a curious document.

"Our friend, the king of Britain, and all persons in office in your government, may you all be saved by the true God!

"The following is the petition of Pomare, of the governors, and of the chiefs of Tahiti.

"A whale-ship belonging to London, has been at Tahiti: 'Venilia' is the name of the ship, 'Miner' is the name of the captain. This ship has disturbed the peace of the government of Queen Pomare the first. We consider this ship a disturber of the peace, because the captain has turned on shore thirteen of his men, against the will of the governor of this place, and other persons in office. The governor of this district made known the law clearly. The captain of the ship objected to

the law, and said that he would not regard the law. We then became more resolute: the governor said to the chiefs, 'Friends, chiefs of the land, we must have a meeting.' The chiefs assembled on the twenty-second day of December 1831. The governor ordered a man to go for the captain of the ship. When he had arrived on shore, the governor appointed a man to be speaker for him. The speaker said to the captain of the ship, 'Friend, here are your men, take them, and put them on board of your ship; it is not agreeable to us that they should remain upon our land.' The captain said, 'I will not by any means receive them again: no, not on any account whatever!' The governor again told his speaker to say, 'Take your men, and put them on board your ship, we shall enforce our laws.' The captain strongly objected to this, saying, 'I will not, on any account, again receive these bad men, these mutineers.' We then said, 'It is by no means agreeable to us for these men to live on shore: if they are disturbers of the peace on board the ship, they will disturb the peace on shore.' Captain Hill, who has long been a captain belonging to Britain, spoke to the captain of the ship: this is what he said to him: 'It is not at all agreeable to the laws of Britain that you should discharge, or in any manner turn away your men in a foreign land.' This is another thing Captain Hill said, 'you should write a document, stating clearly the crime for which these men have been turned on shore; that the governor and chiefs may know how to act towards them, and that they may render you any assistance.' But this was not agreeable to the captain; he would not write a document. The governor then said to the captain, 'If you will not take your men on board again, give us the money, as expressed in the law.' The captain said, 'I will not give the money, neither will I again take the men: no, not on any terms whatever; and if you attempt to put them on board the ship, I will resist, even unto death.' The governor then said, 'We shall continue to be firm; if you will not give the money, according to the law, we shall put your men on board the ship, and should you die, your death will be deserved.' When the captain perceived that we were determined

to enforce the law, he said, 'It is agreed; I will give you the money, three hundred and ninety dollars.'

"On the 24th of December the governor sent a person for the money. The captain of the ship said, 'He had no money.' We then held a meeting: the governor's speaker said to the captain, 'Pay the money according to the agreement of the 22d day of this month.' The captain said, 'I have no money.' The governor told him, 'If you will not pay the money we will put your men on board the ship.'

"One Lawler said, 'Friends, is it agreeable to you that I should assist him? I will pay the money to you, three hundred and ninety dollars! I will give property into your hands: this is the kind of property; such as may remain a long time by the sea-side and not be perishable. In five months, should not the money be paid, this property shall become your own.'

"Mr. Pritchard said that this was the custom among foreigners. We agreed to the proposal.

"On the 26th of December we went to Lawler's house to look at the property, and see if it was suitable for the sum of money; and also to make some writings about this property. While there, Lawler made known to us something new, which was, that we should sign our names to a paper, written by the captain, for him to show his owners. We did not agree to this proposal, because we did not know the crime for which these men were turned on shore. We saw clearly that these two persons were deceiving us, and that they would not pay the money; also that the captain would not again take his men; but we did not attempt to put his men on board the ship, because another English whaler had come to anchor. We told the captain that we should write a letter to the British government, that they might order this business to be investigated, and might afford us their assistance.

"This is the substance of what we have to say:—We entreat you, the British Government, to help us in our troubles. Punish this Captain Miner, and command the owners of the Venilia to pay us three hundred and ninety dollars for thirteen of their men having been left on our land; and also to send the wages

of a native man who was employed to supply the whole crew with bread-fruit while at anchor here. Let them send a good musket for this man, because the captain has not given him a good musket according to the agreement at the beginning. Captain Miner also gave much trouble to the pilot. He took his ship out himself: the pilot went after the ship to get his money, and also the money for Pomare, for anchorage. He would not give the pilot his share. After some time he gave the pilot some cloth for his share.

"In asking this, we believe that our wish will be complied with. We have agreed to the wish of the British government in receiving the Pitcairn's people, and in giving them land. We wish to live in peace, and behave well to the British flag, which we consider our real friend, and special protection. We also wish that you would put in office a man like Captain Hill, and send him to Tahiti, as a representative of the king of Great Britain, that he may assist us. If this should not be agreeable to you, we pray you to give authority to the reverend George Pritchard, the missionary at this station.

"This is the conclusion of what we have to say. Peace be with you. May you be in a flourishing condition, and may the reign of the beloved king of Britain be long! Written at Tahiti on the sixth day of January, one thousand eight hundred and thirty-two.

"On behalf of POMARE, the queen.

"Signed by APAAPA, chief secretary.
ARUPAEA, district governor.
TEPAU, district governor.
TEHORO, one of the seven supreme judges.
MARE, a district judge, (since raised to be a supreme judge)."

"Addition:—"This man, Lawler,* is an Irishman: he has

* This Lawler was so remarkably good-looking a man, that the natives used to say (literally translated) that "he was as beautiful as a glass tumbler." (Many years ago, when Wallis discovered the Society Islands, a drinking-glass excited so much notice, that ever since it has been referred to as one of the most beautiful of objects.)

been living at Tahiti about three months: he came from the Sandwich Islands. Of his previous conduct we can say nothing. We much wish that a British ship of war would come frequently to Tahiti to take to their own lands these bad foreigners that trouble us. It is useless for us to depend upon the consul at the Sandwich Islands. We have long known that we can obtain no assistance from him.*

"We wish to do our duty towards you Britons. You are powerful and rich—but we are like weak children.

"On behalf of POMARE, the queen.

APAAPA, chief secretary."

"Paofai (close to Papiete),
Tahiti, 7th January 1832."

This interesting letter needs no apology for its insertion at full length. Besides explaining Mare's application, it helps to give an idea of the state of Otaheite; and it appeals to our better feelings in a persuasive manner.

* The British government has since appointed Mr. Pritchard to act as Consul for the Society and Friendly Islands.

Note (*a*) referred to in page 507.

That the electric agent (whether fire or fluid) goes upward from the earth to the atmosphere, as well as in the contrary direction, showing that a mutual action takes place between air and land, many facts might be brought to prove: I will only mention two.

"On October 25th we had a very remarkable storm: the sky was all in flames. I employed part of the night in observing it, and had the pleasure of seeing three ascending thunderbolts! They rose from the sea like an arrow; two of them in a perpendicular direction, and the third at an angle of about 75 degrees."—(De Lamanon, in the Voyage of La Pérouse, vol. iii. pp. 431-2).

While H.M. corvette Hind, was lying at anchor off Zante, in 1823, in twelve fathoms water, an electric shock came in through her hawse, along the chain-cable, by which she was riding. Two men, who were sitting on the cable, before the bitts, were knocked down—felt the effects of the shock about half an hour—but were not seriously hurt. A noise like that of a gun startled every one on board; yet there was neither smell, nor smoke, nor any other visible effect. The sky was heavily clouded over; small rain was falling; and there was distant thunder occasionally, but no visible lightning. The cable was hanging slack, almost 'up and down.' I witnessed this myself.

CHAPTER XXIII.

Continuation of the Meeting at Papiete—Questions—Explanation—Meeting ends—Pilotage—Mr. Wilson—Queen's Visit—Fireworks—School Intelligence—Letters—Inhabitants—Dress—Conduct—Abolition of Spirits—Defect in Character—Domestic Scene—Aura Island—Newton at Bow Island—Pearl Oyster-shells—Divers—Steering—Queen's Letter—Collection—Sail from Otaheite—Whylootacke—Flight of Birds—Navigators—Friendly—Feejee Islands—English Chief—Precautions—La Pérouse.

Reverting to the meeting at Papiete:—The queen's secretary next asked to speak, and said that a law had been established in the island, prohibiting the keeping, as well as the use or importation of any kind of spirits. In consequence of that law, the persons appointed to carry it into effect had desired to destroy the contents of various casks and bottles of spirits; but the foreigners who owned the spirits objected, denying the right to interfere with private property. The Otaheitan authorities did not persist, as they were told that the first man-of-war which might arrive would certainly take vengeance upon them if they meddled with private property. He wished to ask whether the Otaheitans ought to have persisted in enforcing their own laws; and what I should have done, had the law been enforced with a British subject, and had he made application to me.

My answer was, "Had the Otaheitans enforced their law, I could in no way have objected. In England a contraband article is seized by the proper officers, and is not treated as private property while forbidden by the law."

Much satisfaction was evidently caused by this declaration: also, at a former part of the discussions, when a remonstrance was made against Otaheitans paying the Truro debt, the greater part of the assembly seemed to be much pleased.

A respectable old man then stood up, and expressed his gratification at finding that another of King William's men-of-war had been sent—not to frighten them, or to force them to do as they were told, without considering or inquiring into their own

opinions or inclinations, but to make useful enquiries. They feared the noisy guns which those ships carried, and had often expected to see their island taken from them, and themselves driven off, or obliged in their old age to learn new ways of living.

I said, "Rest assured that the ships of Great Britain never will molest Otaheitans so long as they conduct themselves towards British subjects as they wish to be treated by Britons. Great Britain has an extent of territory, far greater than is sufficient for her wishes. Conquest is not her object. Those ships, armed and full of men, which from time to time visit your island, are but a very few out of a great many which are employed in visiting all parts of the world to which British commerce has extended. Their object is to protect and defend the subjects of Great Britain, and also take care that their conduct is proper—not to do harm to, or in any way molest those who treat the British as they themselves would wish to be treated in return."

I was much struck by the sensation which these opinions caused amongst the elderly and the more respectable part of the assemblage. They seemed surprised, and so truly gratified, that I conclude their ideas of the intentions of foreigners towards them must have been very vague or entirely erroneous.

The business for which we had assembled being over, I requested Mr. Pritchard to remind the queen, that I had a long voyage to perform; and ought to depart from her territories directly she confided to me the promised document, relating to the affair of the Truro; and I then asked the queen and principal chiefs to honour our little vessel by a visit on the following evening, to see a few fireworks: to which they willingly consented: some trifling conversation then passed; and the meeting ended.

Much more was said, during the time, than I have here detailed: my companions were as much astonished as myself at witnessing such order, so much sensible reasoning, and so good a delivery of their ideas! I shall long remember that meeting at Otaheite, and consider it one of the most interesting sights

I ever witnessed. To me it was a beautiful miniature view of a nation emerging from heathen ignorance, and modestly setting forth their claims to be considered civilized and Christian.

We afterwards dined with Mr. Pritchard, his family, and the two chiefs, Utaame and Taati. The behaviour of these worthies was extremely good; and it was very gratifying to hear so much said in their favour by those whose long residence on the island had enabled them to form a correct judgment. What we heard and saw showed us that mutual feelings of esteem existed between those respectable and influential old chieftains and the missionary families.

It was quite dark when we left Papiete to return, by many miles among coral reefs, to the Beagle; but our cat-eyed pilot undertook to guide our three boats safely through intricate passages among the reefs, between which I could hardly find my way in broad daylight, even after having passed them several times. The distance to the ship was about four miles; and the night so dark, that the boats were obliged almost to touch each other to ensure safety; yet they arrived on board unhurt, contrary to my expectation; for my eyes could not detect any reason for altering our course every few minutes, neither could those of any other person, except the pilot, James Mitchell. Had he made a mistake of even a few yards, among so many intricate windings, our boats must have suffered (because the coral rocks are very sharp and soon split a plank), though in such smooth and shallow water, a wrong turning could have caused inconvenience only to ourselves, for there was little or no danger of more than a wetting.

The observations at Matavai being completed, I was enabled to leave the place, and invited Hitote and Mr. Henry (who had returned with us) to pay another visit to Papiete in the Beagle, and meet the royal party.

25th. At daylight this morning, while the Beagle's crew were unmooring and hoisting in the boats, I went to Mr. Wilson's school-house, then used also as a chapel—the old chapel having been blown down by a violent gale of wind. Divine service (a hymn, a long extempore prayer, and another hymn) was

performed. This is the established custom at all the missionary stations at Otaheite on Wednesday mornings: on other mornings one or two hours after daylight are employed in the schools. The congregation was numerous, and very attentive. I noticed that all the principal men of the district, besides Hitote who came from a distant part of the island, were present.

Mr. Wilson's manner pleased me much; it was the sincere, and naturally impressive manner of a kind-hearted, honest man, earnestly performing a sacred and paramount duty. I went to see the new chapel after the morning-service was ended; but only the floor-timbers and the posts for the roof were then fixed in their places. The natives were irregular in their work, sometimes doing much, at others little, just as they felt disposed. Being a voluntary work, they took their time about it.

Mr. Darwin and I breakfasted with Mr. Wilson at his house: it happened that Mr. and Mrs. Henry were about to make a journey to some distance; that a favourite son was undertaking a new and difficult mission at the Navigator's Islands, and that we were both about to take leave of the pious teacher of the heathen: and for each he asked a blessing, in an extempore prayer of some length, the result of unaffected, genuine piety. A kinder, or less exceptionable prayer, so far as I could pretend to judge, than that unprepared one by Mr. Wilson, I could not have wished to hear. That it was unprepared I feel certain, because he had not expected us to be present, and the manner in which our prospects were intermingled with those of the others he mentioned, showed that there was no premeditation. There was no affected expression, or unusual tone: it was the sincere devout manner of a pious plain-spoken man.

When under sail we tried to approach the entrance of Papiete Harbour, but baffling winds prevented our anchoring until three in the afternoon; and then, anticipating the royal visit, we tried to make such preparations as our little vessel could accomplish. Dressing the ship with flags, and preparing to man yards, was all we were able to do: salute we could not, on account of the chronometers.

We were told that the queen had walked to Papawa, distant about two miles, to inspect a quantity of fruit, cocoa-nuts, pine-apples, &c. (which she had ordered to be collected as a present to the man-of-war): and, with our glasses, we saw the royal party hastening along the beach, and in the midst of a number of women, children, and men, the queen was observed advancing at a quick walk. Soon afterwards, when it was supposed she had rested and dressed, we sent the boats. The chiefs were already on board. Mr. Pritchard undertook the troublesome offices of interpreter and master of the ceremonies, and by his assistance we saw the whole party collected on the Beagle's upper deck, while the seamen manned yards, and we all gave the queen three cheers.

A bad dinner, accepted after the four mile walk, in a manner it did not deserve,—was succeeded by a few rockets, blue lights, and false fires,—the only fireworks we possessed. Luckily the rockets were good and gave high satisfaction. Lying in the middle of a bay, whose radius, supposing it semi-circular, may be half-a-mile, our ears were startled by a thrilling outcry of delight echoing around the beach, as each successive rocket rushed into the sky and burst. This outcry from the natives on shore, who were taken by surprise (the night being very dark) showed how much they enjoyed the sight. Our visitors on board, being told what would happen, only repeated 'maitai,' 'maitai,'* with earnestness. I much wished then to have had a few good fireworks of a more artificial character. To any one about to visit distant, especially half-civilized or savage nations, let me repeat a piece of advice given to me, but which from inadvertence I neglected to follow: "take a large stock of fireworks."

Some presents to each of our guests helped to amuse them and keep up their cheerfulness. After tea I proposed hearing a few of the seamen's songs,—as some of our crew were very good singers,—not at the time thinking of their prejudices against any singing except hymns. Mr. Pritchard had no word to interpret 'song' but 'himene;' and Rule Britannia,

* Very good—beautiful.

with one or two other grave performances, passed off very well, but, to the perplexing of Mr. Pritchard and surprise of the Otaheitans, a merry comic song was struck up, which obliged Mr. Pritchard to answer the queen's inquiries plainly, by saying, "No, that was not a hymn," it was "sea singing." 'God save the King' sounded more gravely, and suited better.

We landed the party almost at their own doors, and if they were half as well pleased as we were, our little preparations had not been a waste of time and trouble. Their behaviour on board was extremely correct: their habits and manners perfectly inoffensive. No doubt they are improving yearly, and the example of the missionary families has an influence over them, exceeding that of very differently disposed people by whom they are too frequently visited.

26th. At daylight this morning some of us visited the school. As I had heard of 'compulsion' and other absurdities, I went early to get there before Mr. Pritchard arrived, without having hinted at such an intention.

About the large chapel or church, groups of elderly and old people were sitting by threes and fours in a place, helping each other to read the New Testament. While one read the others listened, and, if able, corrected him. One man not less than fifty years of age, was learning to read, with spectacles. Some came in, others went out, just as they chose, for there was not any one even to watch them till Mr. Pritchard came: and during about an hour after sunrise, every day, those people, both women and men, thus instructed one another, previous to beginning their daily out-of-door labours.

In the school-house I found a number of children, waiting for their teacher, who soon arrived and gave them their tasks. The greater part of them wrote sentences on slates from his dictation, with ease and correctness. One sentence he gave them was, 'the captain wishes you happiness,' which they wrote instantly, and some of their own accord added, 'and we wish happiness to the captain.' The handwriting of many, indeed most of the elder girls and boys, was very good: and to verbal questions they replied readily. They seemed to be in good discipline, and yet a merrier or more cheerful looking

set of children I never saw. A hymn excellently, or, I ought perhaps to say, prettily sung, ended their attendance.

Returning by way of the church, I saw Hitote, his brother, and other chiefs, engaged in eager discussion. Mr. Pritchard and I went in: "You are just come in time," said they, "we are disputing about the lightning conductors on board the Beagle, and cannot determine whether they end in the ship's hold, or whether they go through her bottom, into the water." Mr. Pritchard explained: a momentary pause ensued—each seemed trying to understand the puzzling subject; when a shrewd old man, hitherto a quiet listener, remarked—"you white men are wonderfully clever, you know and do most things, I wish some of you (passing his hand over his chin in a drolly rueful manner) I wish some of you would tell us how to rid our faces of these troublesome beards!" (He had just been shaved).

The rapidity with which intelligence is communicated among savage, or partially civilised nations, has often been remarked: but I do not remember meeting with an explanation, till Mr. Nott told me it was passed verbally—from one to another—each man calling to his neighbour. No method could be speedier, where a population is numerous; as at Otaheite or New Zealand, when Cook was there.

In the course of the morning I waited upon the queen to inform her that the Beagle was then going out of the port; and that I waited only for her commands, and the letter she had promised: upon which she sent for her secretary and the chiefs; when we left her for a time. Two of the persons who had been on board our vessel the previous evening, sent me letters this morning, which are so peculiar and interesting, in many points of view, that I here insert them.

Translation of a letter from 'Mare,' one of the seven supreme judges of Otaheite; written in a round distinct hand, in his own language, and directed to me.

"Tabiti, Nov. 26, 1835.

"To you the officer of King William!

"May the peace of God be with you. This is what I have to say to you, my dear friend. I praise you with grateful feelings in my heart for your kindness to me, an insignificant man,

in giving to me a box and some other things besides. I and my wife will feel grateful to you when we look at these things. This is another thing with which I feel pleased; your having shown me the many good things on board your ship; and your men; they have great excellence, and a good character.

"That you may be saved is the wish of your servant,

"MARE."

A letter from Paofai, the brother of Hitote, directed to 'Fitirai,' is similar.

"Dear Friend, "Tahiti, Nov. 26, 1835.

"Peace be unto you and your family, in the name of God. These are my words to you. I feel very much gratified by your great kindness in giving me a trunk, and several other things. For this cause I thank you with grateful feelings. My wife and family will also feel grateful to you. Dear friends may the peace of the Messiah, who is the King of Peace, be with you. Amen. "PAOFAI."*

Among the natives of Otaheite let us not overlook the sons and daughters of the earlier missionaries. Those whom we had the pleasure of seeing did credit to the country of their parents; to Otaheite; and to those excellent persons who must have taken such pains with their education. I presume not to speak from what I have seen only, but from the corresponding accounts of others, added to what I witnessed myself.

I will now make a few general remarks, previous to quitting the island. It did not appear to me that the men of Otaheite are separated visibly into two classes, as some accounts had led us to expect. All of the higher class, whom we saw, or about whom we could learn anything, certainly were large, but rather unwieldy: yet among the lower class there were numerous stout tall men, as tall as the chiefs, and more actively made. A few were of a middle size, and a very few, low in stature: but all well-proportioned and muscular; though their muscles are not hard and knotty, like those of a hard-working white man; they

* The original letters, in the hand-writing of Mare and Paofai, are in my possession.

are rounded, and smooth. They stride along in an imposing manner, occasionally recalling ideas of the giants of history. Although, generally speaking, they are taller than the Patagonians, they do not, to the eye, appear so large. This ocular deception must arise from the better proportion of the Otaheitans. The native of Patagonia has a large, coarse looking head, with high cheek bones, and a 'mane-like' head of hair: his shoulders are high and square; his chest very wide; while to heighten the effect of these traits, each of which gives one an idea of size, a great rough mantle, made of the woolly skin of the guanaco, thrown loosely round his shoulders, hangs almost to his feet. But the Otaheitan head is singularly well formed; and, if phrenology is not altogether a delusion, few men are more capable of receiving instruction, or doing credit to their teachers, than these islanders, so often described, yet by no means enough known. Their hands, and more especially their feet, have been said to be of the Papua form; but the shape of the latter is owing, it appears to me, to their always going barefooted: and I observed their hands particularly without being able to distinguish any peculiarity whatever in the form.

The young men frequently wear a wreath of leaves, or flowers, round the head, which, though becoming, has rather a Bacchanalian appearance. Some cut their hair short, others shave the greater part of their head, but solely from caprice: not one could give me any reason beyond that which is implied in "it is the fashion."

It is seldom that one meets a native entirely naked; I mean naked excepting the girdle which is always worn: generally they have a garment, or a piece of one, obtained from a white man. These remnants, often tattered, and, among the lower classes, always dirty, disfigure them much. Those whom I saw, with only a native girdle, but whose bodies were tattowed in the old fashion, appeared to my eye much less naked than the young men, not tattowed, and only half clothed. I shall not forget the very unpleasant impression made upon my mind, at first landing, by seeing a number of females, and children, with a few men, half dressed in the scanty, dirty, and tattered

scraps of clothing, which they unfortunately prefer to their native dress. A woman, who has around her waist a substantial native garment, which falls as low as the calf of the leg; and over her shoulders, folding in front across the bosom, a mantle, or cloak, of similar material—appears to the eye of a stranger much more decently dressed than the hasty lover of novelty; who seems proud of a dirty cotton gown, tied only at the neck, and fluttering in the wind. Their Sunday dresses, however, are clean and decent, though those of other days are certainly much the contrary. An under-garment alone need be added to the women's former dress of native manufacture, to make it answer every purpose. Why should not home ingenuity, and domestic industry be encouraged?

The moral conduct and character of these islanders have undergone so much discussion; so various have been the decisions, and so varying are the opinions of voyagers and residents, that I, for one, am satisfied by the conclusion, that the good and the bad are mixed in Otaheite, much as they are in other parts of the world exposed to the contamination of unprincipled people. That the missionaries have done so much, in checking and restraining depravity, is to me matter of serious reflection. But let us also remember, that the testimony of very trustworthy witnesses shews that there, even in earlier days, iniquity did not search after those who sought not her abode!*

The Beagle's stay was too short to enable us to form any

* Cook says—"Great injustice has been done the women of Otaheite, and the Society Isles. The favours of married women, and also the unmarried of the better sort are as difficult to be obtained here, as in any other country whatever. I must, however, allow, that they are all completely versed in the art of coquetry, and that very few of them fix any bounds to their conversation. It is therefore no wonder that they have obtained the character of libertines."

In the excellent descriptions of Turnbull, we read:—"Much has been said as to the licentiousness and loose conduct of the women. It is but justice to say, that I saw nothing of this. Their ideas of decency are doubtless very different from ours; they must be judged therefore by a very different standard."

just conclusions. I witnessed no improprieties, neither did I see any thing that would not have inclined me to suppose (had I read or heard nothing of them), that their habits are, in most ways, better than those of many civilized nations. The missionaries have succeeded in carrying attention to religion, and general morality, to a high pitch: may they continue to succeed, in future years, and become an example to larger, older, and nominally wiser nations.

Is it not a striking fact, that the people of a whole country have solemnly refrained from drinking spirits: does not this act alone entitle them to respect, and high consideration? So sincere are they on this subject, that, a short time since, when they heard that a small vessel, lying in their harbour, had on board a cask of rum, which the master intended to sell to some of the residents, they went off to the vessel, and destroyed the obnoxious liquor.

Upon enforcing their first law on this subject, every part of each house was searched. They were very minute in their scrutiny, but overlooked a bottle of brandy, which Mr. Pritchard had kept in the house for medical purposes. After their search, when leaving him, he called them back and showed the bottle, saying for what purpose it had been kept. Some said, 'keep it for that purpose;' others said 'no, it is 'ava,'* destroy it! let us make no distinction, let us utterly discard the use of so baneful a liquor! have we not other medicines, about whose use there can be no doubt?' However, the milder party prevailed, and the brandy bottle would have preserved its contents had not Mr. Pritchard poured them on the ground before their eyes.†

One horrible defect in the former character of the Otaheitans has hardly been mentioned in the earlier writers. They were

* Or *cava*, *their word for intoxicating liquor of any kind.*

† I was surprised, when I first arrived at Otaheite, by finding that none of the natives who came on board would touch spirits; and that they would drink but very little wine. Afterwards, however, one chief was noticed who seemed differently disposed.

unkind, and utterly inattentive to the old and infirm :—they were yet worse: they scrupled not to destroy their aged or sick, yes, even their parents, if disabled by age or by sickness.*

Mr. Wilson assured me that in former times, when a person had lingered in sickness, they would carry him to the water-side, under pretence of bathing him, dig a hole, and bury him alive! Thus they ended the life of a young man who had been servant to Mr. Wilson, until he sickened, and, by the natives, was supposed to be dying. Mr. Wilson tried all he could do, in the way of medical assistance, and had hopes of his recovery, when he suddenly disappeared: and not until a long time afterwards could he ascertain the horrid cruelty of which the natives had been guilty!

That they do not even now pay that attention to infirm old age which, in our estimation, is a sacred duty, may be inferred from the following anecdote. Mr. Stokes rambled into a secluded spot near Matavai, where, surrounded by old trees, stood a small and tottering hut. On a filthy worn-out mat, lay a venerable looking old man, hardly covered by a ragged cloth. His only friend, an aged hobbling dog, limped to his side as if hoping that his example would excite some one to show compassion to the old man, his master.

The helpless state of this poor sufferer, whose legs were swollen by elephantiasis to an unwieldy bulk, and his utter destitution, induced Mr. Stokes to make immediate inquiries, and endeavour to get him relieved from some of his misery. It was ascertained that a daughter and son-in-law were usually living with him, but the new 'manuâ' had engrossed their attention, and the poor father had been left to the care of his faithful though helpless dog!

At Matavai the memory of the captain of H.M.S. 'Racoon,' known as the 'long captain,' also as 'Tapane matapo,' or 'Captain blind eye,' is still cherished. The conduct of both him and the officers of the Racoon, seems to have highly delighted all classes. How pleasant it is to hear a countryman,

* From enquiries made among the missionaries and natives, I convinced myself of this startling fact.

especially of one's own cloth, spoken of in such terms of friendship and respect, and how much that pleasure is increased when one reflects, that many years have elapsed since the conduct took place which caused these sensations.

Mr. Stokes passed some nights in Otaheitan cottages. He told me that the natives, both men and women, are extremely fond of their children, and are very kind to them. Not content with nursing and amusing them, they cram them as managers of poultry cause turkeys to be crammed, not exactly with pepper corns, or walnuts,* but with bananas and other nutritive food. At each end of the houses he visited there was a small fire, one being for the elder, the other for the younger folks; this was in the evening, at their last meal time.

Breadfruit, which had been previously roasted, and wild plantains brought from the mountains, were put to the fire to be warmed. Meanwhile cocoa-nuts were opened, their milk was poured into cups, made of empty nutshells, and handed about with the nuts. Each person had a nut and a cup of the milk, or juice.† Taro-root roasted was then served, together with the bread-fruit and plantain, on leaves freshly gathered; there was also a piece of brownish yellow wood, like the rotten root of a tree, hanging up in the hut, which the people sometimes eat; it is called Ti.‡ Grace was said (a duty never omitted), and a clean, comfortable meal enjoyed by the whole party. Afterwards the fires were put out, and a queer little wooden pipe passed round. The strongest tobacco is thought the best, and they like to swallow the smoke. Sometimes, instead of tobacco, they use an indigenous herb.

Before sleeping the oldest man said prayers: one of the young men read a short portion of the New Testament, and then a hymn was sung by the whole family. A lamp was kept

* The very best things for fattening turkeys.

† Cocoa-nut milk makes an indelible black stain, and is sometimes used for dyeing.

‡ The root of the Ti plant is sweet, like sugar cane of indifferent quality. Molasses has been made from it.

burning all night. A curious snuff was observed by Mr. Stokes, and from the method of using or taking it, I am inclined to think it an old custom, not imported by the white men. A substance, not unlike rhubarb in its appearance, but of a very pleasant fragrance, was rubbed on a piece of shark's skin, stretched on wood; and much it appeared to please an old man, who valued this snuff-stick so highly, that he would not part with it.

The Otaheitans are fond of going to sea, and take great interest in seeing new countries. Mr. Henry said there was no difficulty in getting a crew of natives, for boats or small vessels, provided that a promise was made to bring them back to their own island. From four to six yards of ordinary linen, or cotton cloth, with good provisions, was accounted enough remuneration for the zealous services of an able-bodied active man, during one month.

While we stayed at Otaheite we were supplied with excellent beef, and passably good vegetables; the latter however happened to be scarce. Most of the cattle belonged to the missionaries, who were trying to persuade the natives to rear them, and were beginning to succeed, though the people are fonder of their horses, of which there are a good many on the island, but ill kept and little understood.

Mr. Stokes obtained another account of the murder of the master and mate of the Truro, which says: "The master and mate of the Truro had left the northern end of Aura Island, intending to go to Otaheite; the chief of the northern district having treated them very kindly, and told them to avoid the south end of the island, because bad men lived there.

