

**MEMOIR**  
**ON**  
**THE NAVIGATION**  
**OF**  
**SOUTH AMERICA,**

**TO ACCOMPANY**  
**A CHART OF THAT STATION.**

**London:**

**PRINTED BY H. TEAPE, TOWER-HILL,**  
*For the Hydrographical Office of the Admiralty.*

---

**1825.**  
*Sold by R. B. BATE, 21. Poultry.*

## PREFACE.

---

THE following notice, though necessarily incomplete as Sailing Directions, in consequence of having been made at particular seasons only, are at least useful for those periods; and may serve to point out to Officers on the South American Station, how much remains yet to be done. And how desirable it is that all the information of a nautical description which may present itself on each of the passages they may have to make between Port and Port, should be carefully collected, methodized, and transmitted to the Admiralty in the usual way.

The chart which accompanies this memoir may also serve as a model to accompany those Nautical Reports, on which the ship's tracks are to be carefully laid down, in order that data may be furnished

for correcting any errors that may be found to exist in the present chart.

The Remarks on the several Ports on the South American Station, have been selected from the various materials transmitted by different Officers, from time to time, to the Admiralty.

# LIST OF THE PASSAGES

MADE IN

H. M. S. CONWAY, ON THE SOUTH AMERICAN STATION,  
BY CAPTAIN BASIL HALL.



NO.	PAGE.
I. Passage from Rio de Janeiro to River Plate	1
II. ——— from Monte Video to Valparaiso..	2
III. ——— from Valparaiso to Lima .....	9
IV. ——— from Lima to Valparaiso.....	10
V. ——— from Valparaiso to Lima by the Entremedios .....	12
VI. ——— from Chorillos (near Lima) to Val- paraiso .....	14
VII. ——— from Valparaiso to Conception, Bay of Arauco, and Island of Mocha.....	16
VIII. ——— from Valparaiso to Lima, calling at Coquimbo, Guasco, Copiapó, Arica, and Mollendo .....	17
IX. ——— from Lima to Pacasmayas, Payta, and Guayaquil .....	18
X. ——— from Guayaquil to the Galapagos Islands.....	22
XI. ——— from the Galapagos to Panama ...	23
XII. General Remarks on the winds, weather, and navigation on the south and south- west coast of Mexico.....	25
XIII. Passage from Panama to Acapulco.....	33
XIV. ——— from Acapulco to San Blas .....	36
XV. ——— from San Blas (round Cape Horn) to Rio de Janeiro .....	40
XVI. ——— from Rio de Janeiro to Bahia.....	46

**EXTRACT of a LETTER from Commander  
E. HANDFIELD, of His Majesty's Ship  
Jaseur, 26th October, 1827.**

“ When passing the Straits of Le Maire in His Majesty's Sloop under my Command, a Reef was discovered about *Three Miles West by Compass from the Middle Cape of Staten Island*. It appeared to be about one mile and a half in extent, and the Sea broke violently on it.”

**HYDROGRAPHICAL OFFICE,  
5th April, 1828.**

**E R R A T A .**

PART I.	Page 12,	line 16,	for Quiaca	read	Quilca.
	37,	26,	de		del.
PART II.	3,	9,	Saten		Staten.
	6,	19,	Tabul		Tubul.
	9,	2,	Topsails		Topmasts.
	10,	2,	Quiriguina		Quiriquina.
	19,	1,	Almandral		Almendral.
	20,	15,	Ditto		Ditto.
	48,	6,	Horadada		Horodado.
	49,	4,	Ditto		Ditto.
	75,	20,	Salango		Solango.
	83,	19,	Albermarle		Albemarle.
	87,	21,	Marquisas		Marquesas.
	88,	3,	Albermarle		Albemarle.
			Harborough		Narborough.
	105,	9,	Marquisas		Marquesas.
	107,	22,	Gallapagos		Galapagos.
	114,	8,	Pecosmayo		Pacasmayo.
			INDEX,		Mollendo.

## PART FIRST.

---

### No. I.

*From Rio de Janeiro to Buenos Ayres.*  
*P. M. 14th of October to A. M. 23d, 1820.*  
*(8½ Days.)*

THIS passage was made in less time than it usually occupies. We passed the SUGAR LOAF at the entrance of RIO about four o'clock in the afternoon of Saturday the 14th of October, 1820, and were off MALDANADO, at the entrance of the river PLATE, at the same hour on that day week, viz. the 21st, and anchored off BUENOS AYRES at four in the morning of Monday the 23d; thus completing seven days from RIO to the river PLATE; and eight and a half from RIO to BUENOS AYRES.