"The wind would not allow them to keep a sufficient offing; and a small canoe, with only two men, approached their boat with the apparent design of offering fruit for sale; but when near the boat they threw spears with such effect, that the white men were both killed." I place more confidence in the former account.

The seizure of a ship at Bow Island (barque Newton, of

Valparaiso, under Chilian colours, though owned by British subjects), has by some persons been supposed to have been excited by Queen Pomare: but the following statement, from Mr. Middleton, who was pilot on board the ship at the time, gives a very different idea.

The master of that vessel (named Clarke) had employed some natives of Bow Island to dive for pearl oyster-shells on his account; he had agreed to pay them a certain quantity of cloth, and to give them so much provision per month. Repeated ill-treatment, and a miserable supply of provisions (at one time only one cocoa-nut each day, without any thing else), induced the natives to think of deserting him; yet they were unwilling to lose the reward of their labours, which had been very severe. One morning he had agreed to the pilot's earnest request that the natives should have more food, and had ordered a biscuit a-piece for them! Soon after the pilot, who was charged with the care of the natives, had delivered the biscuits, the master came on deck, affected to deny his orders, snatched the biscuits away from each of them, and threw them overboard! Sullen and fierce looks were exchanged; and the pilot warned Mr. Clarke that the natives would attack him, and take the vessel, if he did not alter his harsh conduct: to which he replied, by defying half a hundred of them!

A few words from the pilot, in their own language, appeased their resentment at the moment, and the brooding storm passed over; but in the course of that day, while Middleton was away getting shells, the master beat a chief. This was an unpardonable affront; they took possession of the vessel; bound all the white people; and carried them on shore.

What extraordinary mildness among savages!

When the pilot returned with his cargo of shells, he saw none of the crew; and at first hesitated to approach. But the natives seeing this, hailed him, saying, that they did not intend to hurt any one; that they were his friends; and had touched none of his things. This he found true. His own cabin was shut up—untouched; though every other place in the ship had

been ransacked, and the furniture of the hull torn to pieces. They afterwards allowed the pilot to take the vessel to Otaheite, where she was sold by auction for the benefit of those who had insured her.

Obtaining the pearl oyster-shell is well known to be a difficult and dangerous employment: though the divers at the Paamuto Islands seldom go down deeper than four or five fathoms, they remain at the bottom from one to three minutes, sometimes bringing ten shells at one time to the surface; and during four or five hours they continue this extreme labour. After a long dive, blood gushes from the ears and nose; and the poor diver is quite blind during ten or twenty minutes. He may then be seen squatting on the reef, his head between his knees, and his hands spread over his face—a pitiable object: yet for the small monthly pay of ten or twelve yards of calico, or coarse linen, do those hard-working natives endure such straining exertions!

At some of the islands, a good hatchet or axe will purchase as many shells as would fill a small canoe.

In making their voyages from one island to another, the natives steer by the stars, by the direction of the wind, and the flight of birds; but their ideas of distance are extremely vague. Those who have seen a compass used in a boat esteem it highly. Middleton, who had made many voyages among the Low Islands, in whale-boats manned solely by natives, said that they always expressed astonishment at his predicting the time at which they would arrive at their destination. Sometimes they asked if he could see the land in the compass; more than once they exclaimed, "Ah, you white men! you know every thing! What simpletons we are, notwithstanding all our canoes!" The canoe occupies so much time and labour in constructing, and is so essential to their every purpose, that a fine one is to the natives of any of these islands what a three-decker is to us.

The queen's letter being finished, and sent to me by her messenger, I will give the translation made for me on the spot by Mr. Pritchard.

"Tahiti, November 26, 1835.

"To the Captain of the ship of war:

"This is what I have to say to you, before you leave us, respecting the debt. We have 2,338 dollars, which we are now taking to the person who is to receive this property, who is Mr. Bicknell. We are now collecting the remainder.

"Peace be with you,

"And with your king, William,

"(Signed) POMARE VAHINE.

"(Witnessed by) HITOTE and TAATI."

Taking leave of the queen was our next engagement. At the door of her house was a table, on which the loyal and kind-hearted natives were depositing their dollars, and fractions of dollars: to enable her to pay the debt. To me it was an affecting and an unpleasing sight,—not the proofs of loyalty and affection—Heaven forbid!—but the reflection that those individuals had in no way done wrong, and that their dollars had been hardly earned and were highly prized. To show how little a metallic currency was then understood, I may mention that many individuals wished to subscribe fractions, who could not afford a whole dollar; but they were prevented, at first, because the collector knew not how to reckon a fraction of a dollar. Mr. Pritchard easily explained this, and then the smaller coins, (rials, and two rial pieces,) were soon numerous upon the table. Frequently, while walking about the island, men had asked me to give them a dollar in exchange for its value in small coin, which, to their surprise, I was always glad to do, when I had dollars with me.

About Pomare was rather a large assemblage of maids of honour, but their postures and appearance, as they sat about upon the floor, were not the most elegant. The contrast between our own neatly dressed, and well-mannered country-women, whom we had just left in the house of Mr. Pritchard, was rather striking as compared with these brown and oily Otaheitans: but our visit was not long, and we tried to make it agreeable. Returning by the beach, we talked for some time

with Taati, Utaame, and others. Old Ua was there also, to thank me for some trifles sent to him by one of the queen's maidens, who had attended her when on board the Beagle; and I was glad to hear that the damsel had executed her commission in a most punctual manner.*

They expressed great anxiety about the arrival of another man-of-war, with, perhaps, harsher orders: and were very desirous to know when I should arrive in England, and when they would hear from me. I endeavoured to satisfy them on these points, before Mr. Darwin and I wished them farewell (in the most earnest meaning of the word) and, after taking leave of Mr. Pritchard's family, embarked. Mare and Mr. Pritchard accompanied us to the vessel, then under sail outside the reefs, —wished us a great deal more happiness than most of us will probably enjoy, and returned with Mr. Henry and the pilot in their own boats. We made all sail, and soon lost sight of this beautiful island.

Easterly winds swept us along a smooth sea for many days, after leaving Otaheite.† At daylight on the 3d of December we saw Whylootacke (or Wailutaki) a small group of islets encircled by a coral reef, from four to eight miles in diameter. The principal one is 360 feet high, and nearly four miles long. There was a native missionary upon it, educated at Otaheite. On the 11th a few white tern were seen near the ship, (in lat. 28°. S. and long. 180°.) and as she was about 120 miles from any land then known, this notice may help to show within what limits the sight of those birds may be considered to indicate the vicinity of land. I am not at all surprised that the early voyagers should have taken so much notice of the appearance and flight of birds, when out of sight of land; since in my very short experience I have profited much by observing them, and I am thence led to conclude that land, especially small islands or reefs, has often been discovered in consequence of watching

* She was his grand-daughter.

† We sailed with the land breeze, which at Otaheite is so regular that a ship might sail round the island (in successive nights) with the wind always a-beam, and off the land!

particular kinds of birds, and noticing the direction in which they fly, of an evening, about sunset. Short winged birds, such as shags or boobies, seldom go a hundred miles from land, and generally return to their accustomed roosting place at night; and even those with longer wings which fly farther, do not habitually remain on the wing at night, though they are known to do so sometimes, especially if attracted by a ship, on which, doubtless, they would perch if she were to remain motionless, and her crew were to be quiet for a short time. Mistakes may occur in consequence of floating carcases, trunks of trees, wrecks of vessels, or drifting seaweed, all which attract birds and afford them rest at night; but, generally speaking, if there is land within fifty miles of a vessel, its existence will be indicated, and the direction in which to look will be pointed out by birds. Decided oceanic fowl, such as albatrosses and all the petrel family, sleep upon the surface of their favourite element; therefore the flight of that description of bird can be no guide whatever, except in the breeding season, when they frequent the vicinity of land.

Until I became aware of these facts, the discovery of the almost innumerable islands in the great ocean of Magalhaens, (erroneously, though now probably for ever called Pacific,) caused great perplexity in my mind. That Easter Island, for instance, such a speck in the expanse, and so far from other land, should have been—not only discovered—but repeatedly visited and successively peopled, by different parties of the human family, seemed extraordinary, but now, connecting the numerous accounts related by voyagers of canoes driven hundreds of miles away from their desired place, with these facts respecting birds, much of the mystery seems unravelled.

Every one is well aware that uncivilized man is more attentive to signs of weather, habits of animals, flight of the feathered tribe, and other visible objects, important to his very existence, than his educated brother,—who often diminishes the perceptive faculties of the mind, while he strengthens the power of reflection and combination.

Before arriving at New Zealand I will add a very brief remark or two about the Navigators, the Friendly, and the Feejee Islands. At the first mentioned, where De Langle and Lamanon were massacred, there is now a prosperous mission established by the exertions of the London Missionary Society, and I hear that a large proportion of the islanders are no longer blood-thirsty savages. At the Friendly Isles much opposition had been encountered, chiefly in consequence of former hostilities brought on by a runaway convict, who excited the natives to murder the first missionaries who went there: and the prejudices then caused are scarcely yet removed. Mariner's account of the Tonga, or Friendly Islands, is considered by English residents at Otaheite, to be a very accurate one,* and is full of interesting information. I obtained a few notices of the Feejee group from the owner of a schooner that was lost there; and as they are comparatively little known, my mite may as well be contributed in this place to the general fund.

The whole group of islands called Feejee, or Fidji, by Europeans, but of which the native name is, I believe, Navihi—is of very dangerous navigation: not only on account of coral reefs, scarcely hidden by a few feet of water, but because the natives are ferocious and treacherous cannibals. My informant† said, that the master of his schooner ‡ (who was long detained a prisoner among them, his life being spared in hopes of obtaining a large ransom), was an unwilling participator in a cannibal feast on some prisoners of war, taken in an attack on a neighbouring island. That they have an idea of the superiority of white men may be inferred from a message sent previous to this battle, saying, "We shall kill and eat you all—we have seven white men to fight for us!" Although many unfortunate seamen have fallen victims to the thoroughly savage Feejee Islanders, a few whites have not only escaped death,

* Among a variety of very curious facts mentioned by Mariner, one may be noticed here, because I shall have to refer to it in a future page. I mean the rat shooting practised by the chiefs as an amusement.

† Mr. Green, of Valparaiso.

‡ 'The Terrible;' Clark, master.

but have established themselves in some authority among the natives. A man known by the name of Charles, was more respected than almost any of their own chieftains, on account of his extraordinary valour: and so highly was he considered by all of them, that he was allowed to have a hundred wives.*

No small vessel ought to venture near any of the Feejee islands without being armed, and prepared to act defensively. Boarding nettings, if she has them, should be triced up; and no professions, or appearance of friendship, ought ever to put strangers off their guard. In case of an unavoidable rupture, a chief, the highest in rank that can be secured, should, if possible, be made prisoner—by force if fair means fail; and he should be made to understand that his life depended upon the conduct of his countrymen. Of course no right-minded man would act otherwise than to avoid or prevent any hostilities with ignorant savages, so long as he could do so without risking the lives of his own countrymen; but he must remember that, in hand to hand fighting, a band of fierce savages, armed with a variety of weapons, are more than a match for seamen unused, perhaps, to muskets, and equally awkward with pistols or swords: however brave and determined they may be, if dispersed, as usually happens, they are sure to be by far the greatest sufferers. I here allude to those savages who are really warriors. At some islands, and other places, they are comparatively timid, though seldom less treacherous.

Remarking on the criticisms of such as have animadverted on officers who found themselves obliged to take harsh measures in self-defence—La Pérouse, whose humanity and good sense not one individual among the nations who regret his untimely loss, ever questioned, says, " I am, however, a thousand times more angry with the philosophers who extol the savages, than with the savages themselves. The unfortunate Lamanon, whom they massacred, told me the very

* Only chieftains of note are able to maintain many wives: very few had so large a number as that man: scarcely any had more.

evening before his death, that the Indians (meaning the natives of the Navigator Islands) were worthier people than ourselves!

"Observing rigidly the orders I have received, I have always treated them with the greatest mildness; but I confess to you, that if I were to undertake another voyage of the same kind, I would demand different orders.

"A navigator, on quitting Europe, ought to consider the savages as enemies, very weak indeed, and whom it would be ungenerous to attack and barbarous to destroy, but whose assaults he has a right to prevent when authorised to do so by well-grounded suspicions."—Voyage of La Pérouse, vol. iii. p. 413.

When a vessel approaches the Feejee Islands, numberless canoes put off, and soon surround her so closely, that unless the wind is pretty fresh, she is placed in no slight jeopardy. At such a time the principal chief ought to be invited on board; and presents should be given to him, while he is made to understand that it is necessary he should order the canoes to keep off. His commands will be implicitly obeyed; and while he is on board, and well treated, there will be less risk; but he must not be relied on implicitly.

Some of the canoes are very long, from sixty to eighty feet in length: and when two such are fastened together, with a light structure erected upon them, the men who stand on their raised deck are above the level of a small vessel's bulwark.*

* Heaps of stones form not only ballast but ammunition for these formidable canoes. Indeed, among all savage nations, a stone held in the hand, or thrown, perhaps from a sling, is a common, and by no means despicable weapon. These easily collected missiles, and the manner of using them, recal to mind the victory gained by the English fleet over that of France, off Sluys, on the 22d of June 1340; in which "though the battle was fought on the sea, it could scarcely be called maritime; for little depended on the accidents of winds and waves, or on the skill of a commander in availing himself of them. Piles of stones on the deck formed a part of the magazines. The archers of both nations used their cross-bows as if they had been on land. They employed grappling irons for boarding, and came to such close quarters as to exhibit a succession of single combats."—Mackintosh, vol. i. p. 294.

At the time that Mr. Clark was a prisoner among them, a musket was considered to be a fair ransom for a white man; and (perhaps fortunately for him) they had then an idea that the flesh of white men was not wholesome.

They have many articles of trade, such as shells, tortoise-shell, coral, spermaceti, whales' teeth, 'bicho de mar,' mats of exquisite workmanship, fruit, and provisions: among the latter are pigs and 'iguanas.' Excepting a great alligator, the Feejee men never saw an animal on their island larger than a dog or a pig. The monster just mentioned made its appearance on the island Pau, the largest of the group, some years ago, to the extreme consternation of the natives, who thought it was a sea-god. After destroying nine people, at different times, the 'enormous lizard,' as they called it, was caught by a strong noose passed over the bough of a large tree, the other end of the rope being held at a distance by fourteen men, who lay concealed, while a daring old man offered himself as a bait to entice the brute to run into the snare.*

Mr. Mariner supposed that this alligator, or crocodile, had made its way from the East Indies; a curious instance of the manner in which occasional migrations take place. On an island in that neighbourhood, called Lotooma, Mariner heard of two enormous bones, not at all like any human bones, nor resembling those of a whale. The natives of the island have a tradition that they belonged to a giant, who was killed in former ages by the united attack of all the population.†

On the 16th of December indications of a westerly wind appeared; and for the next three days we were buffeted by a hard gale from south-west to south-east. This was the more annoying on account of the chronometer measurement, because it was accompanied by a sudden change of temperature, which I thought would alter their rates. During the twenty-four hours previous to this southerly gale commencing, we found the current setting northward, about a mile an hour; but after the

* A feat hardly surpassed by Mr. Waterton.—Mariner's Tonga Islands, vol. i. pp. 268, 269, 270, in Constable's Miscellany, vol. xiii.

† Ibid. vol. i. p. 262.

hardest part of the gale was over, it set to the south-west, at about the same rate.

Both before and during these three days, I was struck by the precise similarity of the clouds, sky, peculiarities of wind, and weather, to what we had been accustomed to meet with off the coast of Patagonia: and I may here remark that, throughout the southern hemisphere, the weather, and the turn or succession of winds, as well as their nature and prognostications, are remarkably uniform.

On the 19th we made the northern hills of New Zealand; but tantalized still by adverse winds, all the next day was spent in beating to windward, and not till the 21st could we succeed in obtaining access to the Bay of Islands.

We were all a good deal disappointed by the view. After Otaheite, the northern part of New Zealand had, to our eyes, a very ordinary appearance.

CHAPTER XXIV.

New Zealand—Bay of Islands—Kororareka—Fences—Flag—Paihia—Natives—Features—Tattow—Population—Colour—Manner—War-Canoes—Prospects—Mackintosh—Fern—Church—Resident—Vines—Village—Houses—Planks—Cooking—Church—Marae—First Mission—Settlers—Pomare—Marion—Cawa-Cawa—Meeting—Chiefs—Rats—Spirits—Wine—Nets—Burial—Divine Service—Singing—Causes of Disturbances—Reflections and Suggestions—Polynesian Interests—Resources for Ships in the Pacific.

Dec. 21. At daylight we were about four miles from Cape Brett, and nearly the same distance from Point Pococke; while in the north-west the Cavalle islands showed themselves indistinctly. A light easterly breeze enabled us to steer towards the Bay of Islands.—Few places are easier of access than this bay: excepting the Whale-rock, whose position is well ascertained, there are no hidden dangers: and within the line of the heads, there is little or no current deserving notice: outside that line, the current generally sets to the south-east about a mile an hour.

Compared with mountainous countries, the northern parts of New Zealand are not high; but they cannot be described as low land. Perhaps the expression, 'moderately high land,' may convey an idea of such as is more than two hundred, but less than twelve hundred feet above the level of the sea; which are the limits I have in view. In distant profile the land inclines too much to regular and convex outlines to be picturesque. It is only along the sea-coast that steep cliffs, and a more broken boundary, cause enough variety to please the eye of a lover of landscape. Approaching nearer, the interior of the country, varied by hill and valley, with an agreeable mixture of woodland and cleared ground, makes a favourable impression upon the mind, from the natural association of ideas of capability and cultivation; but whether it pleases the eye, as a picture, must depend probably as much upon the kind of scenery lately viewed, as upon preconceived ideas. With us the recent im-

pressions caused by Otaheite, rendered the view of New Zealand, though novel, rather uninteresting.

Cape Brett is a bold promontory, higher than any neighbouring land. When first seen from a distant offing, while no other land is in sight, it makes like a quoin-shaped island. As the sea around is free from danger, it is an excellent landfall for shipping approaching this part of the coast. Detached from, but near the cape, is the rock, with a hole or archway through it, named by Cook, 'Piercy Islet.'

Point, or rather Cape Pococke, is a steep cliffy headland, of a dark colour, rather picturesque in its appearance: near it there is a conical rocky islet. Numerous islands, small and large, are scattered over the bay; an expanse of water really about ten miles square, though to the eye it appears much smaller, because so many islands intercept the view.

Near the middle of the west side of the bay is the opening of Kororareka Harbour, a secure but shallow port; better adapted to merchant shipping than to the use of men-of-war.

After passing Cape Pococke, and advancing about a mile, a small settlement appeared in the northern bight of the bay; and the English look of the houses was very gratifying to us. This, I found, was Tipuna, or Rangihoua, the place where the first settlement of white men was made upon the shores of New Zealand. On the farther side of Kororareka other houses were then seen—neat, and apparently comfortable dwellings, well situated under the lee of the western hills, while close by, on our right hand, a curious line of flat-topped black rocks, a few feet only above the water, reminded us of the remains of a great mole.

Within the line from Cape Pococke to Cape Brett there is not more than thirty fathoms of water; and every where, excepting close to the rocks, the bottom is soft and tenacious, so that an anchor may be let go in any part. We saw small straggling villages of native huts in many places, and around each of them a substantial fence of palisaded posts and rails. These fences, and the cultivated spots of ground which appear as you proceed up the bay, might give a more favourable idea of the

native habits than they yet deserve; for the fences are fortifications—defences against intruding men, not cattle.

In a conspicuous solitary position, opposite to the entrance of Kororareka harbour, a single English house, without another building within a mile of it, nor any protection except that of a tall staff, on which waved the British Union-jack, presented a contrast to the fortified villages; and forcibly impressed one's mind with a conviction of the great influence already obtained over the formerly wild cannibals of New Zealand.

The entrance to the harbour is narrow, even to the eye, but it is still more confined by shoal water. In entering or leaving it, a ship ought to keep close to Kororareka Point: after rounding that point, at the distance of a cable's length, the sheltered part of the port is seen, looking like the mouth of a navigable river. On the western side, the native village of Kororareka, a straggling collection of low huts, strongly palisaded; on the eastern, three or four English houses, the head-quarters of the missionaries; on the rising ground, near the water, far up the harbour, several more houses and villages—gave an appearance of population and successful exertion as surprising as satisfactory. Near a detached house of European form, a large white ensign excited our curiosity; and we found it was the flag of New Zealand; differing only from the ensign of St. George in the upper 'canton,' next the staff, where, instead of a Union-jack, there is a red cross on a blue field; each quarter of the blue field being 'pierced' by a white star.

We anchored between Kororareka and Paihia (the missionary settlement): farther up the harbour were several whale-ships which had anchored there, I was told, in order to avoid the spirit-shops of Kororareka.

From this anchorage the view on all sides is pleasing. An appearance of fertility every where meets the eye; but there are no grand or very remarkable features. There is nothing in the outward character of the country corresponding to the ferocious sanguinary disposition of its aboriginal inhabitants. The British resident, some English settlers, and two of the

native chiefs came on board during the afternoon; and in the evening I made acquaintance with Mr. Baker, a missionary residing at Paihia. The resident's boat was manned by young Zealanders, whose smooth faces, cropped hair, Scotch caps, and jackets and trowsers, were much approved of (perhaps hypocritically), by a chief whose long war-canoe was well-manned by athletic savages with half-naked figures, faces deeply-scarred —rather than tattowed—and long curly hair.

We were amused by finding that the Beagle had been mistaken for a ship of the (so called) Baron de Thierry. Her small size; the number of boats; and her hoisting a white ensign (thought to be that of New Zealand), so completely deceived them all, that one boat only approached reluctantly, after we had anchored, to reconnoitre; but as soon as it was known that the expected intruder had not arrived, visitors hastened on board. Had he made such an experiment, he would hardly have escaped with life, so inveterate and general was the feeling then existing against his sinister and absurd attempt. He would indeed have found himself in a nest of hornets.

In walking about the missionary establishment at Paihia, I was disappointed by seeing the natives so dirty, and their huts looking little better than pigstyes. Immediately round the dwellings of the missionaries I expected a better state of things; but I was told, that their numerous and increasing avocations engrossed all their time; and that the native population were slow in adopting habits, or even ideas, of cleanliness.

My first impression, upon seeing several New Zealanders in their native dress and dirtiness was, that they were a race intermediate between the Otaheitans and Fuegians; and I afterwards found that Mr. Stokes and others saw many precise resemblances to the Fuegians, while every one admitted their likeness to the Otaheitans. To me they all seem to be one and the same race of men, altered by climate, habits, and food; but descended from the same original stock.

Of a middle size, spare, but strong frame, and dark complexion, the New Zealander's outward appearance is much in his favour; hardiness and activity, as may be expected, he

eminently possesses. The expression of his features indicates energy, quickness of apprehension, without much reflection; and a high degree of daring. Ferocity is a striking trait in the countenances of many among the older men, and it is increased considerably by the savage style in which their faces are disfigured, or, as they think, ornamented by lines cut in the skin with a blunt-edged iron tool, and stained black. These lines are certainly designed with as much taste, even elegance, as could possibly be exerted in such disfiguring devices. The expression which, it appears, is anxiously desired, is that of a demon-warrior. All their old ideas seem to have had reference to war. Well might the Spanish poet's description of the Araucanians have been applied to the New Zealanders in their former condition:—

> "Venus y Amor aqui no alcanzan parte,
> Solo domina el iracundo Marte!"

The lines upon the face are not, however, arbitrary marks, invented or increased at the caprice of individuals, or the fancy of the operator who inflicts the torture; they are heraldic ornaments, distinctions far more intelligible to the natives of New Zealand than our own armorial bearings are to many of us, in these unchivalric days. Young men have but few: slaves, born in bondage, or taken young, have scarcely any marks; but the older men, especially the more distinguished chiefs, are so covered with them that the natural expression of face is almost hidden under an ornamented mask. One object of the tattowing, is to prevent change of features after middle age. Some of the women, whom the missionaries endeavoured to persuade not to follow this practice, said, "Let us have a few lines on our lips, that they may not shrivel when we are old."

Every one has heard of, and many people have seen the war-dance. What exaggerated distortions of human features could be contrived more horrible than those they then display? What approach to demons could human beings make nearer than that which is made by the Zealanders when infuriating, maddening themselves for battle by their dance of death!

NATIVE OF KING GEORGE SOUND

NEW ZEALANDER

NEW ZEALANDERS.

Published by Henry Colburn, Great Marlborough Street, 1838.

The hair of a New Zealander is naturally luxuriant, though rather coarse; its rough, free curliness in an unadorned, almost untouched state, heightens that expression of untameable ferocity which is so repulsive in the older men, especially in those of inferior degree. Many of the young women are good-looking; and they dress their hair with some pains, and not a little oil.

Although cannibalism and infanticide have ceased in the northern parts of New Zealand, the aboriginal race is decreasing. The natives say frequently, 'The country is not for us; it is for the white men!' and they often remark upon their lessening numbers. Change of habits, European diseases, spirits, and the employment of many of their finest young men in whale-ships (an occupation which unhappily tends to their injury), combine to cause this diminution. Wearing more clothes (especially thick blankets), exposes them to sudden colds, which often end fatally. We were surprised at seeing almost every native wrapped up in a thick blanket, perhaps even in two or three blankets, while we were wearing thin clothing.

The countenances of some of the men (independent of the tattowing) are handsome, according to European ideas of line beauty. Regular, well-defined, and high features are often seen; but they are exceptions, rather than the usual characteristics. Generally speaking, the New Zealander has a retreating and narrow forehead—rather wide, however, at the base; a very prominent brow; deeply-sunk black eyes, small and ever restless; a small nose, rather hollow, in most cases, though occasionally straight or even aquiline, with full nostrils; the upper lip is short, but that and the lower are thick; the mouth rather wide; white and much blunted teeth; with a chin neither large nor small, but rather broad. Some have higher and better heads, and a less marked expansion of brow, nostrils, and lips; others, again, are the reverse: usually, their eyes are placed horizontally; but some are inclined, like those of the Chinese, though not remarkably; indeed not so much so as those of a Scotchman whom I met there. Among the women I noticed a general depression of the bridge of the nose, and a flat frontal region.

Few engravings, or paintings, show the real expression, features, or even colour of the Polynesian tribes. They give us a half naked, perhaps tattowed* man or woman; but the countenance almost always proves the European habits of the artist. The features have a European cast, quite different from the original, and the colouring is generally unlike; especially in coloured engravings.

The general complexion of both women and men is a dark, coppery-brown; but it varies from the lightest hue of copper to a rich mahogany or chocolate, and in some cases almost to black. The natural colour of the skin is much altered by paint, dirt, and exposure. Before closing this slight description of the personal appearance of the Zealanders, I must allude to the remarkable shape of their teeth. In a white man the enamel usually covers all the tooth, whether front or double; but the teeth of a man of New Zealand are like those of the Fuegians, and at a first glance remind one of those of a horse. Either they are all worn down—canine, cutting-teeth, and grinders—to an uniform height, so that their interior texture is quite exposed, or they are of a peculiar structure.†

The New Zealanders' salutation has often been talked of as 'rubbing noses,' it is, in fact, touching, or crossing them; for one person gently presses the bridge of his nose across that of his friend. Mr. Darwin informed me that when a woman expects to be saluted by a person of consequence, in the 'nose pressing' manner, she sits down and makes a droll grunting noise, which is continued, at intervals, until the salute has been given.

The usual manner of the native is very inferior. Accustomed to a low, wretched dwelling, and to crouching in a canoe, his

* Amoco is the native word for the tattow marks.

† This apparent wearing away of the teeth is not found in the Zealanders alone. The Fuegians, Araucanians, and Society Islanders show it more or less, and it is very remarkable among the natives of New Holland. I have also seen some white men (Europeans) with similar teeth, but they were all elderly; whereas in some young savages I have noticed incisors shaped rather like those of a horse.

habitual posture of rest is squatting on his hams, or upon the ground, with his knees up to his chin; hence, also, his limbs are rather inferior in their shape. But arouse his spirit, set him in motion, excite him to action, and the crouching, indolent being is suddenly changed into an active and animated demoniac. The Zealander is extremely proud; he will not endure the slightest insult. A blow, even in jest, must be returned!

Every one has seen or heard so much of their weapons and canoes, that it is almost superfluous to speak of them; yet, in examining one of their larger canoes—seventy feet in length, from three to four in width, and about three in depth—I was much interested by observing what trouble and pains had been taken in building and trying to ornament this, to them, first-rate vessel of war. Her lower body was formed out of the trunk of a single tree—the New Zealand kauri, or cowrie—the upper works by planks of the same wood; the stem and stern, raised and projecting, like those of the gallies of old, were carved and hideously disfigured, rather than ornamented, by red, distorted faces with protruding tongues and glaring mother-of-pearl eyes. Much carving of an entirely different and rather tasteful design* decorated the sides. Beneath the 'thwarts,' a wicker-work platform, extending from end to end, served to confine the ballast to its proper position, and to afford a place upon which the warriors could stand to use their weapons. From forty to eighty men can embark in such canoes. But their day is gone! In a few years, scarcely a war-canoe will be found in the northern district of New Zealand.†

Judging only from description, the largest canoes ever seen by the oldest of the present generation, must have been nearly ninety feet in length; formed out of one tree, with planks attached to the sides, about six or seven feet wide, and nearly as much in depth. Several old men agreed, at different times, in this account; but perhaps each of them was equally inclined to magnify the past.

* Arabesque, like the ornaments at Otaheite.

† North of latitude 38° S.

New Zealand much requires assistance from the strong but humane arm of a powerful European government. Sensible treaties should be entered into by the head of an over-awing European force, and maintained by the show, not physical action, of that force until the natives see the wonderful effects of a changed system. Finding that their protectors sought to ameliorate their condition, and abolish all those practices which hunger, revenge, and ignorance probably caused, and alone keep up; that they neither made them slaves, nor took away land without fair purchase; and that they did no injury to their country, or to them, except in self-defence—even then reluctantly—would give the natives satisfaction and confidence, and might, in a few years, make New Zealand a powerful, and very productive country. I say powerful, because its inhabitants are very numerous, and have in themselves abundant energy, with moral, as well as physical materials; productive also, because the climate is favourable; the soil very rich; timber plentiful, and very superior; minerals are probably plentiful; flax is a staple article; corn and vines are doing well; and sheep produce good wool.

While our thoughts are directed to the natives of New Zealand, let us refer to what Sir James Mackintosh says of the former savages of our own island.

"B.C. 54.—At the time of Cæsar's landing, the island of Great Britain was inhabited by a multitude of tribes, of whom the Romans have preserved the names of more than forty. The number of such tribes living in a lawless independence, is alone a sufficient proof of their barbarism. Into the maritime provinces southward of the Thames, colonies probably recent from Belgic Gaul began to introduce tillage; they retained the names of their parent tribes on the continent; they far surpassed the rest in the arts and manners of civilized life. The inhabitants of the interior appear to have been more rude and more fierce than any neighbouring people. The greater part of them raised no corn; they subsisted on milk and flesh, and were clothed in the skins of the beasts whom they destroyed for food. They painted and punctured their bodies, that their

aspect might be more horrible in war. The use of carriages in war is a singular instance of labour and skill among such a people. Their domestic life was little above promiscuous intercourse. Societies of men, generally composed of the nearest relations, had wives in common. The issue of this intercourse were held to belong to the man (if such there should be) who formed a separate and lasting connexion with their mother. Where that appropriation did not occur, no man is described as answerable for the care of the children."

Again, Sir James says—

"The Britons had a government rather occasional than constant, in which various political principles prevailed by turns. The power of eloquence, of valour, of experience, sometimes of beauty, over a multitude, for a time threw them into the appearance of a democracy. When their humour led them to follow the council of their elders, the community seemed to be aristocratic. The necessities of war, and the popularity of a fortunate commander, vested in him in times of peril a sort of monarchical power, limited by his own prudence, and the patience of his followers, rather than by laws, or even customs. Punishment sprung from revenge: it was sometimes inflicted to avenge the wrongs of others. It is an abuse of terms to bestow the name of a free government on such a state of society: men, in such circumstances, lived without restraint; but they lived without security. Human nature, in that state, is capable of occasional flashes of the highest virtues. Men not only scorn danger, and disregard privation, but even show rough sketches of ardent kindness, of faithful gratitude, of the most generous self-devotion. But the movements of their feelings are too irregular to be foreseen. Ferocious anger may, in a moment, destroy the most tender affection. Savages have no virtues on which it is possible to rely."

Speaking of missionaries, the same historian states, that—

"Our scanty information relating to the earliest period of Saxon rule, leaves it as dark as it is horrible. But Christianity brought with it some mitigation. A.D. 596. The arrival of

Augustine in Kent, with forty other missionaries, sent by Gregory the Great to convert the Saxons, is described in picturesque and affecting language by Bede, the venerable historian of the Anglo-Saxon church. It cannot be doubted that the appearance of men who exposed themselves to a cruel death for the sake of teaching truth, and inspiring benevolence, could not have been altogether without effect among the most faithless and ruthless barbarians. Liberty of preaching what they conscientiously believed to be Divine truth, was the only boon for which they prayed."

22d. On the little island of Paihia, where our instruments were landed for observations, the remains of half-burned human bones were found: and as the dead are not burned in this country, they must have been the remains of a former meal. It was difficult to decide upon the time which had elapsed since that feast was made, by the appearance of the bones. They might have been covered by earth for some time, and only lately exposed; or they might have been the remains of a very modern feast, indulged in upon a little island to which it was not probable that a missionary, or any one who might give information to him, could approach unperceived.

We were much struck by the beautiful appearance of an evergreen tree, resembling an ilex, or a large myrtle, when seen from a distance; whose bright red flowers, in large clusters, upon the dark green foliage, gave an effect which I longed to see transferred to an English garden. This tree seemed to be common. After landing, the fern attracted more notice than any other vegetable production: every where in New Zealand this useful plant is found. Why useful? may be thought. Because it was one principal article of food, before the introduction of potatoes. Owing to its abundance, and to the edible, as well as tolerably nutritious, nature of its roots, no man can ever starve in New Zealand who is able to gather fern: but that it is not a pleasant food may be inferred from the fact that no native eats fern-roots when he can get potatoes. Where the fern grows thickly, and high, the soil is known to be

rich: where it is small, and scarce, the land is not worth cultivating.*

Mr. Williams, the elder, formerly a lieutenant in the navy, was absent on an exploring and negociating expedition to the southern parts of the island. I much regretted having missed seeing him, as he was considered the leading person among the missionary body in New Zealand; and was said, by every one, to be thoroughly devoted to the great cause, in which he was one of the first, and most daring. I walked with Mr. Baker about the little village, or hamlet, of Paihia. A substantial stone building I thought must be the church; but was a good deal disappointed at being shown a small low edifice, as the place of worship; and hearing that the large stone house was the printing establishment. This I did not like; for I thought of the effect produced on ignorant minds by the magnificence of Roman Catholic churches. No doubt education overcomes superstitious ideas and observances; and the devotion of an enlightened man is not increased or diminished by the style, or by the decorations of a building: in him probably no building made by hands would excite such emotions as the starry temple of a cloudless sky. But ought he, therefore, to despise, or think lightly of those outward forms, and ceremonious observances, which influence ignorant people, who see without thinking; and are too much guided by that which makes a vivid impression. Would a little outward show do any harm among such ignorant human beings as the savages of New Zealand; or among Fuegians, and New Hollanders? And may one not expect that an intelligent native should notice that the 'House of God' is in every respect inferior to the other houses which they see erected by Christians?

Paihia is a pretty spot. The harbour of Kororareka lies in front; and an amphitheatre of verdant hills forms the back ground. But it must be hot during the summer, as it is in a hollow, facing the sun. A visit to Mr. J. Busby, the 'British

* Humboldt mentions fern-roots being used for food near the Orinoco.

Resident,' at his house (protected by the flag, as I have already mentioned) occupied Mr. Darwin and myself some time. Like most of the missionary dwellings, it is a temporary boarded cottage, intended only for present purposes. Mr. Busby was taking great pains with his garden; and among other plants he anticipated that vines would flourish. Those at Waitangi (the name of his place) are favoured by climate, as well as by the superintendance of a person who so thoroughly understands their culture. At a future day not only New Zealand, but Van Diemen's Land, and all New Holland, will acknowledge the obligation conferred upon them by this gentleman, who made a long and troublesome journey through France and Spain solely for the purpose of collecting vines for Australia, his adopted country.

Mr. Busby's official occupations at New Zealand appeared to me of a very neutral character. An isolated individual, not having even the authority of a magistrate, encircled by savages, and by a most troublesome class of his own countrymen, I was not astonished at his anxiety to receive definite instructions, and substantial support; or at the numerous complaints continually made by the English settlers.

Afterwards we went to Kororareka. On a sandy level, narrowly bounded by a low range of hills, or rather rising grounds, stands the principal assemblage of houses in the island; or as the missionaries say, 'in the land'. I have said assemblage of houses, because it did not agree with my ideas of a town, a village, a hamlet, or even an Indian encampment. Near the beach were a few small cottages which had once been white-washed. At the foot of the hills were two or three small houses of European build; but the remaining space of ground appeared to be covered by palings, and pig-styes. The temporary enclosures which are made in a market-place, for cattle, might give an idea of the appearance of these sadly wretched dwelling places. The palings, or palisades, are intended to be fortifications: they are high, sometimes eight or ten feet; and, almost encircling the whole, a stronger palisade is fixed, but so inefficiently that either strength, an axe, or fire, would ensure

an entrance to resolute men. There is neither embankment nor ditch. Within the small square spaces, enclosed by the slighter palings, are the huts of the natives: the angular, low thatched roofs of which are scarcely set off from the ground by walls a foot or two in height. These roofs slope downwards, lengthwise as well as sideways; so that the front of the hut is the highest part. The upper point of the roof may be eight feet from the ground; the space of ground occupied, about ten square feet; seldom more, indeed usually less. Besides the door, through which a man cannot pass excepting upon his hands and knees, there is neither window, nor aperture of any kind. The New Zealand 'order of architecture,' is marked by two wide planks placed edgeways in front, joined together at the top by nails or pegs, and forming a wide angle, in which the space is filled up, excepting a door-way two feet square, with materials similar to those of the walls and roof, namely wicker work, or 'wattling,' covered by a thatching of broad flag leaves or rushes. The eaves of the roof project two or three feet beyond the front; so likewise do the side walls. In this sort of porch the family sit, eat, and, in the daytime, often sleep. At night most of them huddle together, within what, in every respect, deserves the name of a sty: even a Fuegian wigwam is far preferable, for as that is frequently left vacant during many successive weeks, heavy rains and a cold climate are antidotes to any particular accumulation of dirt. In a fine climate, surrounded by beautiful trees and luxuriant herbage, can one account for human nature degrading itself so much as to live in such a den? Is it not that the genuine, simple beauties of Creation are understood, and enjoyed, only in proportion as man becomes more refined, and as he differs more from his own species in what is falsely called a state of nature.

I was inquisitive about the large planks, generally painted red, which appeared in front of every house. The natives told me that such boards had always been made by their ancestors, before tools of any metal were seen in the land: they were from twelve to twenty feet in length, about two feet in breadth, and two inches thick: and they seemed to have been 'dubbed'

down to a fair surface; but I am inclined to think that the wood is of a kind that splits easily into plank, like the alerse of southern Chile.* Being the evening meal time, some women, and male slaves, were removing the cinders from holes in the earth, whence steam was issuing profusely, under a shed, near the house I was examining. The shed was a light roof, upon upright poles, covering the cooking place—a few square yards of cinder-covered ground. Out of each hole dirty looking bunches of fish and leaves were raked with fingers and sticks. Hot stones were at the bottom of the hole, placed in the usual Polynesian and Chilote method. The fish had been wrapped in the leaves, but taking it out of the oven in such a manner had displaced the leaves, and substituted a coating of ashes and cinders. Potatoes, raked out of another hot hole, looked more eatable: but leaving the natives to their dirty food, we walked to the new church. A slightly built edifice of bricks, and light frame work, with an abundance of bad glass windows, gave me the idea of a small methodist meeting-house, or an anabaptist chapel, rather than an episcopal church. A good deal of money having been subscribed by residents, and visitors, specially for this church, it might be wished that a portion of it had been employed in obtaining a better design, and better materials, as it stands in a very conspicuous situation. To place a church in a stronghold of iniquity, such as Kororareka, the resort of the worst disposed inhabitants of New Zealand, native and foreign, was a daring experiment: yet notwithstanding the ill-will entertained towards the missionaries, by their 'spirit-selling' countrymen; by native chiefs, whose pandering trade was yearly lessened; and by the evil disposed of every description, no molestation had been offered, and not a plane of glass had been broken! neither had the church service been performed in vain to inattentive hearers.

Returning to the beach, we saw some of the fine canoes I have already mentioned: we then paid a formal visit to one of the chiefs; and for another, who was not at home, I

* Kauri? or some other pine?

thought I could not do better than leave a present: his wife, or rather one of his wives, was pointed out to us, as the sister of the notorious Shunghi. 'Titore' was the absent chief's name. He was out in the country, with a hundred well-armed followers, cultivating, as we were told, his yam and potato grounds. We next saw a burying place, or rather a place where the dead are exposed, upon a raised platform, to the wind and sun. Wrapped in cloth of the country, the bodies are placed upon small square platforms of boards, which are fixed upon single central posts, ten feet high. Bushes were growing, unmolested, in the enclosure (or 'Marae'), no foot entering to tread them down. Among these thickets I saw several large boards standing upright like gravestones, some of which were painted red, and uncouthly carved. Returning to our boat, the chief whom we had visited presented me with a garment of the country manufacture: his assumed haughtiness was amusing, from being characteristic. Our evening was passed in very interesting conversation with Mr. W. Williams, and Mr. Baker;* the former had just arrived from Waimate, an agricultural settlement, lately established by the missionaries, in the interior.

Of the difficulties encountered and surmounted by the first missionaries in New Zealand full accounts have been lately published: the little we then heard strongly excited our curiosity. Mr. Marsden appeared to have been the originator, as well as the main instrument, in forwarding the great work.

On the 23d, I went with Mr. Baker to Tipuna, the place where the first missionaries, Mr. King and Mr. Kendal, established themselves in 1813. Mr. King was absent, but I saw his wife and son, who told me that he was travelling about among the natives, and would not return for several days; he was on horseback, his son said, but quite alone. Mrs. King described the former state of things which she had witnessed herself in strong terms; she could not look back to those days

* I learned that de Thierry was sometime resident in the King's-bench, and that his alleged purchase of land, in New Zealand, was a theme of ridicule among the aborigines.

without shuddering. Being told in the evening, that "before morning their house would be in flames;" and that "stones were heating for the oven in which they themselves were to be cooked," was a quieting farewell, from a mob of angry natives, on more than one occasion. But Mr. King always found a trusty friend in a chief, whose name has been often noticed—'Waripoaka.' I met him near the house, in company with a young chief, whose sense of propriety was so delicate that he would not appear before Mrs. King, because he was not dressed 'well enough!' Waripoaka was satisfied with his own attire, and went with us. To my prejudiced eye, the dress of the young man, a mat, or mantle of the country, loosely wrapped around a fine figure, appeared far more suitable than the long-tailed old coat, thread-bare pantaloons, and worn-out hat, which utterly disguised and disfigured the old chief.

Mr. King's son talked of his sheep, and I found that though not more than eighteen or twenty, he was already a farmer, possessing land and a flock of sheep. Returning by a different route, we landed upon an island lately bought from the natives by two persons who had been masters of whale-ships.

This island, purchased for a trifling price, will become very valuable, as the trade to the Bay of Islands increases; and I regretted to see a spot of such future consequence in the hands of men, whose verbal attacks upon the missionaries, and illiberal aspersions of Mr. Busby's character, disgusted me so much that I had hardly patience to make the inquiries which were the object of my visit; or to wait while Mr. Baker told them of a plan which was in contemplation among the settlers, for the prevention, or at least restriction, of the sale of spirits.

Such men as these, strongly prejudiced, deaf to reason, and too often habitually vicious; run-away convicts, whose characters may be imagined; and democratic seceders from regular government, cause the principal difficulties against which honest, upright settlers, and the whole missionary body, have to contend. One of the men, whose share in the property of the island I have been regretting, was partly intoxicated while we were with him; but Waripoaka, who accompanied us, significantly warned me of his state as I entered the house.

24th. I went with Mr. Baker to a scattered village, called Cawa-cawa. Leaving the ship early, we followed the windings of an estuary which forms Kororareka Harbour, until its shores contracted it to the limits of a fresh-water river. Three good houses on the eastern shore, lately built by respectable English settlers, attracted our notice in passing; and afterwards the 'Pah'* of Pomare,† a well-known chief, appeared like a cattle-enclosure upon a hill. Pomare is the man who killed and ate a part of his female slave, when Mr. Earle was there; he has still large possessions, and had larger, but has sold much for ammunition, muskets, and spirits. His honourable office at this time was that of supplying the numerous whale-ships which visited the harbour with his slaves; and he found such an employment of his female vassals answer better than the horrible one well described by Mr. Earle. Dismal alternative! On board each of the ships we passed there were many of these women; but before we notice the 'mote,' let us consider the great 'beam,'—think of what our own seaports were in times of war, and be charitable to the South Sea Islanders.

Pomare was heard to say that his son would be a greater man than himself: and the New Zealanders in general are impressed with the idea that their sons will be better, or greater men, than themselves.

The estuary, or arm of the sea, whose windings we were following, forms an excellent harbour for ships not larger than third-class frigates; or to speak in a more definite manner, for those which do not draw more than seventeen feet of water. On each side the land rises to five or six hundred feet, sheltering the anchorage without occasioning those violent squalls alternating with calms, that are found under the lee of very high land, over which strong wind is blowing. As far as I know, there are very few shoals or banks in the wide space which forms the inner harbour. A slight stream of current and

* Or Paa; by Cook called Hippah.

† This chief said that his father had adopted the name of 'Pomare,' because he had heard of a very distinguished warrior at Otaheite, who bore that appellation.

tide runs outwards during about seven hours, and the tide sets inwards about five, though with still less strength. At times, the outward stream may run about two knots in the narrow places. Mr. Mair's house and shipping-yard, Mr. Clendon's establishment, and the pleasantly-situated house and garden of Mr. Wright gave an English aspect to the eastern side of the harbour; while boats passing and ships lying at anchor in an estuary, much resembling one in our own country, prevented the frequent occurrence of a thought, that we were near the Antipodes; and that on the western side of the harbour is the place where 'Marion' and so many of his crew were massacred, and afterwards eaten! That horrid catastrophe is now said to have been caused by mutual ignorance of language. The Frenchmen not understanding that the spot was tabooed, persisted in fishing there, and endeavoured to maintain their intrusion by force.

Canoes met and passed us as we proceeded. It was pleasant to witness the cordial greetings exchanged between most of their occupants and Mr. Baker. All these canoes were going to Kororareka, to sell their cargoes of firewood, potatoes, yams, or pigs. Here and there, by the water-side, we saw a house, or rather hut, with a patch of cleared and cultivated ground, a great pile of firewood, ready for sale, and perhaps a canoe close by, which the native owners were loading with the marketable produce of their land. When the estuary had diminished, and we found ourselves in a fresh-water river, there was much resemblance to parts of the river at Valdivia; but the amount of ground under cultivation, and the number of huts scattered over the face of the country and along the banks of the river, were less near Valdivia, exclusive of the town itself, than in this so lately a cannibal country.

Though on a small scale, the banks of this river are interesting and picturesque. On each side, the soil is extremely good on the low grounds, and the hills are well clothed with wood; they are not high, but approach the river rather closely in some places, so that the winding stream, spaces of level and partially cultivated land, and woody heights, are agreeably

mingled, and formed a rapidly varying view as we proceeded.

Mr. Baker had been urged by the natives of Cawa-cawa to visit them, and endeavour to settle a dispute which had arisen with a neighbouring village, or rather tribe. He also wished to gain more advocates for the abolition of spirits; and I was glad to profit by the opportunity of seeing a little of the natives and their habits, in a place said to be Christianized, and uncontaminated by the spirit-sellers.

A few of our own countrymen were employing themselves as sawyers, on the banks of the river, near the village of Cawa-cawa; but neither their huts, their mode of living, nor their outward appearance, caused any feeling of good-will towards them on my part.

Having ascended the stream, as far as the boat could go, which was about four miles from the salt-water, we landed, and walked towards the village of Cawa-cawa, escorted by several elderly and a mob of young natives. Our way led through open underwood, maize-grounds, and damp swampy soil, in which I saw plenty of the plant called 'flax,' supposed, a few years since, to be very valuable, and now probably much undervalued. Across a stream the natives seemed delighted to carry us; indeed, I may say once for all, that at this village their whole behaviour was affable, friendly, and open, to a degree nearly approaching that of the merry Otaheitans.

Under the shade of a large tree, the inhabitants of the widely-scattered huts soon assembled. For me they brought a chair out of a cottage; but for themselves their native soil offered a sufficient place of rest. In all positions, half-enveloped in blankets or coarse country mattings, with their rough, curly hair protecting their heads from the sun's rays, and almost shading their tattowed faces, about a hundred men, women, and children surrounded their apparently most welcome friend 'Payka,' as they called Mr. Baker. Many fine forms and most expressive countenances were there. Such heads, indeed I may say, such a group for a painter! I had sufficient leisure to admire them; for it is etiquette in New Zealand to sit in silence

during some minutes, previous to commencing any conversation. Engrossed by the fine, the grand heads of some of the old warriors, whose amply tattowed features had withstood the ravages of time more successfully than their once dark hair, and by the graceful figures of the younger women, I was sorry when the ceremonial silence was ended. By turns the principal men discussed with Mr. Baker (whose speaking appeared to be to the purpose, as well as fluent), the business for which they had assembled.

I could understand few words used, but the gestures of the natives were sufficiently expressive to give a general idea of their meaning. Mr. Baker's interpretation to me afterwards was to this effect:—"A neighbouring tribe has encroached upon the district which this tribe claim as hereditary property. These men prove their right to it by bringing forward several of their elders, who have at various times killed and eaten 'rats' upon it."

In other days, the war-club and the patoo-patoo—a sanguinary contest to determine whose should be the land and whose bodies should fill the ovens—would have been the unfailing mode of decision. "What would Mr. Baker recommend them to do, now that they had become Christians?" was their question. He recommended arbitration, each party to choose a 'wise man;' and if the two wise men disagreed, they should refer the question to the deliberation of the missionaries, at their next general meeting. He also promised to visit the other tribe, enquire into the case, and exert himself for the sake of both parties, who were equally his friends, and whose interest, as well as duty, it was to remain at peace.

By temporising, talking to each party, and inducing one to meet the other half way, Mr. Baker had no doubt of amicably arranging the affair.* Is it not extremely gratifying to find the missionaries thus appealed to, and acting as mediators and peacemakers?

The singular reason for laying claim to this land, appears less extraordinary when explained. Formerly there were no wild

* Before the Beagle sailed it was settled.

quadrupeds, excepting rats, upon New Zealand: and while so destitute of animal food, a rat was considered 'game' by the natives; and no man would attempt to kill his neighbour's rats, or those which were found on his territory, without intending, or declaring war against him. Had not the rats, eaten by the older men of Cawa-cawa, belonged to them, the lawful or understood owners of the rats would long since have made war upon the people of Cawa-cawa. Rats having been there killed, and war not having been consequently declared, were irresistible arguments in the minds of those men, who never forgot, and who knew not how to forgive an injury.* Some of us are apt to think modern game laws harsh inventions, and the result of civilization. Yet if, in our own history, we look back seven hundred years, we find that human lives were then forfeited for those of beasts of the chase: and if we look at this country, which may be supposed two thousand years behind our own, in point of civilization, we find, that to kill a rat upon a neighbour's land, is an offence almost sufficient to cause a general war.

The precise manner in which territory is divided among these savages surprised me not a little: I thought land was but slightly valued by them. Though sold to Europeans for what we consider trifles, the sale is, to them, matter of high importance, in which every free man of the tribe ought to be consulted. Uncleared land is supposed to belong to the tribe, collectively. Cultivated spots, and houses, are private property, but cannot be sold, or given away, out of the tribe, without the consent of the whole community. This division of land among small tribes,† looks much like a comparatively late appropriation of the country. To make a purchase of land in New Zealand, in a manner which will ensure quiet and unquestioned possession, it is necessary to assemble all the tribe of

* In Mariner's Tonga Islands a full description is given of the manner in which the Friendly Islanders shot rats: as an amusement.

† There are several varieties of the human race in New Zealand; differing from one another as much as the lightest olive-coloured Otaheitan differs from the 'brown-black' New Hollander.

owners, or as many as can come; a few absentees, of little consequence, not being thought about. The goods intended to be given, as an equivalent for the land, are then spread out for inspection; and if the contracting parties agree, their word is given, and their marks are perhaps put to a deed which they cannot read,* but whose purport they are told. The goods are forthwith carried away; each man appropriates what he chooses, and it often happens that the chief men of the tribe receive the smallest portion of the purchase goods.

One, among many objections alleged against the purchase of land, said to have been made by de Thierry, was, that he could not have bought land in New Zealand, while absent, because, in order to make a purchase valid, it is necessary to buy from the tribe, not from individuals.

Mr. Stokes was informed that when a tribe is utterly vanquished, the conqueror generously gives the survivors a grant of land, and even slaves. I do not see how to reconcile this act of generosity with the blood-thirsty warfare which has usually ended in indiscriminate slaughter, and cannibal feasts.

Satisfied, for the time, on the principal subject:—the much desired abolition of the use and importation of ardent spirits, was discussed. An old man, named 'Noah,' spoke to the tribe; and after alluding to the disgraceful and unfortunate events, caused by drinking, which had happened to their friends, and to neighbouring tribes, since the white men had introduced the vice of intoxication, old Noah ended a short but eloquent harangue, by saying, "expel the liquid fire." Noah is a Christian: his name was his own choice, when baptized, some years ago. The principal men, eight in number, signed, or made marks upon the paper, which contained the resolutions agreed to by acclamation. Noah wrote his name in a distinct hand: each of the others made marks resembling a small part of the tattowed lines upon their faces. One man imitated the mark upon the side of his nose; another that near his eye. Baked potatoes were afterwards brought to us; and a curious wine, of which I had not

* A few natives can now read and write.

heard. It was dark coloured, and not unlike good elderberry wine. It is made from the small currant-like fruit of a shrub, which the settlers call 'native vine;' but the resemblance to a vine is about as evident as that of a common elderberry bush. The fruit grows in clusters, much like small elderberries in appearance, but it contains stony kernels, which are said to be unwholesome, if not poisonous. Women collect the juice by squeezing the bunches of fruit with their hands. I have heard that it is used after fermentation as well as in its pure juicy state, but some assert the contrary: it might then assuredly cause intoxication; I doubt, however, their often obtaining, or keeping, a sufficient quantity. It dyes the hands of the women and children who collect the juice, so deeply, that they cannot efface the stain for many days afterwards.

Instead of rubbing, or rather pressing, noses, these people have adopted the custom of shaking hands: every one expects to have a shake. Yet with all their asserted equality, and democratic ideas, there must be a considerable distinction of rank, and difference of occupation, among them; for I particularly noticed that two chief persons of this tribe, who rather resembled the higher class at Otaheite, had far less swarthy complexions, and less hardened extremities, than the others: one of them, considered by Mr. Baker to be the head of the tribe, was more like an Otaheitan 'Eri,' and less like the ordinary New Zealanders than any other native I saw, while at their island. From the meeting place under the large tree, we went to see a chapel which the natives were building, by their own free will and labour; and in our way we passed through yam and potato grounds, so neatly kept, that no gardener need have hesitated to commend them.* The intended chapel was a lightly framed building of wood, with a thatched roof. The natives seemed to be very proud of it, and were much gratified by our praises. Some large oxen, in a pen, were feeding on young branches, and leaves of trees, gathered for them by the

* Cook speaks in strong terms of the neatness and regularity of their cultivated grounds.

natives, which they appeared to relish as much as hay: they were called 'booa-cow.'*

At the door of a house, or rather in the porch (before described), I saw a woman reading: she was sick, Mr. Baker told me, one of a long list of invalids, who frequently applied to the missionaries for advice and medicine. I looked at her book, it was the Gospel of St. Matthew, printed at Paihia, in the New Zealand language. Now, certainly, there was neither constraint, nor any thing savouring of outward show, in this woman's occupation, for my seeing her was sudden, and quite accidental, arising from my going out of the usual path to look at the oxen. Mr. Baker told me, that one of the most troublesome, though not the least gratifying duties, of the missionaries, was that of attempting to act as medical men. No regularly educated practitioner having at that time established himself in the land, every complaint was entrusted to the kind attention, and good will, but slight medical knowledge of the missionaries. We saw several nets for fishing placed in separate heaps, each upon a small platform, at the top of a post eight or ten feet in height: in a similar manner yams and potatoes are preserved from the rotting influence of the damp earth. The nets are made with the split leaves of the 'flax' plant, not merely with the fibres, and last for many years: both they and the food, thus exposed to the air, are thatched, like the houses, with the broad leaves of an iris-like rush, or flag, which grows abundantly by the river sides, and in marshy places. I was here informed, that after the bodies of the dead (which are exposed to the air, on platforms similar to those I have just mentioned), are thoroughly dried, the bones are carried away, and deposited in a secret burying place.

25th. Being Christmas-day, several of our party attended Divine service at Paihia, where Mr. Baker officiated. Very few natives were present; but all the respectable part of the

* Literally cow-pig. Before white men brought others, pigs were the only domestic animals known in Polynesia besides dogs:—and when a cow first appeared in a ship, she was called cow-booa, or booa-cow.

English community had assembled. Instead of performing the whole service first in one language, and afterwards in the other, as at Otaheite, the two entire services were mixed, and the whole extended to such a length that had even the most eloquent divine occupied the pulpit, his hearers could scarcely have helped feeling fatigued. Mr. Baker appeared to be more fluent in the language of New Zealand, than in his own, a fortunate circumstance for the natives, though not for the English who attend his church. In the mere glimpse which I had of the missionary body at New Zealand, it appeared to me that they rather undervalued their white congregations. They say, "We are sent to the heathen, it is to their improvement that every effort should be directed." "This is true," may be replied; "but does not the example of respectable settlers, or visitors, assist the influence of missionaries?" Would not the natives take notice if foreigners whom they see in the land refused, generally speaking, to conform in their habits and conduct, to the principles so earnestly insisted upon by the missionaries? But unless Divine service is performed in a manner which will, at the very least, increase respect for it, and give rise to no feelings of slight towards those who, from the nature of their highly responsible office, are expected to perform it tolerably well—it does not seem likely that such as are only sojourners in the land, will be seen at the church as often as might be desirable; thus a part of their example, so beneficial to the great cause, will perhaps be lost.

A very correct musical ear seems to be as general among the people here, as among those of Otaheite. The responses of thirty natives, women and men, were made so simultaneously, and so perfectly in harmony, that I could no more distinguish the different voices, than I could those of a number of good choristers singing together. Their singing was equally melodious, yet neither I nor others were disposed to think it equal to that of Otaheite.

26th. Disputes between masters of whale ships and their crews, and between both these classes and the New Zealanders, obliged me to meddle, though very reluctantly, in their affairs.

to show what anarchy has been caused in this country, by the partial, half measures, which have been taken, I will try to describe the state of things, at the Bay of Islands, as we found them.

I will not attempt to give the slightest sketch of events which had occurred anterior to the Beagle's visit, full and authentic details being accessible in other publications; farther than to say that the rumoured approach of de Thierry had stimulated Mr. Busby (holding the undefined office of British resident) to take measures adverse to such foreign intruders, by issuing a public announcement,* and by calling together the principal chiefs of tribes inhabiting the districts of New Zealand, north of the Thames, with a view of urging them to frame a sort of constitution,† which should have a steadying influence over their unwieldy democracy, and leave them less exposed to foreign intrusion.

Thus much had been done by words and on paper; the chiefs had departed, each to his perhaps distant home, and the efficiency of their authority, in a 'collective capacity' was yet to be discovered. No 'executive' had been organized; the former authorities—each chief in his own territory—hesitated to act as they had been accustomed, owing to a vague mystification of ideas, and uncertainty as to what they really had agreed upon, while the authority of Mr. Busby was absolutely nothing, not even that of a magistrate among his own countrymen; so of course he could have no power over the natives. To whom then were the daily squabbles of so mixed and turbulent a population, as that of the Bay of Islands and its vicinity, to be referred?