The wind was moderate, from ESE as far as latitude 26° 46' south, when it drew to NE, and blew fresh; it then hauled gradually to the northward. In 33° it fell light, and drew to the westward, south, and so round to the eastward. On approaching the river it came to the southward again; after entering which, the wind came from the SE, and afterwards NE and East, moderate, and fine weather.

An American frigate, which sailed from RIO

a fortnight before us, met with hard SW breezes, and arrived only two days before us.

Two years afterwards we were off the river PLATE, between the latitudes of 40° and 30° for thirteen days, contending against northerly, and NN westerly winds, between longitudes 40° and 50°. This was in the latter end of August and beginning of September, 1822; and it may be useful to remark, that, on this occasion, the winds invariably followed the course of the sun, that is, from right to left, or what is technically called, in the northern hemisphere, against the sun. This change occurred three different times; the wind drawing from NE to North, then to NW and West, and so to SW, and again by SE to NE and North. Upon two occasions it shifted to SW from the northward, without any warning, and blew fresh.

## No. II

*From Monte Video to Valparaiso.*

*11th of November 19th of December, 1820.*

*(38 Days.)*

THIS passage was favourable both as to the weather we met with, and as to the time it occupied. With the exception of a gale from south, on the 18th of November, in latitude

46½° south, longitude 57° west, and another short one from west on the 12th of December, after rounding the Cape, in latitude 51° south, longitude 82° west, the weather was uniformly moderate. At starting, we had the winds from the W S W, S W, and West, with one spurt of twelve hours from north by west, in 41½° south, as far as 45° south. It then fell calm, and the wind afterwards sprung up from N N E, drew to N W, and blew hard. After which, it again fell calm for an hour, then a breeze sprung up from the southward. This, in the course of a few hours, freshened to a hard gale, which lasted about fourteen hours. A calm succeeded, and then a fresh N E by North, and easterly wind with rain and squalls as far as the latitude of 50½° south, when it hauled to the S Eastward, and in 51½° south it fell calm. This was succeeded by a strong westerly, and then north-westerly breeze, with fine clear weather. This carried us to 54° south, when we got N N E and North by West winds, which took us through the Straits of LE MAIRE.

We rounded Cape HORN on the 26th of November, fifteen days from the river, with a fresh N N westerly breeze. This speedily shifted to the N W, and then S W, and again to West, and W S W ; so that we made little westing till we reached 61½° south on the 1st of

December. The weather was always moderate, with drizzling rain, and occasional fogs, and a high swell from SW. Between the 2d and 3d of December the wind drew to the northward, with a thick fog. Next day it came to the SW, with sleet squalls, and a thick haze. This wind gradually hauled to the northward of west, with hail squalls. An inspection of the track will show how uniformly the winds between  $60^{\circ}$  and  $51\frac{1}{2}^{\circ}$  south gradually drew from the SW to westward, then to NW, and so to the northward, and always squally, with hail and sleet. In  $51\frac{1}{2}^{\circ}$  south we had a gale of nine hours from the west, with squalls of hail. This wind, however, instead of drawing to the NW and northward, as it had been wont to do in the six preceding degrees south of us, now hauled WSW, and blew fresh, with constant squalls till we had run on a north by west course (by compass) nearly to  $42^{\circ}$  south. The wind, then, after a short calm, came to the eastward, and drew round gradually to SSE, where it remained steady and fresh till we made the land to the southward of Valparaiso on the 19th of December. We had light airs from the northward in the middle of the day, which carried us into the harbour.

The highest south latitude to which we reached was  $61\frac{1}{2}^{\circ}$ , being then in  $75^{\circ}$  west longi-

tude. This was in the evening of the 1st of December, 1820. We had then a fresh breeze from the N W by west, with a thick drizzling haze. The barometer stood at 29,34, and the thermometer at 41°. The farthest west to which we went was  $84\frac{1}{2}^{\circ}$ , in latitude  $57^{\circ}45'$  south, on the 7th of December, the wind very light from the westward, barometer 28,66.