Late events had impressed the natives with such a high idea of King William's men-of-war, that even the little Beagle was respected by them, and, in consequence, appeals were made to me—by natives, by men of the United States of America,

* Appendix, No. 35.

† A copy of the constitution, or form of government, decided upon at a meeting of all the chiefs of the northern districts (excepting two or three of minor consequence), is in the Appendix, No. 36.

and by British subjects; but, not then aware of the peculiarity of Mr. Busby's position, I referred them to him, under the idea that his office was of a consular nature, and therefore that I ought not to act in these cases, excepting as his supporter. Finding him unwilling to take any steps of an active kind, not deeming himself authorised to do so: and the aggrieved parties still asking for assistance, I referred them to the only real, though not nominal, authority, in the place, that of the missionaries. By the active assistance of Mr. Baker, the more serious quarrels were ended without bloodshed, and those of a more trifling nature, in which the natives were not concerned, were temporarily settled: but I doubt not that in a few days afterwards anarchy again prevailed.

To give an idea of the nature of some of these quarrels, and of the serious consequences they might entail, I will describe briefly two or three cases which were referred to me.

Pomare had been beaten while on board a whale ship, by some of her crew. No New Zealander will submit to be struck, but thus to treat a chief is unpardonable. Burning with indignation he maltreated the first Englishman whom he met on shore, and was concerting serious measures of revenge, when the master of the ship, and a number of his men, came to ask for assistance and protection.

Again; a chief, whose name I do not know, had been refused admittance on board a whale ship, where he had heard that one of his female slaves was living. He did not wish to injure her, or even take her away. His only motive, in asking admittance, was to satisfy himself that she was there. Highly affronted at the refusal, he spoke to me, (as he said) previously to collecting his warriors and attacking the ship.

Another case was unconnected with the natives, but tended to expose a fraudulent system, and to show the necessity of arming British authorities, in distant parts of the world, with a definite degree of control over the licentious, or ill-disposed portion of their own countrymen, who, in those remote regions, are disproportionably numerous, and now able to do pretty much what they please.

A person who stated himself to be the master of an English whaler, lying in the harbour, came on board the Beagle, accompanied by a man said to be the third mate. The former complained of the mutinous state of his crew, who had ill treated this third mate, and then refused to work or obey any orders. Inquiry on board the whaler, showed that the crew had been ill-used, especially as to provisions: and that not only the nominal master, but the chief as well as the second mate were North Americans, (U.S.) The legal master, it appeared, was the so-called third mate, an Englishman. His name appeared in the ship's papers as master; that of the person who had been acting as master did not appear at all. But the acting master, who before me styled himself 'supercargo,' produced a power of attorney from the owners of the vessel,* which appeared to authorise him to control the proceedings of the vessel, as he thought proper; to displace the master and appoint another person in his stead, and in every way to act for the owners, as if he, the American, were sole owner. Nearly all the seamen were British subjects. How far his power of attorney might carry weight against the spirit and intent of the navigation laws, I had much doubt; but as it appeared to me that the owners in such cases, ought to know their own interest better than other persons could; and that in suiting their own interest they certainly would add their mite towards the general interest of their country; and as the supercargo had a circular letter from the Commander-in-chief on the West-India and North American station, asking for the assistance of any King's ship he might meet (with the view of encouraging the whale fishery out of Halifax); I refrained from doing what my first impulse prompted—putting an officer on board, and sending the ship to the nearest port (Sydney), in which correctly legal measures might be adopted, if necessary. Meanwhile as the British resident did not think himself authorised to interfere, and disorder, with 'club-law,' were prevailing and likely to continue, in the Rose, I went on board, accompanied by Lieutenant Sulivan and Mr. Bynoe.

* The 'Rose' of Halifax.

After examining the provisions and all the ship's papers, I spoke to the crew (every man of whom wished to leave the vessel) and to the nominal master; obtained an assurance, in their hearing, that their future allowance of provisions should be unobjectionable, and, for the time, restored order. But I felt that the calm was unlikely to last, and two days afterwards fresh appeals were made, to which I could not attend, being in the act of leaving the port.*

The laws which regulate our merchant shipping, especially sealers and whalers, do not appear to extend a sufficient influence over the numerous vessels, which, with their often turbulent inmates, now range over the vast Pacific. For many years past, Great Britain and the United States have annually sent hundreds of large whale ships into the Pacific: during late years, Sydney has sent forth her ships, amounting at present in number to more than sixty, most of which are employed in whaling or trading in the Pacific: and be it remembered that their crews are not the most select seamen—the nature of many of them may easily be imagined—yet in all this immense expanse of ocean, little or no restraint except that of masters of vessels, on board their own ships, is imposed either upon Americans or British subjects! There is the nominal authority of a consul at the Sandwich, and Society Islands: and occasionally a man-of-war is seen at the least uncivilized places. But how inefficient is so widely separated, and so nominal a control? When ships of war visit the less frequented parts of the Pacific, they are too much in the dark, as to the state of things, to be able to effect a tenth part of what might be done, in equal time, by a ship employed solely on that ocean. In so peculiar a portion of the world as Polynesia, it takes some time to learn what has been taking place: and what ship of war has stayed long enough for her captain to lose the sensation of inexperience—which must embarrass him if called upon to decide and act, in cases where he really is about the most ignorant person (as regards the special case) of any one

* Afterwards (at Sydney) I heard that the men had all left the vessel, and were living among the natives.

concerned with it? In consequence of that ignorance, he must inevitably be more or less guided by the advice of parties, of whose individual interest in the matter so short an acquaintance cannot give him a proper idea.

A great deal of prudence, and good management, is required in the commander of a man-of-war, who has any business of consequence to transact with the natives of Polynesia, or who has to deal with his own countrymen in that distant region. A single ship, assisted perhaps by tenders, might, if well commanded, do more good in a few years among the islands of the Pacific, than can now easily be imagined. But then she must be stationary; not that she should remain in one place—far from it—her wings should seldom rest; I mean only that she should stay in the Pacific during three or four years. In that time so much information might be gained, and so much diffused among the natives; such a system of vigilant inspection might be established, and so much respect for, and confidence in the British nation, be secured—that our future intercourse with Polynesia would, for a length of time, be rendered easier and infinitely more secure, as well as creditable.

The few ships of war which have remained during any length of time among the islands, have been occupied by exploring and surveying, to an extent that has interfered with the earnest consideration of other matters. But in a ship, employed as I have described, a surveyor might be embarked, who would have ample opportunities of increasing our knowledge of that ocean. And if a sensible man, whose natural ability had been improved by an education unattainable by sailors, could be tempted to bear the trials and losses of a long sea voyage, in a busily employed ship, how much might Science profit by the labours of three or four such years?

Having thus entered freely into ideas which I have so often dwelt upon that they are become familiar, I will venture to suggest the kind of ship which would do most, in my humble opinion, at the least ultimate expense consistent with efficiency. Moral influence over the minds of natives, as well as over wanderers from our own or other countries, is a pri-

mary object, and that influence might be at once obtained by the mere presence of a large ship.

Compare the manner in which the natives of the Marquesas behaved to the Tagus and Briton frigates, with their hostility to vessels whose appearance did not overawe them. An outward show of overpowering force would often prevent a struggle, and probably loss of life, which, however justifiable, cannot too anxiously be avoided. From what I have seen and heard, I feel authorised to say that one ship of force, well-manned, and judiciously commanded, would effect more real good in the Pacific than half-a-dozen small vessels.

Frigates have already been seen among some of the islands of Polynesia, and heard of in the greater number. To send a ship of a lower class to establish a general influence over the Polynesians, and our own wandering countrymen, as well as for the purposes I have previously mentioned, would be to treat the business so lightly that, for the credit of our country, it would perhaps be better let alone; particularly as a frigate does occasionally go from the South American station, and a sloop from Australia, or the East-Indies. No European or American nation has now a duty to perform, or an interest to watch over, in the Pacific Ocean, equal to that of Great Britain. The North Americans are increasing their connections, and consequently their influence, rapidly. Russia has extended her arm over the Northern Pacific. France has sent her inquiring officers, and Roman Catholic missionaries* are sowing the seeds of differences, if not discord, among the islanders, in the Gambier Islands and elsewhere.

Independent of expense, what are the principal local objections to employing a frigate in such a duty? In the first place, among the islands there would be risk of getting ashore, increasing with the size of the ship:—in the second; it might be difficult to obtain supplies, and in the event of losing spars she might be obliged to return; perhaps to England:—in the third; to get ashore, in a ship drawing so much water, would

* Sent out immediately after the first circulation of Captain Beechey's interesting work.

be a much more serious affair than a similar accident happening to a smaller vessel: and, by obliging her to return to England, or go to an East-Indian dockyard, would upset all plans and expose Polynesia to greater irregularities and less control than ever, until new arrangements could be made.

To the 'risk of getting ashore,' I answer: large ships are in general more efficiently officered and manned than small ones, and they are less likely to get into danger, because they are consequently more carefully managed. The Pacific is, technically speaking, a 'deep water' ocean: all its coral reefs are 'steep-to.' Sand or mud banks are unknown, except near the shores of continents, and even there they are rare, unless on the Japanese and Chinese shores. Small ships attempt to sail in intricate passages, and get ashore:—large vessels use warps, or await very favourable opportunities, and are not risked. Secondly: supplies may now be obtained in any quantity on the coast of South America, as well as in Australia; and fresh provisions can be obtained by regular, reasonable purchase, at the principal islands. New Zealand, Norfolk Island, the north-west coast of America and other places, are stocked with the finest spars: and lastly: a large ship, well provided, has the resources of a small dock-yard within herself.

An East-India trader of eight hundred tons, was hove down by her own crew, and the natives, at Otaheite. Cook laid his ship ashore for repair in Endeavour River, on the north-east coast of New Holland; where the rise and fall of tide is very great. Sydney is an excellent place for heaving down and repairing a ship of any size. Guayaquil has a great rise and fall of tide. Lima, or rather Callao,—and Coquimbo, are good places for a ship to refit in. But Sydney is superior to all as a rendezvous, and any repairs may be effected there.

Large ships are able to do all their own work, while small vessels are frequently obliged to ask for the help of their neighbours, when they get into difficulty, or want repairs. These considerations, however, should not prevent a frigate from having a good tender, for much risk would then be

avoided: and although the large ship might be repairing, the knowledge that she was in the Pacific* would be quite sufficient, if she had only established such a character as that which was borne by many a British frigate during the last general war. Such a ship could detach efficient boats for surveying, or other purposes; she could carry animals, seeds, plants, and poultry, to those islands which have none; and by her countenance and protection, she could assist and encourage the missionaries in their all-important occupation.

* No accident need oblige her to quit that ocean. Many large ships are built there, and never leave its waters.

CHAPTER XXV.

Waimate—Cultivation—Flax—Apteryx—Gardens—Missionaries—Farm—Barn—Mill—Grave of Shunghi—Horses—Kauri Pine—Keri-keri—Children—Waripoaka—La Favorite—Political condition—Relics—Images, or Amulets—Mats—Leave New Zealand—Remarks—Intercourse—Convicts—Effects of Missionary exertion—Irregular Settlements—Trade—Residents and Consuls—Missionary Embarrassments—Society's Lands—Discontent of Settlers—Purchase of Land—Influence of Missionaries—Their sphere of action.

28th. Accompanied by Mr. Baker, I set out to go to Waimate, a settlement formed by the missionaries with the view of introducing agriculture and mechanical arts among the natives, in addition to the truths of the Gospel. Entering one of the numerous creeks (Waitangi) by which the north-eastern shores of New Zealand are intersected, we went a little way in a boat, then landed and got on horseback.* Two natives, who had been waiting with the horses, ran by their side during the rest of the day with much ease, though we trotted or cantered rather fast. One of them even carried a bundle weighing about thirty pounds. The men did this by choice, for the sake of riding back from Keri-keri, a place we were afterwards to visit, and whence Mr. Baker and I would return by water. While running thus easily and cheerfully, by the side of our horses, they reminded me of men at Madeira; and still more of the Maltese, whom they both resembled in feature, figure, and colour. To see fern every where, was a remarkable peculiarity. In some places it grew thickly, and to the height of a man, in others it was scantily scattered. It is said to be an index to the quality of the soil, which is productive in proportion to the quantity of fern. After ascending the first low hills, I was a little disappointed by the uniform and unpicturesque appearance around me. A rather level or irregularly undulating country, in which extensive plains were more

* A few horses had been brought over from Sydney.

remarkable than hills—every where verdant, in many places wooded, and intersected by numerous streams of water—pleased by its supposed capabilities, though not by the picturesqueness of its appearance. From seeing the remains of forest, or rather irregular-looking woods, in a variety of situations—at the summits of hills, as well as in the hollows of vallies; and from the prevalence of fern instead of grass, I was led to think that the whole land had once been thickly wooded, but that the natives had cleared away the trees by burning.

We passed by a native village, around which were many acres of well cultivated ground, with maize and potatoes in a thriving state. They were planted in little heaps of earth (like mole-hills), at exact distances, laid out by line. For planting the sweet potato (cumera), a kind of yam (taro), or the lately introduced potato, a wooden stake is used as a substitute for a spade, in preparing the ground. The natives acknowledge themselves much indebted to the white men for pigs and potatoes; but they speak angrily of the 'liquid fire'—and diseases which they brought. One old native also made a shrewd remark about certain seven-barrelled guns sent among them by some of our countrymen, even while others were preaching the gospel of peace, and trying to check their inclination to quarrel.

Abundance of the flax plant was growing on the low moist ground, and also on higher, apparently dry soil. I was told that the flax plant does not like a swamp, but thrives where the ground is rather moist. With leaves like those of an iris or large lily, whence the fibres are obtained which are 'called' flax, this plant has always been of great consequence to the natives. Those immense nets which are mentioned in the faithfully descriptive accounts of Cook, are made with the leaves split into long narrow shreds, not scraped or peeled. For the manufacture of smaller cordage and thread, the leaves are scraped by a shell, which removes the upper or green part and leaves the strong white fibres, that run longitudinally along the under side. With these fibres, in less or greater numbers, and twisted more or less, the New Zealand cordage has been made, which was so much liked at its first intro-

duction, but is now said to be of a quality very inferior to that made with European, or even Chilian, hemp. The principal objection I have heard urged against the New Zealand rope is, that it does not endure frequent bending; not being sufficiently tenacious if used where its pliability is much tried. In sailor's language, 'it soon goes in the nip.' Perhaps this objection might be removed by a peculiar mode of treating the plant, or by another way of seasoning and preparing the fibres. Very fine mats for clothing are made with these fibres, which, when properly prepared, are of a fine silky texture, extremely durable, and capable of withstanding a great deal of washing and wear. I have one by me which has been in constant use sixteen years, and frequently washed. This being the case with respect to the mats, how does it happen that rope made by white men, of the very same material, has not been found to answer? Surely, it can only be because the material has not been properly treated by those who are, perhaps, little acquainted with its nature, with the best season for cutting it, and with other peculiarities probably well known to the natives. Do not many of our own handicraftsmen make a mystery of their art, and, in consequence, are not the secrets of most trades hidden to those who have not learned them, and cannot read?

An open-sided house, or rather shed, standing apart from the little village, I was told was a chapel, which the natives had lately built of their own accord, and without telling the missionaries of their intention: when it was completed they applied to Mr. Williams for a teacher.

A very fine-looking native passed us, whose air and manner of carrying his gun reminded me of an Albanian's. Every man now carries a gun or musket, who, a few years since, would have been armed with a war club, or patoopatoo, and a mieri.*

So accessible is the country between Waimate and the Bay of Islands, that, except across a few small ravines, which require log bridges, a cart might travel easily; though there was at this time no road: water conveyance also is every where at hand, so

* Or mearee (spear).

intersected is the land by arms of the sea. Fresh water, in rivers, brooks, and springs, is plentiful, and never fails.

There is a rare and curious bird in New Zealand, which few persons have seen. It is shy, and seldom visible in the day-time: the natives are said to chase it by moonlight. It is of the bustard or emu kind, unable to fly, though provided with short wings; it is said to be more hairy than feathery, and about the size of a small emu.*

On rather a high plain, or very flat-topped hill, stands Waimate—the agricultural establishment of the Church Missionary Society. After so long an absence from every similar sight, and in New Zealand, the sudden appearance of three English houses, surrounded by outhouses, gardens, and cultivated fields, was striking and delightful; I looked at it as a fragment of Old England, small indeed, but apparently genuine. About twenty acres of land, judging only by eye, seemed to be cultivated. Corn was in full ear, and looked well. The buildings showed at a distance to greater advantage than on a nearer approach; because they are built in the form of gentlemen's cottages, but entirely of wood, and were then unfinished. There were also nice gardens, which had evidently profited by much industrious care, and knowledge of gardening: my hasty survey was however stopped by the approach of a person, whose appearance and manner showed that he was an essential actor in this English scene; and whose intelligent, kind, and truly respectable demeanor was of that description which at once excites esteem and goodwill. This was Mr. Davis, the superintendant of the farming establishment. He told me that Mr. Wm. Williams (the brother of Henry Williams) and Mr. Clarke, were gone to Hokianga, at the opposite side of the island, to attend the last hours of a young Wesleyan missionary.

I have hitherto spoken of missionaries in general terms, as if they formed a distinct and undivided class. That as a body they are distinct, in the scale of worldly divisions, is true; their self-devotion, their habits of life, peculiar education, and inces-

* This bird (Apteryx Australis) has lately been described by naturalists, therefore I say no more about it.

sant anxiety, attach them to a class, of which the good, and therefore truly great Bishop Heber was one of the leading members. But of course they are separated, among themselves, by distinctions which are a natural result of more or less education and of early habits.

The Church Missionary Society have distinguished by the term 'missionary' only those educated, well-informed men who have taken holy orders, and they are styled 'reverend.' Those who are not in orders are termed 'catechists.' Without an idea of finding fault with the present conduct of any individual belonging to either of those two classes, it has occurred to others as well as to me, that a third class might be added advantageously, that of 'visiting' or 'inspecting missionaries.' A clergyman of Heber's character, embarked on board a man of war, might advise and assist those who are now too much on an equality to give free advice to one another, or readily to see the small defects from which no human beings or institutions ever can be free.

Human nature, tried during a long course of years, has seldom steered a uniformly steady course; and may not slight defects, if unnoticed, increase into real blemishes? Difficulties have arisen in New Zealand, as well as in other parts of the Pacific, unnoticed by many people, because, till lately, they were but little felt. These difficulties particularly interfere with the missionaries, and if not remedied by timely measures, will lead to continual embarrassment.

To return from this digression. Near the houses a number of sheep were grazing: plenty of fowls, geese, and pigs; some cattle and horses; and several calves and colts, added to the comfortable, farm-like appearance. We accompanied Mr. Davis into his house for a few minutes, walked over the garden and farm, looked at the farm-yard, barn, and mill, and returned to dinner. The house was well constructed of wood; and though unfinished had a remarkably clean and neat appearance. The compact manner in which the walls were boarded or wainscotted struck me particularly, from being such a contrast to the manner in which a South American carpenter would have con-

structed a house of similar size. A little room, used by Mr. Davis, pleased me much; for, in addition to clever contrivances and good carpentry, it contained a collection of excellent books, and a frame on which an unfinished plan of the Society's farm bore testimony to the nature of the in-door occupations of our host. I did not expect to see much indication of reading, certainly none of drawing, in a newly-built house, standing in the midst of a tract of New Zealand, which two years previously was covered with fern.

In the garden, European vegetables seemed to thrive, and the farm-yard was quite English; a large barn, built entirely by natives, under Mr. Davis's direction; a blacksmith's shop; carts and farming implements, successively engaged our attention. In the barn, a surprising work for the New Zealanders, two natives were thrashing, and a winnowing machine was attended by a third. The mill and mill-dam were well worth examination, as good works of their kind, independent of the interest occasioned by their locality. An embankment (made entirely by natives) had changed the upper part of a small valley into a large pond; and on the middle of the pond-head, or embankment, stood the mill.

A powerful water-wheel, equal to the performance of far more work than the mill required, seemed to be easily turned by only a part of the stream admitted through the mill-dam or sluice. In answer to a remark upon the surplus power, Mr. Davis said that the Society contemplated erecting a thrashing machine, and that Mr. Coates* had encouraged him to anticipate its arrival. A thrashing-machine might be worked easily, in addition to the mill, and yet there would be power to spare.† When embanking the pond, an unfortunate accident occurred, which almost stopped the work: one of the natives, incautiously digging under an overhanging mass of earth, was smothered by its sudden fall. Superstitious and easily excited, the natives abandoned their allotted tasks, and not without

* Secretary to the Church Missionary Society.

† The Church Missionary Society have sent out the thrashing machine, and probably it is now in full operation.

much difficulty could the missionaries induce them to resume their employment. When at last the mill was finished and in full operation, nothing could exceed the surprise and delight of the natives, especially those who had assisted in the work. They called it a 'ship of the land.' "Wonderful white men!" said they; "fire, water, earth, and air are made to work for them by their wisdom; while we can only command the labour of our own bodies!"

Many natives have visited Sydney; some have been round the world; and, of course, their ideas and descriptions have been imparted to their countrymen; but nothing, not even that, to a savage, awfully-mysterious object, a steam-vessel, has yet effaced their early-formed opinion, that a large ship of war is the greatest wonder of the world.

Returning from the mill, Mr. Davis showed me where Shunghi was buried. No monumental mark indicates the tabooed place in which the remains of the slaughter-loving cannibal were deposited; a few dark-leaved trees and some thickly-growing fern alone point out the spot.

While looking about, highly gratified by all we saw, we met Mr. W. Williams, who had just returned from his attendance upon the young Wesleyan before-mentioned. The sufferer had been released from painful illness by death.

A thriving young English oak, near Mr. Davis's house, augured well; for where English oaks succeed, many other useful trees will certainly grow. Several younger saplings, just fit for transplanting, occupied a part of Mr. Williams's well-stocked garden; and these interested me more than all the other plants and trees in the garden taken together. Englishmen one now meets every where; but a living, healthy, English oak was a sight too rare, near the Antipodes, to fail in exciting emotion.

I was much struck by the harmony and apparent happiness of those families whose cheerful hospitality I was enjoying. An air of honesty, and that evident tranquillity of mind which can only be the result of a clear conscience, offered a forcible contrast to the alleged gloom and selfishness of which some

missionaries have been accused by those whose society was not, perhaps, even tolerable to them, because of their vicious habits and indulgences. It was also very gratifying to me to mark the lively interest taken by Mr. Williams, Mr. Davis, and Mr. Baker in every detail connected with the Fuegians, and our attempt to establish Richard Matthews in Tierra del Fuego. Again and again they recurred to the subject, and asked for more information; they would not hear of my calling the attempt 'a failure.' "It was the first step," said they, "and similar in its result to our first step in New Zealand. We failed at first; but, by God's blessing upon human exertions, we have at last succeeded far beyond our anticipations." Their anxiety about the South American aborigines generally; about the places where missionaries might have a chance of doing good; and about the state of the islands in the Pacific Ocean, gave me a distinct idea of the prevalence of true missionary spirit.

In the minds of Mr. Williams and his brother I should have expected high and generalizing ideas, similar in a great degree to those of the 'Apostle of the South'—the 'heroic Marsden,' as he has been most deservedly styled; but I was unprepared to find all the members of this missionary body anxious to hear about, and talk of Fuegians and other distant tribes of savages, rather than to draw attention to themselves, to their troubles, and ultimate success, or to their own interests.

At this interview it was fully decided that Richard Matthews should remain with his brother, a respectable young missionary mechanic, established at the northern end of the island, and lately married to Mr. Davis's daughter. Among many subjects of conversation we discussed the dress of the natives; and Mr. Williams assented fully to the inconvenience of their present awkward mode, and expressed an intention of trying to introduce something like the poncho and 'chilipā'* dress of South America. With sincere regret I took leave of the residents at Waimate. Instead of hours, I could have passed days

* The chilipā is a kind of loose breeches.

with them, had other duties allowed of following my own inclination.

Riding across a valley close to Waimate, we passed some young horses of a good breed, though fitter for the saddle than for agricultural purposes. They were the produce of mares brought from Sydney. A picturesque wooden bridge, which had been thrown across the stream at the bottom of the valley, reminded me strongly of one well-known in England; and caused that rush of associated ideas sure to follow an unexpected meeting with the semblance of an object familiar in other days.

In a large wood I saw the noble cowrie (kauri) pine. The trunk of this gigantic offspring of New Zealand is in size and shape like an immense antique column. From the ground to the lower branches, more than ninety feet have been measured; and around the trunk, at a yard from the ground, more than forty feet; while thirty feet in circumference is not an uncommon size. But the upper portions are comparatively meagre, and utterly devoid of any of the beauties so remarkable in our English oaks, cedars, and firs. The woods of New Zealand have rather a naked appearance; for the branches seem inclined to grow upwards instead of spreading, or feathering.

Cantering along, across an open easy country, passable for wheel carriages, we soon approached Keri-keri. A deep ravine, into which a considerable stream falls over a precipice about a hundred feet in height, was pointed out to me as the limit of an arm of the sea which penetrates from the Bay of Islands. The waterfall is rather picturesque. Passing on over rounded hills covered with fern, I almost started at a thoroughly English scene suddenly exposed. In the valley beneath, a quiet little village; a church-like building of stone, with a clock on the tower; an English cutter at anchor, with her ensign flying, in the arm of the sea before-mentioned, close to the village; gardens full of flowers, surrounding the neatly-built and white-washed cottages; cattle grazing about the surrounding hills; and a whole school of little English children, hallooing and screaming to one another as they played in a

field, quite transported me in imagination to the other side of the world. Recalled to the truth by our pedestrian companions, asking us to stop for them, I enquired of Mr. Baker how long that respectable church had been built? and was disappointed to hear that the fancied church was a store-house. A small, low building, which he pointed out, was the chapel—it looked much more like a small school-house.

I was glad to see that our native companions took pains to dress themselves decently before they entered the village; as, while running along the road, they had carried their clothes in their hands; but of their own accord they put them on as soon as the houses were seen.

In the village of Keri-keri we found an English welcome, and an abundance of happy-looking, healthy children. Their parents seemed to bear the Church missionary character, open integrity, and the outward indications of a sincere wish to do that which is right. It may seem absurd to speak thus decidedly upon a hasty glance and first impression; but there is a talisman in a truly honest face, and a charm in the manner of one who 'thinketh no evil,' that to me is irresistible; and I have never yet found cause to think lightly of 'ten minutes sight.'

At about ten o'clock, Mr. Baker and I embarked in my boat, to return to Paihia. As we passed down a river-like arm of the sea by moonlight, but little idea of the country on either side could be formed. What I could distinguish was undulating, and rather low land. We were four hours on the water, though the boat moved fast with a fair wind.

I was glad to learn from all quarters that the natives are very fond of the white children. Mr. Davis told me, that his sons could engage the attention and assistance of natives a great deal more easily than he could himself. Speaking the native language more fluently may assist the young people in their intercourse; but they are liked chiefly because born in the land, and because of the naturally kind disposition of the New Zealanders. Many instances have proved that they are kind by nature, and that their feelings are keenly sensitive, as

well as very strong. But there are opposing feelings, each powerful, in the same individuals; and upon education, habit, and the accidents of moments, depend their development and the ascendancy which either may obtain.

On the following day (29th), Waripoaka visited the Beagle; he was accompanied by a mixed assemblage of men, women, children, pigs, dogs, and fowls, all in one large canoe. His own appearance, a spare figure and tattowed face, ill-dressed in a shabby old suit of European clothes; and the disorderly group in his train, formed an unfavourable outward contrast to the warlike array of a heathen New Zealand chief. Waripoaka seemed to be very intelligent and unassuming; perhaps his manner to white men was too humble. It did not agree with pre-conceived ideas of an independent, haughty New Zealander, to see bows and awkward grimaces (intended for good manners) made by a man whose eye and aspect at once precluded the idea of any approach to refined habits.

During our stay at New Zealand we heard much of the zealous activity of the officers of 'La Favorite'—a French surveying ship—which had lately visited, and made a minute plan of the Bay of Islands. They must have examined every corner and ascended every hill, by the accounts we received; but neither natives nor English settlers seemed able to comprehend the principle which animated Captain La Place and the officers of La Favorite to take so much trouble in a foreign country for no good to themselves alone. I was able to explain this to some of them by instancing my own occupation on the shores of South America, and showing that nations acted upon grander principles than individuals. I was told that M. La Place had likewise examined, with much care, a considerable extent of the eastern sea-coasts of the northern large island (Eaheinomawe, or Yahinomaui).

The term Rangatira, Rangateeda, or Rangatida, has spread among all classes, excepting only the slaves, who are prisoners taken in war or their descendants. Every free Zealander now styles himself rangatira.

At Otaheite there is a very limited number of raatiras, as

the secondary chiefs are there called; and each of those so styled is really a person possessing a considerable estate, and having influence over his neighbours. There can be little doubt that originally the words were alike; or rather there was but one word which expressed either 'freeman' or 'privileged person;' and that the first people of New Zealand were animated by the spirit of equality and apparent liberty, which is seen to prevail in most colonies. Is not this the natural spirit of an association of adventurers, whose objects are similar, whose origin, individually, as to birth and place in the parental society does not differ much—if it does, the difference is unnoticed when not upheld by accidental circumstances—and whose property is very similar?

Democratic, essentially democratic, is the present political state of the New Zealanders; and one cannot help pitying their short-sightedness in exposing themselves to the caprice and dissensions of the many who obtain temporary influence, and to the wars, harsh slavery—for in the heathen districts the life of a slave depends upon the caprice of his master—and dreadful consequences. But this shocking existence, so utterly repugnant to our ideas of happiness, excited and still excites the New Zealander to animal enjoyments, and a sort of pleasure resulting from the gratification of his horrible propensities, which is almost incomprehensible to us, however intelligible it may have been to our earlier ancestors. Do not let us entirely forget the painted savages who opposed Cæsar—or the sacrifices of the Druids!

Some of the Zealanders have amulets and other similar trifles hung around their necks. Small uncouth images, much like the Burmese or Chinese 'josses,' formed out of a very hard stone ('jade'?), are so highly prized by them that they are, generally speaking, very reluctant to part with any. I got one from the daughter of Shunghi, but could not obtain a second, though she had several. I was told that they value them as hereditary relics, as well as supposed charms. Many nations, even at the present day, put faith in relics, some more especially in such as have a word or words upon

them, which it is supposed the evil spirit would not like to see or to hear, and therefore would avoid. Particular figures and shapes also are considered to be disagreeable to the author of evil and his agents.* Surely the New Zealanders must have tried thus to frighten Satan by their hideous images, and by the uncouth, horrible faces which they delight in making. The little images, or amulets of jade, are formed in a similar fashion!

These small idols, or talismans, seem to me to have been cut into the rude likeness of an ape, or a 'ribbed-nosed baboon.'† Yet, excepting the face, they resemble figures of Hindoo gods! What time and pains must have been bestowed in working such hard pieces of stone, unless indeed, a method of acting upon them by fire or chemistry was known; or that when first taken from the ground they were softer.‡

Besides the use which the natives make of the flax for clothing by day, a mat, coarsely woven of its fibres, is tied at night, or while it rains, round the neck, and forms a sort of thatch, under which the owner squats upon his heels, and, at a little distance, looks very like a bee-hive. The rough tuft of coarse and curly black hair, which shows at the top of the conical roof, does not at all injure the resemblance; and in this manner a great number of the natives pass their nights, especially if there is the least chance of a surprise or attack from an enemy. I was told that they sleep as well in this way as if they were lying down, but I doubt it much, and think that only a part of the whole number at any place, keep watch, or remain ready in this manner, while others sleep lying down, though frequently in the open air. A more watchful way of resting could not well be devised.

30th. Unpleasant discussions, on the local discordances I have already mentioned, obliged me to delay sailing for some hours: but at last I escaped, happy to disentangle myself from a maze of disagreeable questions, in which it was not

* Mosheim, in his edition of Cudworth's Intellectual System.—Encyc. Brit.

† The mandril, of Buffon. Apes were worshipped in India.—Ibid.

‡ It is still a matter of conjecture how the Peruvians worked in the very hard stone of which some of their ornaments were made.

my proper business to interfere, though unavoidably I had become involved in them. By evening we had gained a good offing, and profited by it in the night, during a strong gale of wind from the eastward, with a lee current, setting to the north-west, about a knot an hour. When we sailed there was every appearance of a gale coming on, but all our necessary operations were completed, and to have stayed an hour longer in that place would have been far worse than passing some hours in a gale of wind at sea.

That the few notices here given of a small part of New Zealand are scanty and quite insufficient for those who seek general information, I am well aware: but the Beagle's stay was very short, and I have made it a principle in this narrative to restrict myself to writing what I or my companions collected on the spot: admitting a few quotations from other authorities, only where they seemed to illustrate or explain a particular subject, without requiring much space. To those interested about this important and rising country, I need hardly mention the volume of evidence taken before the House of Lords, as the latest,—and Cook's account as the earliest, —as well as best sources of information.

I will now endeavour to draw attention to a few of the difficulties against which missionaries have to contend, while anxiously labouring in their holy cause among Polynesian, Australian, and European infidels. It may be supposed that population and occasional intercourse had every where extended, even before the ever-memorable epoch, when the 'Victory' was steered by the daring Magalhaens across an unexplored ocean: but since that time, intercourse with Polynesia has so much increased, that the most interesting islanders—those of Otaheite and the Sandwich Islands—are already more civilized than the natives of some of the Spanish settlements in America.

The New Zealanders are improving; so likewise are the natives of many other islands, which have been visited by missionaries: but those islanders who have been altered only by the visits of whalers, sealers, and purveyors for Chinese epicures, have in no way profited. On the contrary, they have

learned to show less respect to their own ordinances, and have been taught no others in stead. The most abandoned, profligate habits and ideas, have been encouraged by the latter classes of visitors. By their fire-arms, ammunition, and spirituous liquors,—exchanged every where for provisions, and for the gratification of their animal inclinations,—lamentable effects have been caused.

Some men-of-war have allowed an unrestrained intercourse with the natives, receiving them on board, and permitting them to remain, as is still usual among the whalers. Others have not admitted any on board, excepting visitors who were formally received, and did not remain. Such, for example, as the Queens of the Sandwich Isles or Otaheite, with their attendants. But although in that respect men-of-war may have to plead guilty, they are free from any charge of exciting mutual hostility between neighbours; of taking any part in hostilities which were being carried on between rival tribes at the times of their visits; or of acting in any manner which could be likely to lower Europeans in the estimation of the natives, or to excite a feeling of animosity against white men in general.

Stray, or rather escaped convicts, are the chief draw-back. Unrestrained by any religious, or even mere moral principle, those abandoned men have done vast injury, but have frequently fallen victims to the just indignation of the provoked islanders, whose hospitality they abused. Convicts are seldom brave, but usually unprincipled, designing, and cunning; can one then wonder at the natives of some South Sea islands taking an aversion to white people, if their only acquaintance with them has been through such characters, transported to Australia for life, in consequence of felony: who have again, perhaps, been banished from Australia to the doubly penal settlement of 'Norfolk Island;' and have thence escaped to wander through those countries in which they have the strongest hope of avoiding apprehension.

It is little known, and difficult to estimate, how much anarchy, tumult, and destruction of human life have been

prevented by the presence and active exertions of missionaries, during the last twenty years, in which French, Russian, American, and English intercourse with the Pacific, has so much increased. Under the colours of the United States, and of our own country, more than five hundred sail of vessels have been annually employed in the Pacific, during late years. To obtain refreshments and supplies, such as I have mentioned, only those islands on which there are white or native missionaries, are considered safe for single merchant ships. But even while profiting by the influence of the missionaries, and assisted by them in their intercourse with the natives, men who belong to those very ships hesitate not, in many instances (but not in all), to ridicule the means by which the missionary has gained his influence—to encourage immorality, and the use of ardent spirits, and to seek for faults in a system, as well as in the behaviour of individuals according to that system, because it has a tendency to limit the indulgence and expose the impropriety of their own unrestrained misconduct. If the opponents of missionaries could be prejudiced so far as to allow no other good character to have been earned by those hardworking men, they can never deny them that of peace-makers.

Many sailors have left their ships, and settled for life, upon various islands. Though generally immoral, some of these men have established a character among the islanders, so very different from that of the convicts, that persons who understand the native descriptions are seldom deceived in their estimation of a man who, they hear, has recently settled in any place.

Some of these seamen have astonished the New Zealanders, and even men of the Feejee Islands, by hardy courage in warlike enterprises. One, known by the name of Charles, has been already mentioned as having distinguished himself so much by his activity and daring in wars with other islanders, that he was treated as a chief of very high rank, and allowed to have a hundred wives: while the greatest chieftains had from fifty to a hundred and fifty, according to their rank. There are now said to be upon the southern large island or

middle island of New Zealand, settlements supposed to be formed by some two or three hundred abandoned characters, European, Australian, and American. These outcasts, of whom a proportion are convicts, have established a sort of system amongst themselves, in order to regulate their intercourse with the natives. I was told that they were living with native women, and, at that time, cultivated the soil; but, what will be the consequence of such a colony, if left to their own devices in that distant corner of the world? Yet, again, where could outcasts, whose state of exile (if they may be supposed to have good feelings) would be as insupportable to themselves as pitiable in the minds of others—where could such unhappy wretches be placed more appropriately than at the Antipodes? They should, however, be frequently watched, to check any approach to piratical preparations, as well as to give timely notice of such an intention.

Settlements of a different character are elsewhere forming, and the establishments of individuals are increasing in North New Zealand, at Otaheite, and in the Sandwich Islands. Between these establishments, small vessels are always in motion: and not trifling is the trade in oil (cocoa-nut oil), arrow-root, and sugar, between Otaheite and Sydney: in flax, spars, potatoes, and whale-oil, between New Zealand and Sydney; in sandal-wood, bicho-do-mar, nut-oil, pearl-oyster-shells, and curiosities (such as native arms, implements, and clothing) between other islands, and Australia, Tasmania,* the East-Indies, China, and South America.

Thus surrounded by those who are engaged in a commerce annually increasing; unavoidably involved in local dissensions; referred to on all occasions as interpreters or as peace-makers; and I may say, as the consular agents of white men of all nations;† it argues very favourably for the missionaries that they have as yet upheld the character of their sacred office, though sneered at by nominal friends, censured by enemies, and always struggling against opposition. I have said that at the Sandwich Islands there is a consul; on those islands

* Van Diemen's Land. † At Otaheite and Owyhee excepted.

there are missionaries from the United States, but none from England. At Otaheite, also, there is now consular authority. At New Zealand there are two officers, holding the indefinite station of 'Resident.' One of these officers had a salary, but denied having any authority to act as a consular agent, or even as a magistrate. The other resident (who lived at Hokianga) was not in the receipt of any salary; his appointment having been given for the reasons stated in a letter from the Colonial Secretary at Sydney, dated 29th June 1835, of which a copy is inserted in the Appendix (No. 37), accompanied by extracts from an excellent letter addressed to Mr. Busby. (No. 38.)

Upon reading these statements, it will not be difficult to form an idea of some of the embarrassments of a secular nature, which perplex the missionaries, after having overcome all the primary dangers and difficulties of establishing themselves in savage—even cannibal countries. Although they are now able to assist their own countrymen, who have eagerly profited by their exertions,—settling in every direction upon those very lands to which access was obtained by their hardy, daring enthusiasm, and is preserved by the united efforts of the supporters of missionary societies, assisting and encouraging individual exertion,—their own strength is failing!

Embarrassments of many kinds are arising; one, jealousy of that influence which has enabled even those who are jealous to approach the spot upon which they now stand, and oppose the missionary as he exerts himself to suppress licentious habits and the use of ardent spirits. While assisting their early settlement, the missionaries were the best friends of those adventurers who sought a livelihood among the islands of the Pacific—in New Zealand especially. But when once established, ingratitude and utter want of reflection became too prevalent among the worst sort of settlers, whose only occupations were those of publicans and especial sinners. The few respectable settlers—men of character and property—such as Mr. Clendon and Mr. Mair at New Zealand, Mr. Bicknell and Mr. Henry (junior) at Otaheite, have acted—I rejoice to say—in the most honourable and praiseworthy man-

ner. Their conduct deserves unanimous applause. To many it appears, that the respectable support and steady countenance of these upholders of the real character of Britons have, in a quiet, unpretending manner, much assisted the progress of the missionaries, and the spread of incipient civilization which must accompany the sacred truths of the gospel. If a few such men had not appeared upon that side of the world, how low might the character of Englishmen have fallen there. A few isolated missionaries would have been always opposed by numerous reprobates.

By such men as those who are jealous of the influence of the missionaries, an outcry has been raised against their "attempts to monopolize the lands." Said those men, "Why should a missionary be allowed to purchase so much land as to prevent people who come afterwards from obtaining an eligible piece of ground near a frequented port?" "Why should Mr. —— be allowed to try to prevent Waripoaka and his tribe from selling me that piece of ground, because he thinks that I shall sell spirits, or build a public-house? Have not the missionaries already monopolized the best land in the finest situations?"

In answer to this, lest the reader should think that the missionaries have been covetous, and have taken undue advantage of their influence (gained, it ought to be remembered, at the imminent risk of life, and when no ordinary men dared to stop in the land), I will explain — that a large extent of land in New Zealand was long ago purchased by the missionaries, on behalf of the Church Missionary Society: and that many of the outcriers supposed that land to be the private property of individuals. And I will ask for attention to the too little considered fact, that these unjustly blamed individuals have (by their engagements) divided that tie which once held them to a country whose inestimable value can only be fully felt by those who have long been wanderers in other lands. New Zealand, or Otaheite, or a less known island, is now their home; and there are around them a host of little children whose smiling healthy looks would interest even strangers in their behalf,

whose country is that adopted by their parents, and to whom every good father would anxiously desire to leave a sufficient maintenance, such as his own honourable exertions could procure. Shall the missionaries be debarred from providing in a proper manner for the future welfare of their own children? If a missionary and a more recent settler are each in treaty for a particular piece of ground, and the former obtains it upon easier terms than the latter, is it not a natural consequence of the good-will entertained towards him by the natives; many of whom understand and appreciate his motives, and are themselves very fond of the little white children, considering them as belonging to their country? The missionaries have bought land, as opportunities offered; and they, of course, from their residence upon the spot, have had better opportunities than occasional visitors or late settlers.*

If anathemas, indulgences, or excommunications were in vogue among British missionaries, one might have a suspicion of undue influence; but as such engines of spiritual, or indeed temporal power, have not, as yet, travelled out of the coral circle of the Gambier islands, I think we need not impugn the characters of highly religious men, by puzzling ourselves to learn how protestant ministers—unassisted by artifice, supported by no temporal power, except that of public opinion, excited by their own good conduct — could have obtained so great an influence over tribes of New Zealanders, as to induce them to part with their paternal lands upon terms which the natives thought unfavourable, or less advantageous than those offered by other persons.

In opposition to such an idea as that of their eagerly grasping at territory, and using undue means to procure it, I know with certainty, that the Rev. Henry Williams, and his brother William, exerted all their real influence—that of advice—in pointing out the consequences which would result to

* After a purchase of land has been made by a settler (or immigrant, as the colonists say), he is considered to be under the protection of the chief of the tribe from whom the purchase was effected.

some tribes who were inclined to part hastily with extensive tracts of valuable pine forests. The real value of those trees was explained to the natives; and they were shown distinctly how a careful management of such stores of spars would ensure a future property, and sufficient maintenance for the native children who would otherwise be deprived of their birthright. Did this show a desire to monopolize?

But I must hasten to a conclusion of the subject. When authorized agents of European or American governments assume active functions in New Zealand (where at present they are little more than cyphers), I hope they will have the good sense to ask for advice from the missionaries; who, no doubt, will duly remember, that, however they may have been called upon to act during emergencies, the duties of their office are, or ought to be, separated as much as possible from affairs of a secular nature. Neither in politics, nor in any kind of hostilities or dissensions, ought they to take a part, excepting as peace-makers, if an officer or authorized executive agent of government is within their reach.

Among many omissions which I am obliged to make in the subsequent chapter, are the following:—On the 7th of January, while more than two hundred miles from any known land, we saw a boatswain-bird and two white tern. To those who are interested about the distances to which birds fly from land, this remark may be worth notice: as some persons say that tern never fly far.

Mr. Chafters obtained the jaw of a huge blue shark, at Hobart Town, which had been killed by the boat's crew of Mr. James Kelly's whaling vessel. The extreme length of the monster was thirty-seven feet. Its jaw is now in the United Service Museum.

About Van Diemen's Land, the barometer ranged higher than I had witnessed in the southern hemisphere.

CHAPTER XXVI.

North Cape of New Zealand — Superstitions — Cook's great Lizard — Traditions — Currents — Thermometer — Sydney — Dr. Darwin — Drought—Aqueduct — Position—Disadvantages—Ill-acquired wealth of Convicts, or Emancipists — Hobart Town — Advantages of Van Diemen's Land—King George Sound — Natives — Dance — Keeling Islands — Tides — Soundings — Coral formations — Malays—Fish—Weather—Mauritius—Cape of Good Hope—St. Helena—Ascension —Bahia — Pernambuco — Cape Verde Islands—Azores — Arrive in England.

On the last day of this year (1835) we passed the north cape of New Zealand, and steered for Port Jackson. It has been said that the New Zealanders entertain vague ideas about the spirits of their dead hovering near this north cape. I had no opportunity of inquiring into this superstition, but as other authorities besides Cook mention it, no doubt there is some such belief among those who have not acquired different notions from foreigners To my mind it is interesting in two points of view; one, as showing their belief in a future state of existence; and the other, as indicating the quarter whence New Zealand was first peopled; for it appears to be an impression common to many savage nations, that their souls should go to the land of their ancestors. This is particularly remarkable among the South American aborigines. It is not easy to imagine any motive for the New Zealanders supposing that spirits hover about the North Cape, in preference to any other promontory of New Zealand, unless in connexion with the idea that from the point nearest to the country whence those people formerly migrated, the souls of the deceased would, after a time perhaps, depart to their permanent abode.

In taking leave of this interesting country I will refer to Cook once more, for a curious notice, given in his third voyage, respecting great lizards in New Zealand, which have not, so far as I am aware, been lately described, or even met with. 'Taweiharooa' gave an account of snakes and lizards of an enormous size: "he describes the latter as being eight feet in length,

and as big round as a man's body. He said that they sometimes seize and devour men; that they burrow in the ground; and that they are killed by making fires at the mouths of the holes. We could not be mistaken as to the animal; for, with his own hand, he drew a very good representation of a lizard on a piece of paper; as also of a snake, in order to show what he meant."—(Cook's third Voyage, chap. VII.) Perhaps this huge kind of lizard has become extinct; but it is possible that it yet exists on the southern (or middle) island. In its burrowing we are reminded of the great lizard, or iguana, of the Galapagos Islands; but the assertion that it sometimes seizes men seems to refer to an alligator, or crocodile. Cook heard of it shortly after leaving Queen Charlotte Sound, from a native of the southern large island.* If such a reptile ever existed upon the northern island it must have been exterminated by the earliest aboriginal settlers, as they have now no tradition of any animals except dogs, pigs, rats, mice, and small lizards. Pigs and dogs, say the natives, were brought from the north, in canoes.

On New Year's day, while in sight of the islets called Three Kings, we passed through several tide 'races,' one of which was rather 'heavy,' and would have been impassable for a boat. These races moved towards the north while we could trace their progress. The temperature of the water fell six degrees after passing through the principal one. Next day, at noon, we found that during the past twenty-four hours we had been set as many miles southward (S.S.E.), and hence I am inclined to infer that we were influenced by regular tide-streams, rather than by currents setting always in one direction. To the succeeding day at noon (3d) we were set only seven miles, by the water, and that due east. Afterwards, in our passage to Port Jackson, we had alternately northerly and south-easterly currents of about ten miles a day, and it was easy to tell which current we were in, by the temperature of the sea:—while the stream set from the north, the water thermometer showed about 72°; but when the current

* At New Zealand the southern large island is usually called the Middle Island.

was running from the southward, the temperature of the ocean, a foot below, as well as at, the surface,* was only 67°. I ought to have remarked elsewhere, if I have not already done so, that the thermometer may be used at sea to detect and trace currents; but little, if any, confidence can be placed in its indications as a guide to the approach of land. Icebergs may indeed affect it, but they will affect the temperature of the air probably sooner than that of the ocean.

Near midnight, on the 11th, we saw the red, revolving light of Sydney Light-house, and next day entered Port Jackson, and anchored in Sydney Cove. Much as I had heard of the progress and importance of this place, my astonishment was indeed great, when I saw a well-built city covering the country near the port. Not many days previously I had been reading the account of Governor Phillip's voyage to Botany Bay in 1787-8, and little did I think that, in forty-eight years from the first discovery of Port Jackson, a city, upon a large scale, could have arisen out of a wilderness so near our antipodes. In the account just mentioned it is stated that "from a piece of clay imported from Sydney Cove, Mr. Wedgwood caused a medallion to be modelled, representing Hope, encouraging Art and Labour, under the influence of Peace, to pursue the means of giving security and happiness to the infant settlement. The following lines, in allusion to this medallion, were written by Dr. Darwin."

"Where Sydney Cove her lucid bosom swells,
Courts her young navies and the storm repels,
High on a rock, amid the troubled air,
Hope stood sublime, and wav'd her golden hair;
Calm'd with her rosy smile the tossing deep,
And with sweet accents charm'd the winds to sleep;
To each wild plain, she stretch'd her snowy hand,
High-waving wood, and sea-encircled strand.
'Hear me,' she cried, 'ye rising realms! record
Time's opening scenes, and Truth's unerring word.—
There shall broad streets their stately walls extend,
The circus widen, and the crescent bend;

* For no difference could be detected, under ordinary circumstances.

There ray'd from cities o'er the cultur'd land,
Shall bright canals, and solid roads expand.—
There the proud arch, Colossus-like, bestride
Yon glittering streams, and bound the chasing tide;
Embellish'd villas crown the landscape scene,
Farms wave with gold, and orchards blush between.—
There shall tall spires, and dome-capt towers ascend,
And piers and quays their massy structures blend;
While with each breeze approaching vessels glide,
And northern treasures dance on every tide!'
Here ceased the nymph—tumultuous echoes roar,
And Joy's loud voice was heard from shore to shore—
Her graceful steps descending press'd the plain;
And Peace, and Art, and Labour, join'd her train."

When I was at Sydney in 1836, all that was foretold in this allegory had come to pass, with one exception only, that of canals. It was always a country comparatively dry; and unfortunately the more wood is cleared away, the drier both climate and soil become, therefore it is unlikely that canals should ever be made there. This want of fresh water is the only drawback to the future prosperity of this mushroom city; which is now dependent upon a supply brought through iron pipes from a distance of several leagues. Mr. Busby, father of the resident at New Zealand, was the projector and executor of this aqueduct, but,—like many other really valuable things,—his useful work as ably planned as it was perseveringly carried on against uncommon difficulties, is but little appreciated, even by those who daily drink the pure water which it supplies.

It is difficult to believe that Sydney will continue to flourish in proportion to its rise. It has sprung into existence too suddenly. Convicts have forced its growth, even as a hot-bed forces plants, and premature decay may be expected from such early maturity. Other rising colonies have advantages in point of situation and climate, which the country about Sydney does not possess; and if our government establishment should be withdrawn, from that day the decline of the city would commence, because its natural advantages are not sufficient to enable it to compete with other places in those regions,

excepting while fostered by the presence of regularly paid government officers, troops, and a large convict establishment.

There must be great difficulty in bringing up a family well in that country, in consequence of the demoralizing influence of convict servants, to which almost all children must be more or less exposed. Besides, literature is at a low ebb: most people are anxious about active farming, or commercial pursuits, which leave little leisure for reflection, or for reading more than those fritterers of the mind—daily newspapers and ephemeral trash. It was quite remarkable to see how few booksellers' shops there were in Sydney, and what a low class of books — with some exceptions — was to be found in them. These few exceptions were the works usually called 'standard,' which some persons who buy books, for show as furniture, rather than for real use, think it necessary to purchase. Another evil in the social system of Sydney and its vicinity, is the rancorous feeling which exists between the descendants of free settlers and the children of convicts. Fatal, indeed, would it be to the former, if the arm of power were removed; for their high principles and good feelings would be no match for the wiles and atrocities of such abandoned outcasts as are there congregrated, and almost rejoice in their iniquity. Money is gained by such people by any and every means, save those of honest industry. By selling spirits, frequently drugged—by theft—by receiving and selling stolen goods—by the wages of iniquity—and by exorbitant usury—fortunes have been amassed there in a few years which would make an honest man's hair stand on end. But do such men enjoy their wealth? Does it benefit them or their children? No. Their life is a miserable scene of anxiety, care, fear, and generally penuriousness; they die without a friend and without hope.

The Beagle sailed from Sydney on the 30th, and anchored off Hobart Town (or Hobarton) on the 5th of February. The change of scene was as striking as a view of Gibraltar or Madeira after leaving the Downs. Comparatively speaking, near Sydney all was light-coloured and level; while in Van Diemen's Land we almost thought ourselves in another Tierra

del Fuego. But this was only a first impression, on a blustering wet day. Fields of ripe corn, dotted, as it were, about the hilly woodlands, told us that the climate must generally be favourable; and the number of red brick cottages, thickly scattered about, though apparently at random, proved an extent of population incompatible with an unproductive place.

During a few days' stay in Sullivan Cove, the chief anchorage, we had opportunities of going to some distance into the country, and seeing things which led me to think that there is a more solid foundation for future prosperity in Van Diemen's Land than can be found near Sydney. Natural advantages are greater; and likely to increase as the country is cleared and inhabited—because rain is now almost too plentiful, though corn ripens well and is of excellent quality. As a convict colony, it of course partakes of the evils I have mentioned; but it does so in a far less degree, partly because the convicts sent there were of a less profligate and more reclaimable class than those landed at Sydney, and partly because an excellent local government restrained the licentious, and encouraged the moral to a far greater extent than was, or perhaps could be effected among the more numerous and dispersed population of Sydney and its environs.

On the 17th, we sailed out of the picturesque Derwent, an arm of the sea extending inland many miles beyond Hobart Town, and thence worked our way southward round the Land of Van Diemen. We then steered westward, or as much so as the contrary winds would admit, until we made the land off King George Sound on the 6th of March; and a few hours afterwards moored in the principal anchorage, called Princess Royal Harbour; a wide but shallow place, with a very narrow entrance. The country round King George Sound has a dull, uniform aspect; there are no mountains or rivers;* few trees are visible; white, sandy patches; scrubby bushes; bare masses of granite; and a slightly undulating outline meet and disappoint the eye of a stranger.

* Unless a few brackish, indeed salt-water, brooks can be termed rivers.

A few straggling houses, ill-placed in an exposed, cheerless situation, were seen by us as we entered the harbour; and had inclination been our guide, instead of duty, I certainly should have felt much disposed to 'put the helm up,' and make all sail away from such an uninviting place.

Next day, however, we found that appearances were worse than the reality; for behind a hill, which separates the harbour from the sound, a thick wood was discovered, where there were many trees of considerable size; and in the midst of this wood I found Sir Richard Spencer's house, much resembling a small but comfortable farm-house in England. This sort of isolated residence has a charm for some minds; but the loss of society, the numerous privations, and the vastly retrograde step necessarily taken in civilized existence by emigrating to perfectly new countries, are I think stronger objections to the plan than usually occur to persons who have not seen its consequences in actual operation.

At this time there were about thirty houses, or cottages, in the neighbourhood of the sound and harbour; some had small gardens; but, generally speaking, there was no appearance of agriculture, excepting immediately around Sir Richard's house, where a few fields had been cleared and cultivated in the midst of the wood.

There is an extraordinary degree of local magnetic attraction about this place. We could not ascertain the amount of variation with any degree of accuracy until our compasses were placed upon a sandy beach of considerable extent, near the sea. Wherever there was stone (a kind of granite) near the instruments, they were so much affected as to vary many degrees from the truth, and quite irregularly: those on board were not influenced, at least not more than a degree. We were also perplexed by the irregular and peculiar tides; but as they are mentioned elsewhere, I will refrain from farther remark on them here.

We had a good opportunity of seeing several of the aborigines; for not only were there unusual numbers of neighbouring natives then about the settlement, but a strange tribe,

called 'Cocotu,' had lately arrived from a distance, and as the residents wished to conciliate them, a 'corobbery' was proposed, and Mr. Darwin ensured the compliance of all the savages by providing an immense mess of boiled rice, with sugar, for their entertainment.

About two hours after dark the affair began. Nearly all the settlers, and their visitors, had assembled on a level place just outside the village, while the native men belonging to both tribes were painting, or rather daubing and spotting their soot-coloured bodies with a white pigment, as they clustered round blazing fires. When all was ready —the fires burning brightly—the gloom at a little distance intense, by contrast, and the spectators collected together —a heavy tramp shook the ground, and a hundred prancing demon-like figures emerged from the darkness, brandishing their weapons, stamping together in exact accordance, and making hoarse guttural sounds at each exertion. It was a fiendish sight, almost too disagreeable to be interesting. What pains savage man takes—in all parts of the world where he is found—to degrade his nature; that beautiful combination which is capable of so much intelligence and noble exertion when civilized and educated. While watching the vagaries of these performers, I could not but think of our imprudence in putting ourselves so completely into their power: about thirty unarmed men being intermixed with a hundred armed natives. The dancers were all men; a short kangaroo-skin cloak was thrown about their hips, and white feathers were stuck round their heads: many were not painted, but those who were had similar figures on their breasts; some a cross, others something like a heart. Many had spears, and all had the 'throwing-stick'; and a kind of hatchet,* in a girdle round the waist. Much of the dancing was monotonous enough, after the first appearance, reminding me of persons working in a treadmill; but their imitation of snakes, and

* This hatchet is made of two pieces of stone, joined together by a lump of gum, almost as hard as the stone: it is used for notching trees, that the men may climb after opossums.

kangaroos, in a kind of hunting dance, was exceedingly good and interesting. The whole exhibition lasted more than an hour, during most of which time upwards of a hundred savages were exerting themselves in jumping and stamping as if their lives depended on their energetic movements. There was a boy who appeared to be idiotic, or afflicted with a kind of fit; but the man who was holding him seemed to be quite unconcerned about his convulsive efforts, saying, "by and bye he would be a doctor" (as I was told by a resident who understood the language), which reminded me of what Falkner says of the Patagonians.* After the corobbery the natives collected round the house where the feast was preparing; and it will not be easy to forget the screams of delight that burst from old and young as they looked in at the door and saw the tub in which their rice was smoking. Before the food was distributed they were told to sit down, which they immediately did, in a circle round the house. They separated, of their own accord, into families, each little party lighting a small fire before them. Their behaviour, and patience, were very remarkable and pleasing. One family had a native dog, which in size, colour, and shape, was like a fox, excepting that the nose was not quite so sharp, nor the tail so bushy.

Most of the aborigines had rather good countenances, and well-formed heads, as compared with those about Sydney, or in Van Diemen's land. The lathy thinness of their persons, which seemed totally destitute of fat, and almost without flesh, is very remarkable. I have since seen some drawings of South African aborigines, executed under the critical eye of Doctor Andrew Smith, by the correct hand of Mr. Charles Bell, which are so like the natives who live near King George Sound in colour, as well as countenance, and extraordinary shape, that they might be taken for full-length portraits of the latter instead of Africans.

Many of these natives have features smaller and less marked than are usual among savages; but their foreheads are higher and more full: they are not tall, few exceeding five feet eight

* Page 163.

inches in height: and the women are wretched objects. Some of the men had pieces of bone stuck through the cartilage of the nose, which, I heard, was to prevent their being killed by another tribe, who were seeking to revenge the death of one of their own party. I was told also, that when any death occurs in one tribe, the first individual of another that is encountered is sacrificed by the bereaved party, if strong enough; but I suspect my informant confused revenge for manslaughter with the strange story—that for every death in one tribe, however caused, a life must be taken from another. Should it be true, however, the scarcity of aboriginal population would have an explanation in addition to those which various writers have given. These natives bury their dead in a short grave; the body being laid on its side, with the knees drawn up to the chin.

During our stay at this place we caught plenty of fish, of twenty different kinds, with a seine; yet with such an abundant supply close at hand, the settlers were living principally on salt provisions.