When the prevalence of strong N W winds between  $50^{\circ}$  and  $54^{\circ}$  south is taken into consideration, it will probably be advisable to go, at least, as far west as  $84^{\circ}$ , in order to make a fair wind of the north-westers, when not too strong, to admit of carrying sail.

From the best information respecting the weather off the Cape, there seems reason to believe, that the hardest gales prevail near the land, and that the chance of good weather, and of easterly winds, is, at least, as great at a considerable distance off shore. A ship, on meeting westerly winds, therefore, ought perhaps to stand on to the southward as far as  $62^{\circ}$  or  $63^{\circ}$ , and be indifferent about northing, till between the longitude of  $80^{\circ}$  and  $85^{\circ}$ , after which there will be little difficulty in proceeding, although there must always be considerable discomfort in passing between  $55^{\circ}$  and  $50^{\circ}$  south, where the north-westers prevail, with a high sea.

I am at a loss what to think of the utility of the barometer on this passage. Off Cape Horn, on the 26th of November, in latitude  $56\frac{1}{2}^{\circ}$  south, it stood at 29,55; on reaching  $60^{\circ}$  south, it had fallen to 29,13: the wind to the westward, and a thick fog; but no bad weather followed. From the 1st to the 2d, when we were in the latitude  $61^{\circ}$  south, it ranged between 29,50 and 29,30, with light winds from the north-westward, and drizzling rain. During the next day, when we were running nearly on the parallel of  $61^{\circ}$  south, the mercury fell from 29,30 to 28,84, with a thick fog, and a moderately fresh breeze from the north-west. On the wind coming from the south-westward, it rose slowly to 29,95; the weather moderate, with slight hail squalls and clear weather. It again fell, as the wind shifted to the northward, NE and ENE, and stood at length at 28,60, which is the lowest point it reached. This was in the evening of the 4th, in latitude  $59^{\circ}$  south, and longitude nearly  $80^{\circ}$  west, the wind at ENE moderate and cloudy weather. Fresh southerly, south-westerly, and west-south-westerly breezes followed, and hard squalls, with sleet, but no gale of wind. It remained below 29 inches till we had passed the latitude of  $57^{\circ}$  south, and afterwards rose very gradually, till, having reached the latitude of  $56^{\circ}$  south, on the 16th of December, it stood

at 30 inches. It gave no warning of the approach of the gale on the 11th, but fell during its continuance nearly to 29 inches from 29,28, which it had stood at before.

From a consideration of these circumstances, it is to be apprehended, that the barometer, which in middle latitudes is so useful an instrument in foretelling changes of weather, may sometimes fail us in very high, as it almost always does in very low latitudes. On the return passage round Cape HORN, on the 15th of August, 1822, during the opposite season, the same thing was observed, viz. a fall so low as 28,88, in latitude  $56\frac{1}{2}^{\circ}$  south, which was not followed by any bad weather. The wind was then NW and moderate. Perhaps it is affected in high latitudes by fogs and rains in a greater degree than it is in middle latitudes, where I have not observed that any thing but winds materially influenced its movements.

On the passage from the East in summer, (December,) the lowest temperature we observed off Cape HORN was  $39^{\circ}$ . On the return passage, in winter, (August), it never fell below  $40^{\circ}$ , till off the FALKLAND ISLANDS, when it was one day as low as  $35^{\circ}$ .

We observed no current off the Cape greater

than what might be ascribed to error in the estimation; neither have I yet heard any well-established facts respecting the currents off Cape Horn, more than what must always attend hard gales.

A considerable difference of opinion prevails as to the fittest time of the year for making a passage round Cape Horn from the eastward. There seems good reason to believe, that, in winter, when the sun is to the northward of the equator, the chance of easterly winds is the greatest; and many persons are of opinion, that the westerly gales are then neither so violent nor so lasting as during the months that the sun is to the southward of the equator. Admitting these circumstances to be as stated, there remain two very serious objections to the winter season; first, the length of the nights; and, secondly, the presence of ice islands. In a tempestuous and frigid latitude, the absence of day-light always augments, in a very serious degree, the difficulties of navigation; but when the formidable danger of icebergs is added, there can be little farther question, I think, as to which season is preferable. All accounts seem to agree that it is during the winter and spring months, July, August, and September, that the ice is most generally met with; and as the masses in which it floats about are some-

times only a few feet above the water, and such as cannot possibly be distinguished at night, the risk which ships run in winter months is very great. Sometimes it is met with in fields, which embarrass ships exceedingly; and since the opening of the commerce with the shores of the Pacific has multiplied the number of vessels navigating those seas, many accidents occur every season. It will be seen under the head of notice XV., that we met the ice both in large and small islands in August, 1822; and several ships returned to RIO about the same time, after running against the ice, dismasting themselves, and sustaining other damage.