Before quitting King George Sound I must add my slight testimony to the skill and accuracy with which Flinders laid down and described those parts of New Holland and Van Diemen's Land that I have seen. His accounts also of wind, weather, climate, currents, and tides, are excellent; and there are other points of information in his large work, useful to many, but especially to seamen, which would be well worth separating from the technicalities among which they are almost lost in the present cumbersome volumes.

March 13th. We sailed, and advanced towards Cape Leuwin, but it was the 18th before our little ship was sufficiently far westward of that promontory to steer for my next object, the Keeling Islands.

From the 27th to the 30th we had a severe gale of wind, when near the situation of those remote isles, and on the 31st were in much doubt whether they lay eastward or to the west of us. There was most reason to induce me to steer eastward—indeed I was about to give orders to that effect just as the sun was setting, (no land being seen from the mast-

head, though the horizon was clear)—when a number of gannets flew past the ship towards the west. We steered directly after them, and early next morning (after making but little way during a fine night) saw the Keelings right ahead, about sixteen miles distant.

A long but broken line of cocoa-palm trees, and a heavy surf breaking upon a low white beach, nowhere rising many feet above the foaming water, was all we could discern till within five miles of the larger Keeling, (there are two distinct groups) and then we made out a number of low islets, nowhere more than thirty feet above the sea, covered with palm-trees, and encircling a large shallow lagoon.

We picked our way into Port Refuge (the only harbour), passing cautiously between patches of coral rock, clearly visible to an eye at the mast-head, and anchored in a safe, though not the best berth. An Englishman (Mr. Leisk) came on board, and, guided by him, we moved into a small but secure cove close to Direction Island.

Many reasons had induced me to select this group of coral islets for such an examination as our time and means would admit of; and, as the tides were to be an object of especial attention in a spot so favourably situated for observing them, a tide-guage was immediately placed. Its construction was then new, and, being found to answer, I will describe it briefly. Two poles were fixed upright, one on shore (above high water mark, and sheltered from wind), the other in the sea beyond the surf at low water. A block was fastened to the top of each pole, and a piece of well-stretched log-line 'rove' through them.* One end of the line was attached to a board that floated on the water; the other suspended a leaden weight, which traversed up and down the pole, on shore, as the float fell or rose with the tide. Simple as this contrivance was, and useful as we should have found it in many places where the surf or swell made it difficult to measure tides at night, without using a boat, I never thought of it till after we left King George Sound.

* A very small metal chain would be better, because a line, however stretched, will shrink after being wetted by rain, and give out again as it dries.

Until the 12th every one was actively occupied; our boats were sent in all directions, though there was so much wind almost each day as materially to impede surveying. Soundings on the seaward sides of the islands could seldom be obtained; but two moderate days were eagerly taken advantage of to go round the whole group in a boat, and get the few deep soundings which are given in the plan.* The two principal islands (considering the whole southern group as one island,) lie north and south of each other, fifteen miles apart; and as soundings were obtained two miles north of the large island, it may be inferred, I think, that the sea is not so deep between the two as it is in other directions. Only a mile from the southern extreme of the South Keeling, I could get no bottom with more than a thousand fathoms of line.

The southern cluster of islets encircle a shallow lagoon, of an oval form, about nine miles long, and six wide. The islets are mere skeletons—little better than coral reefs, on which broken coral and dust have been driven by sea and wind till enough has been accumulated to afford place and nourishment for thousands of cocoa-palms. The outer edges of the islands are considerably higher than the inner, but nowhere exceed about thirty feet above the mean level of the sea. The lagoon is shallow, almost filled with branching corals and coral sand. The small northern island is about a mile in diameter; a strip of low coral land, almost surrounding a small lagoon, and thickly covered with cocoa-nut trees.

These lonely islands (also called Cocos,) were discovered in 1608-9 by Captain William Keeling, who was in the East India Company's service, and held a commission from King James I.† Little or no notice was taken of them from that

* This plan of the Keeling Islands will be found in the third (Mr. Darwin's) volume.

† Of these facts I was credibly informed, on the authority of the late Captain Horsburgh; and presumptive evidence of their reality is afforded by the following extract from the work of a well-known historian.

Extract from a Summary of Universal History, translated from the French of M. Anquetil, First Edition, page 50. London, 1800—

In the reign of Queen Elizabeth, a Venetian galley, deeply laden,

time till 1823, when one Alexander Hare, a British subject, established himself and a small party of Malays, upon the

was driven on shore at the Isle of Wight. The sight of the riches it contained excited a desire of attempting to open a trade with Turkey, through which the merchandize of India was transported. The advantages arising from this Turkish trade to the Eastern merchants shewed that it might be rendered still more lucrative if it were carried on by a direct route. In order that no measures of prudence which seemed likely to ensure success to this grand enterprise might be omitted, the queen sent to explore the two routes already opened, that of the Cape of Good Hope, by Captain Stephens, in 1582, and that of the Strait of Magellan, in 1587. From the reports which they made, it was conceived impossible for England to appropriate to itself, by means of single ships, a part of that commerce, to the prejudice of two nations, jealous, and well established; and, that, while it employed all the exertions of industry, it would be necessary also to show a respectable force. These considerations, highly judicious, gave rise to the East India Company, which sent out its first adventure with a capital of £74,000, and four ships equipped from that sum. In 1601 the company was established under the auspices of the state, which granted it a charter of protection for a time limited.

Lancaster, who commanded this squadron, behaved like a private merchant, entered into a treaty of commerce with the King of Achen, and found means to establish a small factory, but not without experiencing some marks of displeasure from the Portuguese. He took on board a considerable quantity of pepper and other spices. His successful return encouraged the company to send out three ships under the command of Henry Middleton. The latter, however, began to assume a higher tone than that of a plain merchant. He found the Dutch and Portuguese engaged in war; not on their own account, as appeared, but as auxiliaries, the one of the King of Ternate, and the other of the King of Tidore. It seemed most advantageous to Middleton at that period to espouse the part of the Portuguese. The Dutch were incensed, and threw impediments in his way, which, however, did not prevent him from returning with a very rich cargo; but the company sent out another squadron under Edward Michael Bourne, who assumed with the Dutch that air of superiority which his force authorized, and threatened open hostilities in case they interrupted the English commerce. To support these threats, William Keeling arrived, in 1608, with a body of regular troops. The Dutch made no resistance, and even applied to the English to defend them against the inhabitants of Banda; but after this service they behaved with duplicity to their benefactors, and fettered their commerce: yet Keeling found means to return with a very rich cargo, and, what is remarkable, without the loss of a single man.

Southern Keeling Island, which he thought a favourable place for commerce, and for maintaining a seraglio of Malay women, whom he confined to one island,—almost to one house.

In 1826, or within a year of that time, Mr. J. C. Ross, some time master of a merchant ship, took up his abode on the south-eastern islet of the group; and in a very short time Hare's Malay slaves, aggrieved by his harsh treatment of them, especially by his taking away the women, and shutting them up on an island which the Malay men might not approach, deserted in a body, and claimed protection from Mr. Ross. Hare then left the Keelings, and about a year afterwards was arrested in his lawless career by death, while establishing another harem at Batavia.

From that time Mr. Ross and the Malays lived peaceably, collecting cocoa-nut oil, turtle, tortoise-shell, and bicho do mar; and occasionally sailing to the Mauritius, Singapore, or Batavia, to dispose of them, and buy necessaries with their produce. Another Englishman, Mr. C. Leisk, who had served as mate of Mr. Ross's ship, lived with him, and they both had wives (English) and children, the whole party residing together in a large house of Malay build—just such a structure as one sees represented upon old japanned work. At the time of our visit Mr. Ross was absent on one of their trading excursions, and his deputy, Leisk, was left in charge of everything.

By some strange misconception, not intentional act of injustice, Mr. Ross had refused to give Hare's slaves their freedom, for fear that the executors of that man should demand their value from him; but he paid them each two rupees a week, in goods (at his own valuation), provided that they worked for him, both men and women, as he thought proper. Mr. Leisk told me this, and said that "many of the Malays were very discontented, and wanted to leave the island." "No wonder," thought I, "for they are still slaves, and only less ill used than they were by the man who purchased them."

These Malays were allowed to rear poultry, which they sometimes sold to shipping. They were also allowed to have the produce of a certain number of cocoa-nut trees, and might catch fish and turtle for their own use; but the sale of

turtle to shipping, when they touched there, and the immense crops of cocoa-nuts which are produced annually on all the islets of the group were monopolized by Mr. Ross for his sole advantage. One daily task imposed upon the Malay women was to "husk" a hundred nuts, collected for them by the men, who extract a gallon of oil from every ten.

Another kind of oil, said to be very good, is derived from the fat tail of a large land-crab, which feeds on cocoa-nuts. About a pint and a half may be obtained from one crab. The manner in which these creatures—nearly the size of a large cray-fish—tap the nuts in order to get at their contents is curious. Numbers of windfall nuts, in a comparatively soft state, are always to be found lying about under the trees: a crab seizes one of these, and pegs away at the eyes (each nut has three eyes) with one of its claws, that is long and sharp, purposely, it would seem, until it opens a hole, through which the crab extracts the juice, and some of the solid part.

The manner of ascending tall palm-trees is similar to that described at Otaheite, and requires strength as well as agility: both which are also shown by these Malays in their chases after turtle among the shallows and coral 'thickets' of the lagoon, where they abound. A party of men go in a light boat and look for a fine turtle in some shallow place. Directly one is seen, they give chase in the boat, endeavouring to keep it in a shallow, and tolerably clear place, till it begins to be tired by its exertions to escape; then, watching a favourable moment, a man jumps out of the boat and seizes the turtle. Away it darts, with the man on its back grasping its neck until he can get an opportunity, by touching ground with his feet, to turn it over, and secure his prize. Only the more active men can succeed well in this sort of fishing.

Other unusual things were seen by us at this place, one or two of which I will mention. There are fish that live by feeding upon small branches of the coral, which grows in such profusion in the lagoon. One species of these fish is about two feet and a half long, of a beautiful green colour about the head and tail, with a hump on its head, and a bony kind of mouth,

almost like that of a turtle, within which are two rows of saw-like teeth.—Mr. Stokes saw a dog, (bred on the island), catch three such fish in the course of a few hours by chasing them in shallow water, springing after them, almost as a kangaroo springs on land. Sometimes one would take shelter under a rock, when the dog would drive it out with his paw, and seize it with his mouth as it bolted.

Among the great variety of corals forming the walls around the immediately visible basement, and the under-water forests of the Keeling islands, there is more difference than between a lily of the valley and a gnarled oak. Some are fragile and delicate, of various colours, and just like vegetables to the eye, others are of a solid description, like petrified tropical plants; but all these grow within the outer reef, and chiefly in the lagoons.*

The wall, or outer reef, about which so much has been said and thought, by able men, without their having arrived at any definite conclusion, is solid and rock-like, with a smooth surface; and where the surf is most violent, there the coral is fullest of animated matter. I was anxious to ascertain if possible, to what depth the living coral extended, but my efforts were almost in vain, on account of a surf always violent, and because the outer wall is so solid that I could not detach pieces from it lower down than five fathoms. Small anchors, hooks, grappling irons, and chains were all tried—and one after another broken by the swell almost as soon as we 'hove a strain' upon them with a 'purchase' in our largest boats. Judging however, from impressions made upon a large lead, the end of which was widened, and covered with tallow hardened with lime, and from such small fragments as we could raise, I concluded that the coral was not alive at a depth exceeding seven fathoms below low water. But this subject has been, or will be, fully discussed by Mr. Darwin, therefore I need say no more.

* One kind of coral, while alive, stings human flesh painfully when touched by it. Another kind is so hard that it gives sparks when struck by steel.

As if in speaking of these singular, though so small islands, —where crabs eat cocoa-nuts, fish eat coral, dogs catch fish, men ride on turtle, and shells are dangerous man-traps,*— any thing more were necessary to ensure the voyager's being treated like the old woman's son who talked to her about flying-fish,—it must yet be said that the greater part of the sea-fowl roost on branches, and that many rats make their nests at the top of high palm-trees.

Except sea-fowl and the domestic creatures† which have accompanied man to the Keelings, there is no bird or animal; but a kind of land-rail, which is numerous. Besides the palm there are upon the largest islets other trees, particularly a kind of teak, and some less valuable wood, from which a vessel was built.

Fresh water is not scarce on the larger islets of the group, but it is only to be got by digging wells in the coral foundation, covered as it is by vegetation. In these wells, about six feet deep, the water rises and falls as the tide of the ocean flows and ebbs; which I believe to be the case at most other coral islands where there is fresh water. It appears that the fresh water of heavy rains is held in the loose soil, (a mixture of coral, sand, and decayed vegetable substances,) and does not mix with the salt water which surrounds it, except at the edges of the land. The flowing tide pushes on every side, the mixed soil being very porous, and causes the fresh water to rise: when the tide falls the fresh water sinks also. A sponge full of fresh water placed gently in a basin of salt water, will not part with its contents for a length of time if left untouched. The water in the middle of the sponge will be found untainted by salt for many days; perhaps much longer, if tried.

A word about the inhabitants, and I leave the Keelings. No material difference was detected by me between the Malays on these islands, and the natives of Otaheite or New Zealand. I do not mean to assert that there were not numbers of men

* Chama gigantea. There is a large one in the United Service Museum.

† Rats and mice included; which swarm on those islands.

at each of those islands to whom I could not trace resemblances (setting individual features aside,) at the Keelings; I merely say that there was not one individual among the two hundred Malays I saw there whom I could have distinguished from a Polynesian Islander, had I seen him in the Pacific.

Two boys attracted my notice particularly, because their colour was of a brighter red* than that of any South American or Polynesian whom I had seen, and upon enquiry I found that these two boys were sons of Alexander Hare and a Malay woman.

Excepting the two English families I have mentioned, all on the Keelings in 1836, were Mahometans. One of their number officiated as priest; but exclusive of an extreme dislike to pigs, they showed little outward attention to his injunctions. As no Christian minister had ever visited the place, and there was no immediate prospect of one coming there, I was asked to baptize the children of Mrs. Leisk. So unusual a demand occasioned some scruples on my part, but at last I complied, and performed the appointed service in Mr. Ross's house; where six children of various ages were christened in succession. This and other facts I have mentioned respecting these sequestered islands shew the necessity that exists for some inspecting influence being exercised at every place where British subjects are settled. A visit from a man of war, even once only in a year, is sufficient (merely in prospect) to keep bad characters in tolerable check, and would make known at head quarters the more urgent wants of the settlers.

In observing the sun's meridian altitude at this place, the sextants were used, which I have adverted to before (p. 396), and the latitude deduced from their results only differed two or three seconds from that obtained by stars, without using the additional glass: I forgot to say, in speaking of the Galapagos, how useful those instruments were there; enabling us to measure the sun's meridian altitude in an artificial horizon when nearly eighty degrees high. I would not say this in favour of

* Brighter by comparison; their colour was that of copper in its very reddest state—without any tinge of yellow.

my own invention, if I did not feel certain that seamen will find it useful, and that somebody ought to tell them of it, for their own sake. (These sextants were made by Worthington.)

I was informed by the residents that between October and April, they are occasionally visited by severe gales of wind, at times almost hurricanes, so strong as to root up trees, strip the leaves off others, and unroof or blow down houses. These storms begin between south-east and south, and when they abate draw towards the west (by the south) there ending. For those who take interest in the course of storms I subjoin extracts from Mr. Ross's Journal given to me by Leisk.* Earthquakes have been felt several times, I was told by Mr. Leisk, but I could get only one extract from the Journal which mentioned a shock.†

On the 12th we sailed, carrying a good sea-stock of cocoanuts, pigs, poultry, pumpkins, and turtle. Maize and sugar-cane might have been had, if wanted. We first went round the northern Keeling:—on this island, about a mile across and but a few feet above the ocean, two English vessels have been lost since 1825, and probably other ships met a similar fate

* "April 4th, 1835. Wind south, blowing very hard all day, with a hard cloudy sky. 5th. Blowing heavily from the same point; with rain. 6th. Wind S.E. still blowing heavily, with rain. 7th. Wind increasing, at midnight the tops of many trees blown off; trees falling, and roofs of houses suffering, wind still S.E. At two A.M. on the 8th wind south; several houses laid flat; excessive thunder and lightning, with torrents of rain. About three A.M. the storm abating, and drawing to the west; at four, moderate west wind. 9th. N.W. light breeze, clear weather; went with a party (Mr. Ross, Leisk, &c.) to South-East Bay (inside South-East Island), found the bay strewed with dead fish of all sorts and sizes, which we supposed to have been killed by the fresh water. Numbers of trees blown down every where, and the earth cut through in many places by the runs of rain-water." On the 26th of November 1835, a south-east gale increased almost to a hurricane, causing similar effects, though less in number, because it lasted only two hours, and then ended by shifting to the westward, and moderating.

† That notice says, "May 25, 1830, weather calm and sultry, light N.E. breeze: about 1·30 A.M. an earthquake, of a rocking description, was felt. It continued about three minutes, and made our wooden house reel and strain considerably."

there in earlier years, when its existence was hardly known. We found the current setting towards the north-west, as I had been led to expect; but, from what I could observe, during our stay, as well as from oral information, I am led to believe that the current only sets strongly during about the last half of the flood tide, and the first half of the ebb; and that during the other six hours there is little or no current; as is the case off Cape Horn, and in many other places.*

Our passage to the Mauritius was slow, but in smooth water. Tropic birds, a few terns, and gannets were seen, at intervals, when passing the neighbourhood of the Chagos Islands, and at our approach to the island Rodriguez. We anchored in Port Louis, at the Mauritius, on the 29th of April: sailed thence on the 9th of May: passed near Madagascar—thence along the African shore—and anchored in Simon's Bay, at the Cape of Good Hope, on the 31st. From that well-known place we went to St. Helena, Ascension, Bahia, Pernambuco, the Cape Verde Islands, and the Azores; and anchored at Falmouth, on the 2d of October, after an absence of four years and nine months from England.

From Falmouth we went to Plymouth; and thence, calling at Portsmouth, to the Thames. On the 28th our anchor was let go at Greenwich; and, after the chronometer rates were ascertained, the Beagle dropped down to Woolwich, where she was paid off on the 17th of November.

Greenwich was the last station at which observations were made; and, singularly enough, Mr. Usborne and his companions came on board as we anchored there. Independent of the gratification of meeting them again, after so wide a separation, it may be supposed how my mind was relieved by his safe return from a very successful expedition, in which he had surveyed the whole coast of Peru, from Atacama to Guayaquil, without loss or accident. Although his own life was seriously risked on two or three occasions, by shots fired under misapprehension; I must not omit to mention that hostilities

* Varying from three parts, to one-quarter of a tide difference between the time of low water and the beginning of flood stream.

were suspended for a whole day, at Arica, between the land-forces and an attacking squadron, in order that Mr. Usborne might carry on his operations. Throughout the survey of the Peruvian coast, the cordial assistance of Mr. Wilson, Chargé d'affaires at Lima, was found to be of paramount consequence.

I would now speak of the steady support and unvarying help which I received from the officers of the Beagle: but where all did so much, and all contributed so materially to the gatherings of the voyage, it is unnecessary to particularise, farther than by saying that Mr. Stokes's services hold the first place in my own estimation.

In this long voyage, rather exceeding that of Vancouver, fatal disease was unknown, except in the lamented case of the purser, and in that mentioned at Rio de Janeiro; neither of which had the least reference to the particular service on which the Beagle was employed: and it is perhaps remarkable, that while the Beagle was in commission, between February 1829 and November 1836, no serious illness, brought on or contracted while on service, happened on board; neither did any accident of consequence occur in the ship; nor did any man ever fall overboard during all that time.

The freedom from illness must be attributed, under Providence, to active employment, good clothing, and wholesome food,* in healthy, though sometimes disagreeable climates: and our immunity from accident† during exposure to a variety of risks, especially in boats, I attribute, referring to visible causes, to the care, attention, and vigilance of the excellent officers whose able assistance was not valued by me more than their sincere friendship.

* See Appendix, No. 48.

† Excepting that mentioned in vol. i. p. 445.

CHAPTER XXVII.

REMARKS ON THE EARLY MIGRATIONS OF THE HUMAN RACE.

HAVING ended my narrative of the Beagle's voyage, I might lay down the pen: but there are some reflections, arising out of circumstances witnessed by myself, and enquiries since made respecting them, that I feel anxious to lay before those who take interest in such subjects; and who will detect fallacies which I, in a purblind search after truth, may have overlooked.

A few of these reflections bear on the origin and migration of the human race: and, deeply feeling the difficulty of the subject, as well as my comparative ignorance and inability, I would beg that my remarks may be viewed solely as those of a sailor who writes for the younger members of his profession —not as the scheme of a theorist.

Before mentioning the particular facts which have fallen under my own observation, and made most impression on me, in connexion with this subject, it may be well to defend myself from any imputation of indulging hastily formed or capricious ideas, by saying that from boyhood I have always taken interest in observing the various countenances, heads, shapes, sizes, colours, and other peculiarities of the human race; especially of those varieties in which education has not masked the mind, by teaching man to restrain or conceal his emotions. The result of this attention to outward tokens, occasionally retained more distinctly in my recollection by sketches, has been a conviction that external form, especially of the head and features, is exceedingly dependent upon mind; and that as the human being is more or less educated, accustomed to better or worse

habits, more or less obliged to think and act for himself; so will his external appearance vary for better or worse, and become, in a great degree, the index of his mental quality. This power of mind over matter exists in each individual, who besides may receive from his parents, outward peculiarities, and general inclinations, but in a modified degree: since the child partakes of the nature of both father and mother, (perhaps even, slightly, of that of a foster mother, if one is employed). That such hereditary peculiarities are not to be quickly or easily altered, every one will admit; but that they may be gradually changed, and in a few generations altogether obliterated, by pains being taken with successive children, many facts have been published which seem to prove incontrovertibly. This ought to give great encouragement to the exertions of parents in educating their children,* since exterior expression, if not feature, as well as the infinitely more important result, actual character, may depend so much upon training the mind aright. Supposing this to be the case, it is not surprising to find savages so very different from civilized men in outward feature, as well as in mind; or to see them, where civilization has not been known, precisely in the same condition now, as that in which we learn they were several centuries ago.

Some years since I read a long article in the "Dictionnaire Classique" under the head of "Homme," which described a great many distinct races of men—at least thirteen: and at the same time I saw a map which professed to show the geographical distribution of those several distinct races. Almost the first spot which my eye rested on was Tierra del Fuego, coloured black, to indicate that its inhabitants were black; and upon reference to the "Dictionnaire Classique" I found

* Not in overburthening their tender minds with the contents of books, or over exciting them with a whirl of ideas calculated to rouse even the listless spoiled child of fortune from his apathetic indifference—but in a wholesome mixture of general education, bodily as well as mental, adapted to their years, and calculated to prepare them, in their respective stations, for doing their duty happily to their Maker, and to their fellow-men.

that the Fuegians were there described as being black, like the natives of Van Diemen's Land. This mistake, so extraordinary considering the numerous voyagers who have seen the natives of Tierra del Fuego during the last three hundred years, stimulated me to inquire further into the data upon which that division of the human family into separate 'races' was founded. The more I have sought, the more evidence has appeared to demonstrate the erroneous nature of such a view; and the probability, nay certainty, that all men are of one blood.

In the course of years spent in various quarters of the world, I have had opportunities of leisurely considering people from all the principal countries. I have read much of what has been written, during late years, on the subject of their resemblance, or difference; and the conclusion to which I have been obliged to come is—that there is far less difference between most nations, or tribes (selecting any two for the comparison), than exists between two individuals who might be chosen out of either one of those nations or tribes; colour and hair alone excepted.

In the city of Lima there are now at least twenty-three distinct varieties of the human race, which are not only recognised and well known in that capital, but have been carefully enumerated and described by Stevenson, in the following table. All these varieties have arisen from the intermarriages of three, the Spaniard, the aboriginal Peruvian, and the negro: and among their descendants almost any coloured skin, or kind of hair, may be matched. It may be observed that although negro and white produce the zambo, which is a dark copper; and although it may be inferred from the table that zambo and some lighter variety would produce a lighter shade of copper-colour —there is still the long black hair, and scarcity of beard, observed in most American aborigines, to be accounted for. This peculiarity, however, may be derived from white and negro: and I think it would not be difficult to show that every variety of hair and colour might be produced from these two originals only.

CASTES arising from the mixture of European, Indian, and Negro.

Father.	Mother.	Child.	Colour, &c.
European	European	Creole	White.
Creole	Creole	Creole	White.
White	Indian	Mestiso	$\frac{6}{8}$ white, $\frac{2}{8}$ Indian, fair.
Indian	White	Mestiso	$\frac{4}{8}$ white, $\frac{4}{8}$ Indian.
White	Mestiso	Creole	White, often very fair.
Mestiso	White	Creole	White, rather sallow.
Mestiso	Mestiso	Creole	Sallow, often light hair.
White	Negro	Mulatto	$\frac{7}{8}$ white, $\frac{1}{8}$ negro, often fair.
Negro	White	Zambo	$\frac{4}{8}$ white, $\frac{4}{8}$ negro, dark copper.
White	Mulatto	Quarteron	$\frac{6}{8}$ white, $\frac{2}{8}$ negro, fair.
Mulatto	White	Mulatto	$\frac{5}{8}$ white, $\frac{3}{8}$ negro, tawny.
White	Quarteron	Quinteron	$\frac{7}{8}$ white, $\frac{1}{8}$ negro, very fair.
Quarteron	White	Quarteron	$\frac{6}{8}$ white, $\frac{2}{8}$ negro, tawny.
White	Quinteron	Creole	White, light eyes, fair hair.
Negro	Indian	Chino	$\frac{4}{8}$ negro, $\frac{4}{8}$ Indian, dark.
Indian	Negro	Chino	$\frac{2}{8}$ negro, $\frac{6}{8}$ Indian.
Negro	Mulatto	Zambo	$\frac{5}{8}$ negro, $\frac{3}{8}$ white.
Mulatto	Negro	Zambo	$\frac{5}{8}$ negro, $\frac{4}{8}$ white.
Negro	Zambo	Zambo	$\frac{15}{16}$ negro, $\frac{1}{16}$ white.
Zambo	Negro	Zambo	$\frac{7}{8}$ negro, $\frac{1}{8}$ white.
Negro	Chino	Zambo Chino	$\frac{15}{16}$ negro, $\frac{1}{16}$ Indian.
Chino	Negro	Zambo Chino	$\frac{7}{8}$ negro, $\frac{1}{8}$ Indian.
Negro	Negro	Negro	Black.

Colours are classed according to appearances: a child receives more of the colour of the father than of the mother.*

* Stevenson's South America, vol i. p. 286.

That colour is not alone dependant upon, or caused by climate, however much it may be altered by exposure to sun and wind, or by seclusion, no person can doubt who has at all attended to the subject, and read the opinions of men who have made it their study: but that its various hues may be derived from intermarriage, without any change of climate, this table goes far to prove.*

Having seen how all the varieties of colour may be produced from white, red, and black, we pause, because at fault, and so we should remain, did we rely on our own unassisted reason. But, turning to the Bible, we find in the history of those by whom the earth was peopled, after the flood, a curse pronounced on Ham and his descendants; and it is curious that the name Ham should mean "heat—brown—scorched," while that of Cush his son, means "black:" that Japheth should imply "handsome," and that Shem, from whose line our Saviour was descended, should mean "name—renown—he who is put or placed." I cannot myself read this explanation of Cush, and the denunciation "Cursed be Canaan—a servant of servants shall he be unto his brethren," without believing that Cush was a negro, and that from the intermarriages of his descendants with those of Shem and Japheth, came hosts of mulatto, copper, or dark-coloured men who peopled a great part of Asia, Polynesia, America, parts of Africa, and part of Australia. According to this view the black descendants of Cush overspread part of Africa, Australia, and Van Diemen's Land, New Guinea, and portions of other islands: while white families, children of Japheth and Shem, spread over Asia Minor, the Caucasian district, great part of Northern Asia, and the whole of Europe.

We read, in another place, that Abraham gave gifts to the sons of his concubines, and sent them away eastward from Canaan, unto the east country: many years before this separation, Ishmael, the son of Hagar, an Egyptian slave belonging to Abraham, was established in the country next to the

* It did not, however, satisfy me as to the production of a bright red copper colour; but of that I afterwards saw an excellent example at the Keeling Islands. See page 636.

eastward of Canaan; and as his descendants were "not to be numbered for multitude," it follows that those of some of the sons above mentioned must have migrated to a great distance.* It is likely that some of Abraham's bond-women were either black or mulatto, being descendants of Ham; perhaps of Cush: and it is hardly possible that Hagar should not have been dark, even black, considering her parentage;† in which case Ishmael would have been copper-coloured, or mulatto,‡ and some, if not all of Abraham's sons by concubines, would have been of those colours. If this be assuming too much, there can be no doubt that in the next generation Esau, or Edom, was a red man, and that his descendants, the numerous Edomites, or Idumeans, were also red: now as Esau married the daughter of Ishmael, we have, in this case, distinct evidence of the origin of a race of red, or copper-coloured men. Had the common colour of the human race been at that time red, Esau's colour would not have been remarked: had it been black, Cush would have been no distinctive appellation. It must then have been originally fair, as no colours are mentioned in the Scripture, with reference to the human race, except fair, red, and black.

A rapid increase of flocks and herds, as well as population; a consequent diminution of vegetable food; jealousies and disputes between the children of bond-women and those of the free, and the comparative indifference of fathers to the offspring of their slaves, must have stimulated migration in every direction; and, when once begun, no doubt the love of novelty, and desire of finding countries still better than those yet explored, increased, and eventually perpetuated that passion for wandering which we see to this day in the Arab, the migratory Malay, the roving Tartar, and the ever-restless South American Indian.

* See Genesis, Chap. xiii. for evidence of the necessity there was to emigrate in those early times. † Herodotus, lib. ii.

‡ The Arabs, next to the Jews the most marked people on earth, who have preserved their genealogies in an unbroken line, assert that they are descended from Ishmael; their colour is the same as that of the Malays, the Polynesian islanders, and the Americans.

Climate, habits, and food operate to cause a considerable change in the form and size, though their permanent effect on the colour of the human race is slight. The effect of climate, considered alone, may be seen in the descendants of English families settled in some parts of North America, in Australia, or Van Diemen's Land; countries where neither habits nor food differ much from those of England. We see there that our sturdy thick-set labourer's son becomes a tall lathy youth, though perhaps none of his family while in England exceeded the middle height: and not only does the form alter, but the gait and voice acquire peculiarities which mark the American born, the Australian, or the Tasmanian. Exposure to cold, wet, and wind, together with but little walking exercise, shortens the legs, and increases the stoutness of body, as may be seen in the Fuegian, the Esquimaux, and the Laplander, —in fishermen, sailors, coachmen, and others; but, activity on foot, warmth, and a fine climate, have contrary effects, which may be shown by the youth above mentioned, by the African Negro, by the Indian, by the South Sea Islander, and others. Habits require little notice, for we can hardly look around us without seeing many instances of faculties or forms altered in one way or other, by exercise or the want of it, or by certain customs: porters, smiths, dancers, grooms, jockeys, are remarkable instances. That food is a material agent in affecting the human form I think no one can doubt; and when all three combine to cause alterations, how considerable must be the change effected. That colour may be altered a little by seclusion and particular diet, or by exposure to wind and sun, need not be remarked, except for the purpose of adding that a change so caused is not permanent, or transmitted to children, like peculiarity of form. The Otaheitans used to shut themselves up for a month at a time, and eat only particular food, in order to become fairer; yet their descendants are as dark at this day as their fathers were when Wallis first discovered them in 1786.

I will now endeavour to point out those lines of communication across the oceans which appear to me, as a seaman, the

most likely to have been followed by the earliest wanderers. Of overland routes I say nothing, because where land extends, in the vicinity of water, there is no obstacle sufficient to prevent the migration of animals, as well as men; neither need I notice intervals of sea which can easily be crossed.

Wandering eastward, from Asia Minor, roving tribes may have begun to people Eastern Asia and the Indian Archipelago, while other parties were exploring Africa; and while the sons of Japhet were advancing northward, and towards the west. A slight acquaintance with ancient history informs us at how early a period extensive commerce was carried on by ships,—to Britain in the west, and to the Indian Archipelago in the east; before which time it is obvious that those extreme regions must have been tolerably well peopled: but it is not possible that they could have been so without the employment of ships, boats, canoes, or rafts. The earliest explorers of unknown lands must have been naturally enterprising, and habitually disposed to wander. Children brought up under such instructors as their migratory parents, always eager to seek for new countries, would increase their roving inclinations; and as long as another region could be found, doubtless they would try to explore it, partly from a ruling passion and habit, partly for the sake of procuring food with greater ease, and partly in consequence of feuds among themselves, which, in such a state of society, must end in the defeat and expulsion, if not subjugation or destruction of the weaker party. Add to these motives, those which I mentioned in a previous page, consequent upon intermarriage between various castes or colours, the desire of independence, or the love of wealth,* and more than enough reasons appear to account for the early dispersion of the human race, provided they possessed the means of migration.

That in the early ages large trees were more abundant near the water side in many countries than they now are, appears indisputable; but even as we see them in many uncivilized though inhabited countries, how numerous are huge trunks, out

* Real wealth—not money, its symbol and equivalent now.

of which canoes might be formed, with fire, with stones, and with shells. Considering the abundance of trees once standing in places, perhaps easy of access, whence the hand of man may have long since cleared them away, and the quantity of animal,* as well as vegetable food which may have abounded where then there had been no arch-destroyer, — how easy, comparatively speaking, may it have been, in those early ages, to fell, hollow out, and launch great trunks of trees, which, secured two and two, and covered over, would form excellent vessels. Like the double canoes of modern Polynesians, they might have carried a platform, above the reach of common waves, on which families and their provisions could voyage in security. Neither refined art nor any tool would have been required in the construction: with fire to hollow and to divide, stones, shells, and bones would have sufficed for so simple a work, and thus enabled the least informed savages to make seaworthy and even burthensome vessels.

Unlike some modern canoes, however, these primitive vessels would have been capable of sailing only before the wind, or nearly so, and would therefore have been almost at the disposal of every breeze, when once at sea. Hence, in attempting to follow their course, we must attentively consider prevailing winds, and by no means omit to regard currents, of which the first sailors could have known nothing, and which must have caused the mis-direction, if not loss, of many early adventurers.

In alluding to easily constructed rafts, and double canoes, I do not for an instant dream of excluding better vessels, which no doubt, were soon constructed after men began to roam by sea;† but I wish to show, so far as I am able, how readily means of transport were accessible to the first wanderers.

* For proofs of the extraordinarily rapid manner in which animals multiply when comparatively unmolested by man, we need only turn to South America.

† The Piragua now used at Chilóe, and by the savages of the Chonos Archipelago, exactly resembles in every minute detail the Masculah boat of Madras. Its 'sacho,' or wooden anchor with a stone in the middle, is precisely like that used in Chinese and Japanese Junks: but doubtless these coincidences may be accidental.

I must pause for a moment to explain why I consider these explorers as savages, although they were spoken of before as descendants of Abraham and his countrymen, who were civilized. Let us suppose, for illustration, that a party of men and women left Asia Minor in a civilized state. Before they had wandered far, no writing materials or clothes would have remained (had they even possessed them), and their children would have been taught only to provide for daily wants, food, and perhaps some substitute for clothes, such as skins. Their grand-children would have been in a still worse condition as to information or traces of civilization, and each succeeding generation would have fallen lower in the scale, until they became savages in the fullest sense of the word; from which degraded condition they would not rise a step by their own exertions; so long as they received no assistance, no glimmerings of intelligence, from others who had branched off from the main trunk at a much later period, and had means of preserving more knowledge. The degree of degradation would depend upon climate, disposition, description and quantity of food, recollection of origin and traditions, keeping up old observances, and intercourse with other families, tribes, or nations, among whom more traces of their common origin and descent might have been preserved. Were a dozen men and women now cast away upon unknown land—supposing that not one of the party could read or write—that there was no substance with which they could clothe themselves except the skins of animals—that the climate was variable—that they had neither tools nor arms—that the extent of habitable land admitted of their wandering—that it had no other human inhabitants, and that it should be visited by none for the space of some hundred years after the arrival of this party,—in what state would their descendants be found by the next adventurers who might land on the shores of that country?

India, China, Mexico, Peru, regions separated from the central seat of population, but advanced in civilization at the earliest period of their history with which we are acquainted, preserve traditional accounts of superior men who arrived

there, and first began to improve the condition of their people, but we are not told whence those men came. No one, however, can read about those countries, as well as Tartary, Japan, and Polynesia, without being struck by the traces of Hebrew ceremonies and rites, by the evidences of the worship of Baal, or by remains of Arkite observances, scattered through the more populous, if not through all the nations upon earth.

That man could have been first created in an infant, or a savage state, appears to my apprehension impossible; (for a moment taking a view of the case, unaided by Scripture;) because—if an infant—who nursed, who fed, who protected him till able to subsist alone? and, if a savage, he would have been utterly helpless. Destitute of the instinct possessed by brutes,—with organs inexperienced (however perfect), and with a mind absolutely vacant; neither his eye, his ear, his hand, nor his foot would have been available; and after a few hours of apathetic existence he must have perished. The only idea I can reconcile to reason is that man was created perfect in body, perfect in mind, and knowing by inspiration enough for the part he had to perform;—such a being it would be worse than folly to call savage.

Have we a shadow of ground for thinking that wild animals or plants have improved since their creation? Can any reasonable man believe that the first of a race, species, or kind, was the most inferior? Then how for a moment could false philosophers, and those who have been led away by their writings, imagine that there were separate beginnings of savage races, at different times, and in different places? Yet I may answer this question myself; for until I had thought much on the subject, and had seen nearly every variety of the human race, I had no reason to give in opposition to doubts excited by such sceptical works, except a conviction that the Bible was true, that in all ages men had erred, and that sooner or later the truth of every statement contained in that record would be proved.

To return to the lines and means of communication:—

Following the various routes of population into the Indian

Archipelago, to Japan, to Kamschatka, and to Australia, we are stopped by the vast Pacific—except at one point, Kamschatka, and there, by the Aleutian isles, is an easy road to America. Now it is not probable that intercourse should have been begun by water, between various points on those extensive shores, (reaching from 60°, N. lat., to 40°, S. lat.), without numerous accidents happening, such as vessels, boats, canoes, or rafts being carried out of sight of land by storms; when, ignorant how to steer as their crews must have been, they were driven before the wind till they reached some unknown land, or were engulfed in ocean.

Many such vessels, out of the numbers which must have been tempest-tost among currents and dangers of every kind incident to navigation, may have failed in finding land before their store of provision was consumed, and their crews reduced to the horrible necessity of feeding upon human flesh. When once the natural antipathy to cannibalism was overcome, recurrence to similar food would have been less revolting on other occasions; especially if, excited by rage or animosity, and deprived of animal food, men had accustomed themselves to anticipate satisfying their hunger by the flesh of a miserable slave, or even of a late friend whom accident had estranged and turned into a blood-thirsty enemy.

Looking over a modern chart of the Pacific we see a multitude of islands scattered, like stars over the sky, from the Indian archipelago to Salas y Gomez;* whence to Mas-a-fuera, on the South American coast, the distance is not fourteen hundred miles; and to the main land itself, about eighteen hundred. It is possible that other islands may have existed, but we now find a comparatively short distance between Easter Island and South America; besides favouring circumstances of wind and weather which lead me to believe that a line of population went in that direction. It is not impossible that vessels should have crossed from New Zealand to South America, running always before the fresh westerly winds so prevalent southward of 38°; neither is it at all unlikely, on the

* Near Easter Island.

contrary it is highly probable, that Chinese or Japanese Junks were driven to the Sandwich Islands; perhaps across to the North American coast.

Between the tropics in the Pacific an easterly trade wind is found during more than half the year; but it is not generally known (except by readers of voyages) that from November to March there is much west wind, rain, and occasional tempest, between the vicinity of the equator, and about fifteen degrees south. This westerly monsoon, for such in fact it is, sometimes is steadily regular, and at others interrupted by calms, storms,* or heavy rains. The eastern limit to which it usually reaches is about 110° W. long., but there is reason to suppose, that it extends at times, irregularly, to the Galapagos Islands, if not to the adjacent continent, when Guayaquil is suffering from heavy torrents of rain. While the sun is far south, this westerly monsoon extends to the tropic of Capricorn, between the meridians of 150° E. and 120° W. longitude. At other times of the year the tropical regions of the Pacific are refreshed by pleasant easterly winds, varying in moderate strength, and in their direction from the northward or southward of east.

Beyond the region of tropical or trade winds, an almost continual succession of westerly winds is found to prevail. In those middle latitudes easterly winds sometimes blow; but their amount is not more than one-fifth that of the west winds, throughout the year.

In the Southern Atlantic and Southern Indian ocean similar winds prevail, between the parallels of 30° and 60°. Instances in profusion may be found in narratives of voyages, where very small vessels, boats, or canoes, have made long passages across an open ocean, or have passed months in ignorance of their geographical situation, enduring the most dreadful privations. In the event of a float, whether raft, canoe, or rudely constructed vessel, being carried out of sight

* During these storms, which begin very suddenly, not only vessels are driven out of their course, but birds, insects, and seeds are carried to great distances.

of land by current or wind, or by both, and taken into a steady trade, or lasting westerly wind, it would be impossible for her to struggle against it for many days; she must eventually run before it as the last expedient, with the hope, often forlorn, of falling in with some land to leeward.

When we reflect on the tedious coasting voyages undertaken formerly, even in historical times; and on the quantities of provision embarked for those long passages; may we not infer that the earliest explorers would take as much food with them as their rafts or vessels could carry; and therefore, that if driven out to sea, they were capable, in some instances at least, of holding out for a considerable length of time without having recourse to the last alternative.

If a vessel were drifted from Easter Island* by a north-west wind (occasional in July, August, or September,) she would be carried towards the coast of Chile; she might be drifted directly there, or she might be driven eastward for a time, and then, in consequence of wind changing, drifted towards the north; so that it would be uncertain whether Chile, Peru, the Galapagos Islands, Mexico, or the wide ocean would receive the lost wanderers. It is also possible that a vessel may have been driven to South America from the neighbourhood of New Zealand; but this does not appear nearly so probable as the former conjecture. That the Araucanians about Valdivia originally arrived in that country by water, from the west, is I think indicated by what is stated in page 400 of this volume.

But while man was thus spreading eastward across the Pacific, are we to suppose that no vessel was ever blown off the coast of Africa, or that of Spain, and drifted by easterly winds across the Atlantic? How easy is the voyage, before a steady trade wind, from the Canary or Cape Verde Islands to the West Indies or Brazil; from the west coast of Africa to the

* At Easter Island in 1722, Roggewein found idolaters and fire-worshippers, and he says that one of the chief idols was called Dago. In 1774, people differently disposed, were found there by Cook; the idols still remained, but no traces were observed of fire-worship.

east coast of America. Tradition in Brazil says that such arrivals took place there, and certainly there is a resemblance in some points between the Patagonians and what history states of the Guanches.

Let us now turn to the Negro population, descendants of Cush. Spreading to the south and west, they may have overrun extensive regions in Africa, but by no means to the exclusion of the mixed varieties of men, who also explored and colonized that continent, chiefly towards the northern and central regions. From the coast opposite Madagascar a party of negroes might have embarked to cross the Mosambique Channel, or they might have been driven off by a storm while coasting along near Algoa Bay, in which cases the current, always setting south-westward along that coast, would have hurried them into the region of strong westerly winds, by which they must have been carried, if their vessel and provisions held out, to the coast of New Holland, or to Van Diemen's Land. Now it is worth notice that the men of the south-western quarter of Australia are exceedingly like some of those who frequent the countries near Algoa Bay—and that the native dances and superstitions are very similar; while the aborigines of Van Diemen's Land, though of like colour, are shorter, stouter, and have coarser features; differences which might be expected to result from living in a wetter, windier, and colder climate. That other negroes arrived on the northern shores of Australia, brought there as slaves by red men, or making their escape from Asiatic masters, is probable: and from one or other source, if not from each, the black men in Australia and Van Diemen's Land may have been derived. That red men must have landed in Australia, we now know by the notices of late travellers, and their presence accounts for the colour observable in many of the so-called blacks, whose actual hue, when washed, is a deep brown—next to black, certainly, but with a perceptible red tinge. They are nearly the variety which would be produced by the intermarriage of a Negro and a Chino (see table, page 643,) called Zambo-chino in Lima: but there are gradations of colour, as might be expected, and va-

rieties of hair; some being more or less woolly, others frizzled, almost like that of a mulatto.*

The occasional peculiarities of outward form, on which so much stress has been laid, to the prejudice of the Hottentots especially, are considered by able anatomists whom I have consulted to be of no more real consequence than that existing in a six-fingered family. On their authority it may be shown that such occasional deviations from ordinary conformation, which are sometimes continued in particular families, and therefore might be found in a whole tribe who were originally but one family, in no degree constitute distinct species. From them we learn also that all varieties of the human race are alike in their anatomical structure, and that intermarriage between any two varieties whatever is productive of a prolific offspring.

Considerable stress has been laid on language as a means of tracing affinities or descents; but with great deference for the

* Of the natives of Van Diemen's Land Cook remarks that their hair differed in texture from that of the natives of New South Wales, being in Adventure Bay as woolly as that of any native of Guinea, while that of the aborigines of New South Wales was naturally long and black, though cropped short.—Cook's Voyage, 1769-71.

Bligh says that the aborigines of Van Diemen's Land are black, and that their hair, "which resembled the wool of the Caffres," was separated into shreds, and powdered with red ochre. They were generally slender, tolerably well made, kept their shoulders back, and upon their prominent chests several had marks raised in the skin.—Bligh's Voyage—Adventure Bay, 1788-1792.

Flinders saw only one native of this country, but his appearance much resembled that of the inhabitants of New South Wales. He had also marks raised upon the skin, and his face was blackened, and hair ruddled, as is sometimes practised by them. The hair was either cropped close, or naturally short, but it had not the appearance of being woolly.

In Marion's voyage a skirmish with the natives of Van Diemen's Land took place, after relating which, the writer says, "on entering among the trees they found a dying savage. This man was a little more than five feet seven inches in height, (French measure). His breast was marked like those of the Mosambique Caffres, and his skin appeared as black; but, on washing off the soot and dirt, his natural colour appeared to have a reddish tinge."

learned men who have devoted so much time to following its intricate traces, I would ask whether, when a language was not written, or in any manner fixed, it was not liable to vary continually as fresh separations of families into tribes occurred; and whether therefore it is possible to do more than classify unwritten languages, following some few traces of resemblance which may occasionally be marked, and detecting the root, though not the branch? In such an interesting pursuit, however, every sign, even the faintest, is valuable;—but only men of deep research and extensive learning can advantageously pursue this method of inquiry into the migrations and early history of our race.

I believe it will be found that the remarks I have ventured to make in the preceding pages, are by no means at variance with most of their deductions; and I much regret that our opportunities of collecting words, and modes of expression, were not such as to enable me to add many to their collections.

CHAPTER XXVIII.

A VERY FEW REMARKS WITH REFERENCE TO THE DELUGE.

To account for offering a few remarks on a subject so important and difficult as that of the Deluge, I beg to say that reflections, arising out of facts witnessed during the Beagle's voyage, have occasioned them; and, as results of that expedition, it has appeared to me that they are neither irrelevant to the narrative, nor likely to be altogether uninteresting to young men in the navy.

I suffered much anxiety in former years from a disposition to doubt, if not disbelieve, the inspired History written by Moses. I knew so little of that record, or of the intimate manner in which the Old Testament is connected with the New, that I fancied some events there related might be mythological or fabulous, while I sincerely believed the truth of others; a wavering between opinions, which could only be productive of an unsettled, and therefore unhappy, state of mind. Some young men, I am well aware, are in a similar condition, while many others are content to set aside all reflection, and do as the world does; or rather, as those do among whom they generally live. Natural affection and respect for good parents, relations, and elders, never can lead a young man astray; but there is, perhaps, no guide more fallible or dangerous than the common custom of those inexperienced persons who associate together, chiefly for lack of fixed occupation; and whose principal object is to drive away self-examination, or prolonged thought, by a continual succession of idle amusement, or vivid excitement.

Wholesome and necessary as amusement and recreation are, both for mind and body, every one knows how insipid, even painful their excess becomes; and external evidence shows but

too plainly where the happiness, the blessings, and the comfort men might enjoy, have by themselves been slighted, or destroyed, from forgetting the line between using, and abusing; and by turning a deaf ear to the reflection that they are but 'tenants at will.'

Much of my own uneasiness was caused by reading works written by men of Voltaire's school; and by those of geologists who contradict, by implication, if not in plain terms, the authenticity of the Scriptures; before I had any acquaintance with the volume which they so incautiously impugn. For geology, as a useful branch of science,* I have as high a respect as for any other young branch of the tree of knowledge, which has yet to undergo the trial of experience; and no doubt exists in my own breast that every such additional branch, if proved by time to be sound and healthy, will contribute its share of nourishment and vigour to the tree which sprung from an immortal root. For men who, like myself formerly, are willingly ignorant of the Bible, and doubt its divine inspiration, I can only have one feeling—sincere sorrow.

Few have time, as well as inclination, to go far into both sides of any question; but truth can hardly be drawn out of the well unless some exertion be made, in examining each argument, or in selecting a well-tried and experienced guide. It is idle to say, as I have heard asserted, that such works as those above-mentioned do little harm; experience proves the contrary; of which I am made painfully aware, not only by my own conscience, but by conversation with friends.

While led away by sceptical ideas, and knowing extremely little of the Bible, one of my remarks to a friend, on crossing vast plains composed of rolled stones bedded in diluvial detritus some hundred feet in depth, was "this could never have been effected by a forty days' flood,"—an expression plainly indicative of the turn of mind, and ignorance of Scripture. I was quite willing to disbelieve what I thought to be the Mosaic account, upon the evidence of a hasty glance, though knowing next to

* By which word I mean 'Knowledge,' in its most comprehensive signification.

nothing of the record I doubted:—and I mention this particularly, because I have conversed with persons fond of geology, yet knowing no more of the Bible than I knew at that time. Thus much I feel it necessary to say, in accounting for my own approach to a subject in which all men feel deeply interested; and which has therefore been so well treated of, that these remarks would be useless, were it not that they may reach the eyes of young sailors, who have not always access to works of authority.

The Mosaic account of the Creation is so intimately connected with that of the Deluge that I must ask my young reader (whom alone I presume to address on this subject) to turn to the first chapter of Genesis, and refer to a few verses with me. We soon find a remarkable fact, which shows to my mind that the knowledge of Moses was super-human: his declaration in an early age that light was created before the sun and moon, which must till then have appeared to be the sources of light. In the fourth verse it is stated that "God divided the light from the darkness." This may have been effected by a rotation of the earth on its axis, turning each side in succession to the light; otherwise, had the earth remained stationary, light must have been destroyed to admit darkness, and there must have been repeated creations of light. The light was called day—"and the evening and the morning were the first day." Of course there could have been no morning previous to the creation of light; and the first portion of time, consonant to our present expressions, would have been that which elapsed between light and darkness, or evening. The length of a day being determined by the rotation of the earth on its axis; turning round once, so as to make an evening and a morning to each spot on the globe; the time occupied by that rotation is a natural object of interest. In the 12th verse it is said that grass, herbs, and trees, were brought forth; in the 14th and 16th, that lights were made to divide the day from the night; and that the greater light was to rule the day. It is known that neither trees, herbs, nor grass can exist long without the light and heat of the sun, therefore the

rotation of the earth between the third day, when vegetation was produced, and the fourth, could not have been very different, in velocity, from its present rotation. Some men, of rare abilities, have thought that the "days" of creation were indefinite periods, notwithstanding the statement in verse 14, which affirms that the lights in the firmament of heaven were to divide the day from the night; and to "be for signs, and for seasons, and for days, and years." In this one verse do we not see that the day was less than a year (signs and seasons, days and years); for had the day there meant been more than a year would not the words have been differently placed, namely —signs and seasons, years and days? Can we think that day means one space of time in the former part, and another space of time in the latter part of that one verse? Another indication that the word day, used in the first chapter of Genesis, does not mean a period much, if at all, longer than our present day, is—that it is spoken of as alternating with night. Although the word day is used in other chapters of the Bible, even so soon as the 4th verse of the 2d chapter of Genesis, to express a period, or space of time longer than our present day, the word night is never so applied:—hence, as the earth turns uniformly on its axis, and, so far as we can reason from analogy, must have turned uniformly, while turning at all, the word night in the 5th verse interprets the length of a day.

Some have laid stress upon the declaration that a thousand years are with the Lord as one day:—but what is the context? * To lengthen the day to a thousand years, on account of this and a similar expression, is not more reasonable than it would be to reduce it to a night-watch. What is a watch in the night when passed?—next to nothing:—so are a thousand years with the Almighty. These considerations tend to show how, without Chaldee or Hebrew learning, a man, with a common English education, may convince himself of a fact which has lately been so much controverted.†

* "A thousand years in thy sight are but as yesterday when it is past, and as a watch in the night."—Ps. xc. ver. 4.

† I may, however, here remark to my young sailor friends, that the Jews,

Partly referring to such indefinite periods as we have been discussing,—and partly to reasoning unaided by revelation,—some geologists have said that there were successive creations, at intervals of vast duration. They have imagined an age in which only the 'so-called' lowest orders of animated creatures existed,* an age of fishes, an age of reptiles, an age of mammalia, and an age in which man appeared: statements which have obtained much attention. Fossil fishes and shell mollusca† have been found in coal measures, and in subjacent formations:—how could this have happened if vegetables had been produced first; then swept away and converted into coal, and that afterwards the lower orders of animals had appeared? We know that the fossil plants of the coal formations are similar in structure to vegetables now growing on the earth, which cannot flourish without warmth, and the light of the sun. Vegetation was produced on the third day, the sun on the fourth. If the third day was an age, how was the vegetable world nourished? But anomalies such as these appear to be endless in most geological theories: I will leave them for the present and continue my course.

Jews, who perform their worship in Hebrew, and are naturally at least as much interested in the Old Testament as any people, use and prefer our authorised English translation.

* In classing one order of creatures above or below others, we may perhaps consider them as they appear to our apprehension, in comparison with others, but we must beware of thinking them more or less imperfect. Every creature is perfectly adapted to the condition and locality for which it is designed, and absolutely perfect (speaking generally). Some that are intended to live in the dark; or some that are to exist under pressure; may at first sight appear to us imperfect; perhaps shapeless, unsightly objects: but, after examination into their natural history, our hasty remark is succeeded by expressions of astonishment at such wonderful arrangements of Providence as are shewn—even in the most shapeless sea slug.

Multitudes of creatures exist now, especially in the sea, quite as apparently imperfect as those of the so called lowest order of animated creation, whose impressions are found in solid rocks. There may also be animals in deep waters that could not exist except under pressure.

† Rhind, Keith, Lyell, &c.

In the 16th verse it is said that "God made two great lights; the greater light to rule the day, the lesser light to rule the night: the stars also;" that is, he made the stars also.

It is not stated here that the Almighty made all the stars at that time; nor can I, after consulting very able men, find any passage of such an import. That all the stars dependant upon, or connected with, our solar system, namely, the planets and their satellites, were then created, seems to be evident from the fact of their revolving round our sun; but farther than this, it is not thought necessary (may we not presume) for man to know; therefore it is not revealed to us. In the ancient book of Job, the creation of the world is thus alluded to. "Who laid the corner stone thereof, when the morning stars sang together, and all the sons of God shouted for joy."* But the earth was finished, and vegetation produced, before the creation of stars mentioned in Gen. i. 16; therefore, unless the 'corner-stone' alludes to man, it may be inferred that there were stars in existence besides those made on the fourth day. Of course, the 'singing of the stars' is a figurative expression; but as we do not meet with any similar metaphor in the Bible, unconnected with some object that we know exists; we may infer that stars existed when the allegorical, or mystical corner-stone was thus laid.†

In verses 29 and 30, the food for man and beast is mentioned, and with reference to the Deluge this should be borne in mind. It may be said that the teeth of some animals are so formed as to be fit only for grazing, or browzing; that beasts of prey have teeth adapted to tearing and gnawing; and that man requires meat; but we must remember that dogs and wild beasts thrive upon a vegetable diet, and that some men never touch meat, even in the present state of the world: very

* Job. xxxviii. 6, 7.

† Much must depend upon the limit attached to the meaning of the word Heaven in the 1st Chapter of Genesis, and Heavens in the 2nd; viewed in connection with verses 1, 6, 7, 8, 9, 14, 15, 17, and 20 of Chap. i.; 1, 4, of Chap. ii.; verses 5, 7, 10, 13 of 2 Peter iii.; and very many other passages; not omitting the Lord's prayer.

different probably from its condition before the flood, as may be concluded from the inferior duration of human life.

The 2d and 3d verses of chap. ii. recall to mind the wonderful fact that the seventh day has been a marked division of time from the earliest period of historical record.*

It is now well known that all nations, and almost all tribes of the human race, preserve traditions of a great flood in which nearly all men were destroyed :† and it is also established as a fact, that nearly all parts of the earth, hitherto examined, bear witness to their having been at some time covered by the ocean. Instead of ascribing these effects to the universal deluge, many geologists say that the earth is in a continual, though gradual state of change; that in consequence of this general mobility, places now far above the sea were once beneath it; that districts, or countries, may have been inundated in one quarter, and other regions elsewhere, but that an universal deluge never could have happened. This is implied plainly enough, if not asserted, in several geological works.

In the Beagle's examination of the southern parts of South America, I had opportunities of observing immense tracts of land composed, solely, of fossil shells, bones, and an earth which looked like dried sandy mud :—extensive ranges of country where no solid rock could be found, only rolled or shingle stones, embedded to a great depth in earth, exactly like that described above ;—and a wide district, at least fifty miles across, covered with lava of which the surface was nearly horizontal. (San José, San Julian, Santa Cruz.)

I brought to England many specimens of these shells, which, although taken from within a few feet of the surface of the land, were found to have been pressed together, crushed, and penetrated by mud, in a manner that never could have been caused by the weight of earth then lying above them, because, though solid, it could neither have mashed the shells, nor worked into their inmost recesses. It seems evident to me

* We find it ordained in Gen. ii. 3; alluded to by Noah, chap. viii. ver. 10, 12; and afterwards observed regularly, down to the present time.

† Sharon Turner, Harcourt, &c.

that those shells have undergone enormous pressure beneath an ocean, when they were surrounded with mud.* But previous to such pressure, the shells must have grown naturally somewhere:—certainly not at the bottom of an ocean; because they are shells of a comparatively delicate structure which are

* On this subject, the pressure of an ocean, Mr. Lyell remarks, (Elements of Geology, 1838, pp. 7, 8, 9.) "When sand and mud sink to the bottom of a deep sea the particles are not pressed down by the enormous weight of the incumbent ocean; for the water, which becomes mingled with the sand and mud, resists pressure with a force equal to that of the column of fluid above." "Nevertheless if the materials of a stratum remain in a yielding state, and do not set or solidify, they will be gradually squeezed down by the weight of other materials successively heaped upon them, just as soft clay or loose sand on which a house is built may give way. By such downward pressure particles of clay, sand, and marl may become packed into a smaller space, and be made to cohere together permanently."

"But the action of heat at various depths is probably the most powerful of all causes in hardening sedimentary strata."

In reflecting upon these passages it appears to me that Mr. Lyell has supposed what may not always take place in a deep sea, namely—that sand and mud sink to the bottom.

Whenever particles of sand and mud are at the bottom, they must be lower than contiguous particles of water, or they could not be at the bottom; therefore those particles of sand and mud have water above, while resting upon some other substance below. Pressure there can be none, excepting of some earthy particles upon others, while the specific gravity of the sand and mud exceeds that of the displaced fluid. But, if the depth of water be increased, and its specific gravity at the bottom augmented, the sand and mud at the bottom must rise, if they do not cohere together, and to the surface on which they lie; in which case the increasing weight and density of water would tend to compress and make them cohere still more.

The smaller kinds of sea shells are very little heavier than sea water. This would prevent their being carried by the action of the sea to great depths, even if it were possible for them to be so rolled over rocks, sand, or mud, in which they would stick, or be buried, before they had been moved many miles from the place where they grew. These two considerations may help to account for the fact that seamen do not find impressions of shells, on the 'arming' of the lead, when sounding in very deep water, at a considerable distance from any shore where they grow. Sea-shells, I need hardly remark, grow only in comparatively shallow water.

usually found within a few feet of low water; some at least of the number being identical with living species.

If the square miles of solid land in which those myriads of shells are now embedded, had been upheaved (as geologists say), either gradually, or rapidly, shells could not be found there in their present confused and compressed state. Had the land sunk down many thousand feet with shells upon it, they might have been covered with mud, and on being afterwards upheaved again they would have appeared embedded regularly where they grew, in a matrix which, with the pressure of a superincumbent ocean, might have flattened and penetrated them: but they would not have been torn away from their roots, rolled, broken, mashed, and mixed in endless confusion, similarly to those now in my possession.

There is also another consideration: geologists who contend for the central heat of the earth assert that substances subjected to great pressure under the sea become altered: hence, in conformity with their theory, these shells could not have been long buried under a deep ocean, and afterwards raised in their pristine state. So little changed are these shells, except in form, that they appear as if they had been heaped

water. The specific gravity of oyster shell, when dead, is about twice that of sea-water (2092,1028). Most other shells are much lighter, and but few at all heavier than the oyster.

Before ending this note I must remark that the horizontal movement of water near the bottom, though gentle, may tend to press together and smooth any loose sand, mud that sinks, oazy clay, or fragments of shells, before many of their particles travel far. Water in rapid motion is known to hold sand as well as mud in suspension, but not shells, unless the current is very strong. To such a constant agitation of the sea, oscillating gently with each tide, we may perhaps ascribe the comparatively level and smoothened state of the bed of the ocean, where it has hitherto been sounded. Excepting near irregular, rocky land, one finds, generally speaking, no ravines, no vallies, no abrupt transitions in the bottom of the sea. For miles together there is an almost equal or gradually altering depth of water: and little similarity can be traced between the contour of the bed of a sea and the neighbouring dry land, until you are near the shore, where the sea acts differently, and irregular bottom is as frequent as it is usually dangerous for shipping.

together and squeezed in mud within a few years from the present time.

One remarkable place, easy of access, where any person can inspect these shelly remains, is Port San Julian. There, cliffs, from ten to a hundred feet high, are composed of nothing but such earth and fossils; and as those dug from the very tops of the cliffs are just as much compressed as those at any other part, it follows that they were acted upon by an immense weight not now existing. From this one simple fact may be deduced the conclusions—that Patagonia was once under the sea; that the sea grew deeper over the land in a tumultuous manner, rushing to and fro, tearing up and heaping together shells which once grew regularly or in beds: that the depth of water afterwards became so great as to squeeze or mass the earth and shells together by its enormous pressure; and that after being so forced down, the cohesion of the mass became sufficient to resist the separating power of other waves, during the subsidence of that ocean which had overwhelmed the land. If it be shewn that Patagonia was under a deep sea, not in consequence of the land having sunk, but because of the water having risen, it will follow as a necessary consequence that every other portion of the globe must have been flooded to a nearly equal height, at the same time; since the tendency to equilibrium in fluids would prevent any one part of an ocean from rising much above any other part, unless sustained at a greater elevation by external force; such as the attraction of the moon, or sun; or a strong wind; or momentum derived from their agency. Hence therefore, if Patagonia was covered to a great depth, all the world was covered to a great depth; and from those shells alone my own mind is convinced, (independent of the Scripture) that this earth has undergone an universal deluge.

The immense fields of lava, spoken of in a preceding page (633), and which to an ordinary observer appear to be horizontal, are spread almost evenly over such an extent of country, that the only probable conclusion seems to be, that the lava was ejected while a deep sea covered the earth, and

that tidal oscillations,* combined with immense pressure, spread and smoothed it, while in a rapidly cooling though viscous state, over the surface of the land.

The vast quantity of shingle, or rounded stones of all sizes, may be accounted for in a manner unconnected with that of water acting upon a shore; though doubtless a great proportion of the shingle we see has been rounded in that manner. Melted stone, thrown out of a volcano, and propelled through water with great velocity, might be rounded and cooled as shot are when dropped into water from a tower. In modern volcanoes we observe that some matter is thrown into the air, while other, and the greater quantity, runs over the edges of a crater, overflowing the adjacent tracts of land.

Proceeding to the west coast of South America, we find that near Concepcion there are beds of marine shells at a great height above the level of the sea. These, say geologists, were once under the ocean, but, in consequence of the gradual upheaval of the land, are now far above it. They are closely compressed together, and some are broken, though of a very solid and durable nature; and being near the surface of the land are covered with only a thin stratum of earth. They are massed together in a manner totally different from any in which they could have grown, therefore the argument used in Patagonia is again applicable here. But in addition to this, there is another fact deserving attention: namely, that there are similar beds of similar shells, (identical with living species) about, or rather below the level of the present ocean, and at some distance from it.†

In crossing the Cordillera of the Andes Mr. Darwin found petrified trees, embedded in sandstone, six or seven thousand feet above the level of the sea: and at twelve or thirteen thousand feet above the sea-level he found fossil sea-shells, limestone, sandstone, and a conglomerate in which were pebbles of the "rock with shells." Above the sandstone in which the petrified trees were found, is "a great bed, apparently about one thousand feet thick, of black augitic lava; and over this there

* See remarks on tides in the Appendix. † Pages 121, 2, 3.

are at least five grand alternations of such rocks, and aqueous sedimentary deposits, amounting in thickness to several thousand feet."* These wonderful alternations of the consequences of fire and flood, are, to me, indubitable proofs of that tremendous catastrophe which alone could have caused them;—of that awful combination of water and volcanic agency which is shadowed forth to our minds by the expression "the fountains of the great deep were broken up, and the windows of heaven were opened."

The upheaval of the island of Santa Maria has been quoted by geologists, from my statement; and it will be interesting to learn whether that island has remained at its new elevation, or whether, like the shore at Talcahuano,† it has sunk down again. If the coast in that neighbourhood has been gradually rising, it is strange that old Penco Castle should still stand so low (p. 421).

In Mr. Lyell's Elements of Geology, ‡ he mentions Mr. Darwin having found, near Callao, "at the altitude of eighty-five feet above the sea, pieces of cotton thread, plaited rush, and the head of a stalk of Indian corn, all of which had evidently been imbedded with the shells" (marine). "At the same height on the neighbouring mainland, he found other signs corroborating the opinion that the ancient bed of the sea had there also been uplifted eighty-five feet, since the region was first peopled by the Peruvian race." The neighbourhood of Lima has suffered from immense waves caused by earthquakes, and the relics found among the shells may have been scattered by one of those waves. The bed of shells may have been disturbed by the earthquake and its consequences, the ground may have been rent, and afterwards closed again, or the opening may have been filled up by loose earth and anything lying on it, as has taken place at Concepcion. That the country near Callao, or Lima, has not been upheaved, to any sensible amount, since the last great earthquake, which was accompanied by a wave that

* Mr. Darwin's letters to Professor Henslow: printed for the Cambridge Philosophical Society—1835.

† See pages 420-1.

‡ 1838, pp. 295-6.

swept over and destroyed Callao, is evident from the present position of a pillar erected soon after that event to mark the place to which the waves advanced inland.* This pillar now stands so low, that waves, such as those which ruined Talcahuano, would inevitably reach its base; again destroying the whole of Callao, still situated on a flat, very few feet above the sea, near where old Callao stood.

I have now mentioned the principal facts connected with the Beagle's voyage, which I am desirous of noticing with reference to the Deluge. Want of space prevents my adding others: I have hardly room left to lay before my young readers some general considerations, arising partly out of these facts, which I hope may interest—perhaps be useful to them.

When one thinks of the Deluge, questions arise, such as "where did the water come from to make the flood; and where did it go to after the many months it is said to have covered the earth?" To the first the simplest answer is "from the place whence the earth and its oceans came:"—the whole being greater than its part, it may be inferred that the source which supplied the whole could easily supply an inferior part:—and, to the second question,—"part turned into earth, by combination with metallic bases; part absorbed by, and now held in the earth; and part evaporated."† We know nothing of the state of the earth, or atmosphere surrounding it, before the Flood; therefore it is idle and unphilosophical to reason on it, without a fact to rely on. We do not know whether it moved in the same orbit; or turned on its axis in a precisely similar manner;—whether it had then huge masses of ice near the poles;—or whether the moon was nearer to it, or farther off. Believers in the Bible know, however, that the life of man was very much longer than it now is, a singular fact, which seems to indicate some difference in atmosphere, or food, or in some other physical influence. It is not so probable that the constitution of man was very different (because we see that human peculiarities are transmitted from father to son), as it is to suppose that there was a difference in the region where he existed.

* In 1746.

† Electricity may have acted a prominent part in these changes.

It is easy to settle such speculations by the reflection—"It was the will of Him who is Almighty;" but as in most cases we see that secondary causes are employed to work out His will, we may imagine that the extraordinary prolongation of man's existence was effected by such means.

Connected with these questions respecting the additional quantity of water is the reflection that the amount must have been very great. This may be placed in another light. Sir John Herschel says,* "On a globe of sixteen inches in diameter such a mountain (five miles high) would be represented by a protuberance of no more than one hundredth part of an inch, which is about the thickness of ordinary drawing paper. Now as there is no entire continent, or even any very extensive tract of land, known, whose general elevation above the sea is any thing like half this quantity, it follows, that if we would construct a correct model of our earth, with its seas, continents, and mountains, on a globe sixteen inches in diameter, the whole of the land, with the exception of a few prominent points and ridges, must be comprised on it within the thickness of thin writing paper; and the highest hills would be represented by the smallest visible grains of sand."—Such being the case, a coat of varnish would represent the diluvial addition of water; and how small an addition to the mass does it appear!

Let us now refer briefly to the recorded account of the Flood. Without recapitulating dates and events, I will at once advert to the ark:—an immense vessel,† constructed of very durable wood,‡ and well stored with vegetable provision for all that it contained. Some cavillers have objected to the heterogeneous mixture of animals embarked; on the ground that they could not have been assembled; and would have destroyed one another. We may reply: He who made, could surely manage. But, without direct miraculous interposition (though we should never forget that man is a miracle, that this world is a miracle, that the universe is a miracle), imagine the effect that would be produced on the animal creation by the approach of such a war

* Treatise on Astronomy, Cabinet Cyclopædia, page 22.

† Sharon Turner, Harcourt, Burnett, &c.

‡ Some of our English ships have lasted more than a century.

of elements. Do we not now find animals terrified by an earthquake—birds shunning the scene of violence,—dogs running out of a town,* and rats forsaking a sinking ship? What overcoming terror would possess the animated beings on an island, if it were found to be rapidly sinking while worse than tropical torrents, aggregated water-spouts, thunder and lightning, earthquakes and volcanic eruptions united to dismay, if not to paralyse, the stoutest human heart: yet such probably would be but a faint similitude of the real deluge. Those who have themselves witnessed the war of elements, in some regions of our globe, are perhaps more able to conceive an idea, however inadequate, of such a time, than persons who have scarcely travelled beyond Europe, or made more than ordinary sea voyages. Happily for man, hurricanes or typhoons occur but rarely: earthquakes, on a great scale; their overwhelming waves; and devastating eruptions of volcanoes, still less often. That the approach of a general calamity would have affected animals, what we now see leads us to infer, and that many would have fled to the ark, is only in accordance with the wonderful instinct they are gifted with for self-preservation. Proud man would, in all probability, have despised the huge construction of Noah, and laughed to scorn the idea that the mountains could be covered, even when he saw the waters rising. Thither, in his moral blindness, he would have fled, with numbers of animals that were excluded from the ark, or did not go to it; for we do not see all animals, even of one kind, equally instinctive. As the creatures approached the ark, might it not have been easy to admit some, perhaps the young and the small, while the old and the large were excluded?† As we do

* Concepcion and Talcahuano, pp. 403, 5.

† The small number of enormous animals that have existed since the Deluge, may be a consequence of this shutting out of all but a very few. We are not told how many creatures died in the ark; some of those least useful to man may have gone: but, even if none died, the few that quitted the ark could hardly have long withstood the rapid increase of enemies, unless their increase had been proportionably quick. Whether Job had himself seen, or only heard of, the leviathan and the behemoth, does not appear; but that those monsters were the megalosaurus and the iguanadon

not know what was the connection or partition of land, before the deluge; how the creatures were distributed; or, what was the difference of climate between one region and another; we cannot say that any particular kind could not have been near the ark because of crossing the sea, or having far to travel.

There is abundant proof that animals have changed their habits, shape, coat, colour, or size, in consequence of migration, or transportation to different climates; therefore we cannot tell, from what is now seen, what alterations have taken place since their second dispersion.

Many able men* have pointed out how water penetrating to metallic bases, may cause volcanic eruptions; how matter thrown up, and materials torn or washed off the earth may have combined, mechanically as well as chemically; how gases may have assisted the transformations: how creatures may have been instantaneously overwhelmed, or gradually entombed; how lime may have been one among many powerful agents; how seeds, and spawn, and the germs of insects may have been preserved; and why, among such multitudes of fossil remains as we now find, only in a few places are there remains of man incontrovertibly fossil.†

don there seems to be little doubt (Burnett, p. 67.) Excepting the serpent in Africa, which opposed the passage of Regulus and a Roman army, I am not aware whether profane history mentions any well-authenticated instance of such enormous reptiles; but I cannot look at our representations of dragons, wyverns, griffins, &c. without thinking that, at least, tradition must have handed down the memory of some such monsters; even if a stray one here and there did not actually live in the earlier historical ages: pterodactyles, plesiosauri, ichthyosauri, &c. are too like them, in general figure, to admit of this idea being treated as altogether chimerical. Tradition, no doubt exaggerated by imagination, may have handed down the fact of such creatures having once existed: indeed the casual finding of a skeleton might confirm reports, if not originate them.

* Davy, Sharon Turner, Fairholme, Burnett, Granville Penn, Sumner, Young, Rhind, Lyell, Cockburn, &c.

† These fossil remains of man are not only mixed with those of animals, or fish; but in some cases they are buried at a distance beneath fossil bones of animals.—See Fairholme on the Mosaic Deluge, pp. 41—52; Miers's Chile, vol. i. p. 455, &c.

Still there are some points but lightly touched, or unnoticed, by any person whose works bearing particularly on this subject I have yet seen. One is the rapidity with which certain substances combine under water, and form stone; such, for instance,* as those used in Roman cement:—another is the possibility of fragile substances, such as shells, small creatures, leaves, corallines, branches, &c., being enveloped in a muddy matrix, while floating at various depths, according to their specific gravities; and the precipitation (chemically speaking) or consolidation, or simple deposition of such cohering masses.†

The similarity of coal to asphalte inclines one to suspect an identity of origin; and that coal, in a fluid state, enveloped quantities of vegetable matter—was for some time agitated by the continual tides and tidal currents of the diluvial ocean, and afterwards hardened by cooling, by pressure, or by chemical change; if not by all three. We find the impressions of leaves, stems, and branches—and even large woody trunks embedded in coal: but that the matrix, in which the leaves were enveloped and subjected to pressure, was not triturated vegetable matter is probable, because the casts of delicate vegetable substances found in it show few, if any, signs of friction or maceration. The impressions are as beautifully perfect as those of shells in fossils where the shell itself has disappeared. Might we not as well say that limestone was formed out of decomposed or pulverised shells, as assert that coal was formed out of the luxuriant herbage, the ferns and the palms, of a former state of the world?

Asphalte is at first buoyant; that trees and other vegetable productions are so I need not remark; but coal sinks in water, and asphalte may be altered chemically so as to sink like coal. Experiments on the asphalte of the famous lake at Trinidad have proved that there is so very close an analogy between that substance and coal, that a gas, exactly resembling coal gas, and

* Lyell, Elements of Geology, 1838, p. 75-6.

† The simplest experiments with pulverised, or numerous minute substances in water, shew that they attract one another mutually, and then cohere.

burning equally well; a bituminous oil; a substance like coal-tar; and a residuum, similar to coke; result from its distillation.

Electricity may have been a powerful agent in crystallization; in the rapid deposition of strata;* in the formation of mineral veins;† in earthquakes and volcanoes; in the formation or decomposition of water; and in other ways of which we are yet, and perhaps ever shall be, totally ignorant.

Successive strata may have been rapidly deposited by tidal oscillations and currents, aiding chemical or mechanical combinations.

The depth to which bodies would sink in an ocean several miles deep has not been proved, and there is reason to think that it is much less than people generally imagine. An eminent man has said that a knowledge of "the depression of the bed of the ocean below the surface, over all its extent, is attainable (with whatever difficulty and however slowly) by direct sounding;"‡ and, in consequence of a conversation on this subject with him in 1836, he wrote to me, suggesting a mode which might be tried. I consulted with a friend as to the possibility of success, and his letter,§ taken in connection with the facts

* Crosse. † Fox.

‡ Treatise on Astronomy, by Sir John Herschel—Cabinet Cyclopædia—page 154.

§ "I return Sir John Herschel's letter on deep-sea sounding. Anything from him is sure to be interesting and instructive; but there is a circumstance unnoticed in his communication which might obstruct the descent of a sounding apparatus to very great depth.

"Mr. Perkins found that at a depth of only 3,000 feet, sea-water was compressed 1-27th of its bulk at the surface. (Lib'. of Useful Knowledge, vol. 1. Art. Hydrostatics.) Hydrostatic pressure has usually been estimated from depth alone, assuming that the density of the fluid was uniform; such, however, cannot be the case in an elastic fluid like water, for at great depths, being in a compressed state, it is more dense than at the surface.

"In estimating the amount of hydrostatic pressure at great depths, we should know the vertical height of the column and mean density of the fluid; and since density increases with depth, by reason of superincumbent pressure, the water at great depths must be enormously compressed, and,

related by Scoresby;* with what has been found by those who have sounded to great depths; and with my own practical experience in sounding—has induced me to think that man never will reach the lowest depths of the deepest oceans by any method his ingenuity may contrive;—because the water increases in density with the depth, in a ratio perhaps more than arithmetical. Every seaman knows that in sounding at great depths very heavy leads must be used with ordinary lines, or very thin lines with ordinary leads; the object being the same—that of overcoming the augmenting buoyancy of the line by a weight unusually heavy. But line, such as is used for sounding, is not buoyant at the surface of the sea; a coil of it thrown overboard sinks directly. Then what is it that causes any weight attached to a sounding-line to sink slower and more slowly,

and, consequently, in a very dense state. Let us now inquire how increasing density (from compression alone) might affect an apparatus sent down by a weight, in order to reach the bottom, presuming that the solids composing the float and sinker were incompressible, and retained their form and magnitude during the operation.

"Let bees'-wax be a float, and cast-iron a sinker, and let each, for illustration, be one cubic foot in dimensions. Let it be possible that at some depth water may be compressed into one-fourth of its bulk at the surface, and still retain the properties of a fluid; let it also be granted that a solid will swim if specifically lighter than the contiguous fluid, and sink if heavier than an equal volume of the fluid. The specific gravity of bees'-wax is stated to be 964; that of cast iron, 7248; and that of sea-water at the surface, 1028: hence the buoyancy of wax immersed in sea-water at the surface, may be called 64, and the tendency of cast-iron to sink, from the same surface, 6220. Deducting 64, we have 6156 as the whole tendency of the mass (wax attached to iron) to sink from the surface. Let us now suppose that the machine has attained a depth where the water is compressed into a four-fold density, represented by 4112 for a cubic foot; and we have 3148 for the tendency of the wax to float, but only 3136 for the tendency of the iron to sink: and the inclination to ascend rather than descend, might be represented by 12. Thus we see that an apparatus may not be certain of arriving at the bottom of an ocean: as in an opposite manner, a balloon may not reach the highest regions of the atmosphere. Either machine could only attain a position where there would be no tendency either to descend or ascend.

Plymouth, 24th Feb. 1837. "WILLIAM WALKER."

* Scoresby's Arctic Regions.

after the first few hundred fathoms, the deeper it penetrates; if not the increased resistance to sinking, found by the weight and line? "Friction, caused by passing through the water," I may be told. Can that friction be compared with the augmented tendency to sink that would be given by the continually increasing weight of line, if the water did not increase in density?

The pressure of the column of water over any weight, after it has been sunk some hundred fathoms, is shown by the time and exertion required to haul it up again. The operation of sounding in very deep water, with any considerable weight, occupies several hours, and a great number of men. That water is elastic has been proved by Canton's experiments as well as others: but there are familiar illustrations of this fact visible in ricochet shot, in 'ducks and drakes,' in the splashing of water, and in the rebounding of rain-drops from water. Being elastic, and the lower strata being under enormous pressure, it follows that those strata of water must be more dense than the body above them. No one doubts that the lower regions of the atmosphere are denser than the higher; yet air is but a rarer and much more elastic fluid than water. That which takes place in air, to a great extent, may be expected to occur in a very diminished degree with water. If it were not so, why should stones be blown up, casks violently burst, or rocks suddenly torn asunder by the application of the principle usually described as the hydrostatic paradox? If the water were not highly compressed before the explosion takes place, would there not be a gradual yielding, a tearing asunder by degrees, instead of a sudden and violent bursting?

The object of this digression is to show that although bodies which are not buoyant may sink to a considerable depth, it does not follow that they must sink to the bottom. Each separate thing may sink a certain distance, in proportion to its specific gravity, and there remain. The greatest depths ever reached by heavy weights, attached to lines, do not exceed a mile and a-half; a small distance, probably, compared with the depth of the diluvial flood.

Although metals, stone, rock, or coal may have sunk deeply in

the waters, other substances, such as earth, mud, bones, animal and human remains, &c., may have been held at various depths until decomposed by water; or combined and consolidated by volcanic gases, or electric currents. In this manner the preservation of delicate corallines, shells, skeletons of animals, &c., may be accounted for. Suspended in water, surrounded by earth in a dissolved state, combined by chemical agency, deposited on land, and consolidated by pressure, by volcanic or by latent heat, they may have become fossils. Thick skinned animals may have floated longest, because their hides would have buoyed them up for a greater length of time,* hence their remains should be found near, or upon the surface of the ground, in some cases water-worn, in others uninjured, according as they had been strewed among shingle, or deposited in a yielding mass. That bones were not rolled about much among the stones in which they are found,† is evident from the fact that bones, if so rolled among them, would soon be ground to powder. It is clear that, however much the bones may have been water-worn before deposition on land, both they, and the adjacent shingle, must have been deposited there nearly about the same time.

Tripoli stone, and other substances composed chiefly, if not entirely, of microscopic insects, may have been formed by the accumulation and cohesion of myriads of such minute creatures, swept together off the land, like swarms of locusts, aggregated by the rolling of the waves, agglutinated, deposited on the land, and afterwards heavily compressed. Or they may have been insects bred in water; such as those which Mr. Darwin calculated to amount to "one hundred thousand in a square inch of surface;" while the sea was streaked with them for a great distance.‡ Microscopic objects such as these may have been killed by some gas rising from a volcano beneath; then drawn together by mutual attraction, rolled over and

* When 'blown' after putrefaction began.

† Those, for instance, of Blanco Bay, p. 112.

‡ Darwin's Letters to Professor Henslow, printed for private distribution among the members of the Cambridge Philosophical Society: in 1835.

over, and landed among other recent compositions. In what other way could such a mass of these animalcules be heaped together?

There are also effects of existing causes which authors have only mentioned by name, in reference to the Deluge, without explaining that the effects alluded to would have been enormously increased at that time;—I mean the tides.—In the Appendix to this volume is a short statement of the manner in which tides may act—upon the principles of the ocean oscillating in its bed; and of tides being caused, partly by the water being elevated by the moon and sun, partly by a westward momentum given to it by their attraction, and partly by the oscillation caused by the return of the fluid after being elevated. If this globe were covered with water to the height of a few miles above the present level of the ocean, three more particular effects would take place: an enormous pressure upon the previously existing ocean, and on all low land; a diminished gravity in the uppermost waters, resulting from their removal from the earth's centre; and immense tides, in consequence of the increased depth of the mass, the diminished weight of the upper fluid, and the augmentation of the moon's attraction. As the waters increased on the earth, the tides would also increase, and vast waves would rush against the sides of the mountains, stripping off all lighter covering, and blowing up,* or tearing down, enormous masses of rock. Similar effects would take place as the diluvial ocean decreased, until it became bounded by its proper limits. Such oscillations I conceive to be alluded to by the words "going and returning,"† and by the expression, "they go up by the mountains; they go down by the valleys;"‡ which exactly describes the rushing of enormous waves against high land. When a wave strikes against a rock, it dashes up every projection that opposes it; but—its impetus at an end—down the water runs

* By the extraordinary power, or principle, called the hydrostatic paradox.

† Gen. viii., v. 5, marginal translation.

‡ Psalm civ. ver. 8.

again through cavities and hollows: such, on a grand scale, would be the effect of a diluvial wave urged against a mountain side.

In such a war of waters, earth, and fire; a buoyant, closed-in vessel—without masts, rudder, or external 'hamper' to hold wind, or catch a sea—might have floated uninjured; and the fewer openings, of any description, in her cover, or sides, the better for her security. Seeing nothing of the conflict around might have diminished the excessive terror which must have been felt by those that were within, except the confiding Chief. We do not find that the largest or highest 'swell' injures a good 'sea-boat,' when in deep water, and far from land: the foaming 'breakers' alone destroy. But, after all, such conjectures as these are vain, we cannot now know how far miraculous interposition extended—how far secondary causes were employed.

The landing of the ark on a mountain of middle height appears remarkable; because the climate of the highest, on which we might naturally suppose the ark rested, did we not know to the contrary, might have been insupportable during the time that Noah waited for the recess of the waters.* Reasoning from existing circumstances, the temperature of the surface of the ocean would have been nearly that of the contiguous air: but after the waters had receded, high mountain tops would have gradually acquired their present frozen state.

Here the reflection arises—when did icebergs begin to appear? Was not the climate equable and temperate all over the world for some time after the Deluge, in consequence of the slow drying and warming of tropical regions, and gradual formation of ice near the poles? Such a condition of climate would have favoured the distribution of animals. Those who oppose

* The Deluge began in the six hundredth year of Noah's life, in the second month, and seventeenth day of the month (Gen. vii. 11),; and Noah quitted the ark in the six hundred and first year, in the second month, and twenty-seventh day of the month (Gen. viii. 14), making a period of twelve months and ten days. Noah waited in the ark nearly five months after it grounded on Ararat.

the idea that animals migrated to various quarters of the globe, surely do not reflect that the swallow, the wild swan, the wild goose, the wild horse, the Norway rat, and numerous other creatures, now migrate periodically in search of food or a better climate. Similar instinct may have taught animals to wander then, till they reached the places suited to them;* and there the same instinct would retain them. Want of proper food, or climate; or the attacks of enemies,† may have destroyed stragglers who did not migrate; therefore, when we find no kangaroos in Europe, it is no proof that kangaroos did not once exist there. Elks are now found in North America—we know they were formerly in Europe—is that race here now? During the first few hundred years after the flood, extraordinary changes may have taken place in the geography of the world, in consequence of the drying and altering of various portions; also from the effects of volcanic eruptions and earthquakes, occasioned perhaps by electric action on newly-exposed land, as well as by other causes. Many places, now islands, may have been united to a continent for a considerable period after the deluge; much land may have sunk down, much may have risen up, in various parts of the world. Such changes are said to be going on even now, though on a small scale (Lyell, Darwin, &c.); what may they not have been during the first few centuries after the flood? Volcanic eruptions, such as those of the Galapagos, Andes, Etna, Auvergne, Indian Islands, &c., were then perhaps in such activity as they have never shown since.

What the division in the earth was, in the days of Peleg, does not distinctly appear: but it could only have been a separation from the true faith; a partition of territory among men; or some mighty convulsion, some rending or contraction,

* We see abundant evidence that either living creatures are adapted to particular climates and localities, or that climates and localities are adapted to particular creatures; which latter, it has been proved by many authors, are altered by any material change of the former.

† It should be remembered, that man was allowed to eat flesh after the flood. Gen. ix. ver. 3.

as it were, of the earth, which was so general as to have occasioned a marked and unqualified record, as of an event well known to all.

Many philosophers think that the world has a central region of surpassing heat, and that the greater part of the interior of the globe is in a state of incandescence, if not of fusion. That small portion which they call the crust of the earth is supposed to be the only cooled part; and they differ merely as to the degree of fluidity in the central region. I take it for granted that they have duly estimated the moon's tendency to cause tides in a fluid mass, within her influence:—if there were no crust, of course she would cause such an effect, but a well hardened case, we must suppose, can resist any such movement in the central fluid mass. Upon the principle of the arch, it would be easier to imagine resistance to pressure from without than from within; but the case or crust of our globe must be so solid that it neither yields nor vibrates to an internal expansive force.

This theory, however, is unsupported by any satisfactory evidence. Men of character and attainments have advocated it, although resting on conjecture: but when we look back along the roll of history, and discover so few philosophers who have not greatly erred, although famed in their day, it is natural to pause, and not acquiesce hastily in mere human assertion unsubstantiated by proof. Boring the ground, or examining the temperature of the bottom of a deep mine, affords no estimate for that of the central regions:—Sir John Herschel says,* that "the deepest mine existing does not penetrate half a mile below the surface; a scratch or pin-hole duly representing it on the surface of such a globe, (sixteen inches in diameter), would be imperceptible without a magnifier." As our globe is about eight thousand miles in diameter, and external influence may be supposed to penetrate some distance, we can draw but unsatisfactory conclusions from experiments at depths not nearly so great even as that to which

* Treatise on Astronomy; Cabinet Cyclopædia, p. 22, Art. 30.

the ocean descends, and made chiefly in temperate or cold climates.

Having no pretension to more knowledge than any observant seaman may acquire in the course of a few years active employment afloat, it would be as vain as presumptuous in me, were I to offer any conjecture about the central mass of the earth. Perhaps, at a future day, when the nature of aerolites; the agency of electricity; and of electric communication through the superficial, if not through the interior regions of the globe, are better known, other opinions, respecting this wonderful world which we inhabit, may be formed by philosophers.

I have now fulfilled my intention of endeavouring to be useful, in however small a degree, to young persons of my own profession. If the few remarks laid before them, in this and the preceding chapter, at all increase their interest in the subjects spoken of; and tend, even in the least, to warn them against assenting hastily to new theories—while they induce a closer examination into the Record of truth—my object in writing them will be fully attained.

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