### No. III.

*From Valparaiso to Lima.*

*27th of January to 5th of February, 1821.*

*(9 Days.)*

THE wind on this passage is always nearly the same, viz. SSE. It sometimes hauls a point or two to the eastward, but the passage is always certain. The only precaution to be attended to is, to run well off the land in the first instance, say 150 miles, on a NW course, and then steer direct for SAN LORENZO, a high and well-defined island, forming the eastern side of CALLAO Bay. It is usual to make the land of MORRO SOLAR, which lies ten miles to

the southward of **CALLAO**, and then run into the roads by the **BOQUERON** passage, or proceed round the north end of **SAN LORENZO**. By attending closely to the directions on Mr. Foster's chart, transmitted to the Admiralty, any vessel may safely enter the **BOQUERON**; but great attention must be paid to the lead and the bearings, and an anchor kept ready to let go.

It is generally calm in the mornings, and sometimes foggy; but, about eleven o'clock, it clears up, and the breeze freshens from the southward, which enables ships to reach the anchorage generally without a tack, after rounding the north end of **LORENZO**; so that, upon the whole, this outer route, which is entirely free from danger, is preferable to the other, at least for a stranger.

#### No. IV.

##### *Lima to Valparaiso.*

*28th of February to 18th of March, 1821.*

*(18 Days.)*

THE return passage from **PERU** to **CHILI** requires some attention, and may generally be made by a man-of-war in less than three weeks; it has been made in less than a fortnight by a frigate, which, however, on the next occasion,

took twenty-eight days. The point which contributes most to the success of this passage is keeping well off the wind after leaving LIMA, and not having any scruples about making westing, provided southing can also be gained. The SE trade-wind, through which the greater part of this course is to be made, invariably draws to the eastward at its southern limit, and, therefore, a ship eventually can always make her southing. The object, however, being to get past the trade and into the westerly winds, which lie to the southward, a ship ought to keep the wind, at least a beam, while crossing the trade. In winter, that is, when the sun is to the northward of the equator, the trade-wind blows steadier, and its southern extreme lies four or five degrees to the northward of its summer limit, which may be taken at about  $30^{\circ}$  or  $31^{\circ}$  south.

The sun was near the equator when this passage was made, and we retained the trade-wind as far as  $31^{\circ}$  south, after which we had northerly and north-west winds as far as the Island of MAS-AFUERA, when it shifted to south, and then to SE by S blowing fresh. This changed to SSE, the regular coast-wind, as we drew in shore. During summer, the land ought always to be made to the southward of the port. In winter, when hard north winds

are frequent, this is not advisable. Perhaps, at such seasons, a direct course for VALPARAISO may be the best, after loosing the trade-wind.

No. V.

*Valparaiso to Lima, by the "Entremedios," or Intermediate Ports.*

*27th of May to 24th of June, 1821.*

FROM VALPARAISO we steered at the distance of about sixty miles from the coast, as far as lat.  $22\frac{1}{2}^{\circ}$  south; when we hauled in, and afterwards coasted along in sight of the shore, at the distance of seven or eight leagues, as far as ARICA. The winds being light from SSE, it was not till the 7th of June that we anchored there. From thence we coasted along by QUIACA, MORRO DE SAMA, and ILO, to MOLLENDO, the winds being generally from the eastward, and drawing off shore at night; calm in the mornings; and hauling in from the sea in the day; the weather invariably fine. From MOLLENDO to LIMA we had a fresh breeze off shore about SE. On approaching the MORRO SOLAR, the wind fell light, and we were obliged to tow the ship through the BOQUERON passage into CALLAO Roads.

There is no difficulty in making a passage along the south coast of Peru from the east-

ward. But from the westward a great deal of vigilance is requisite to take advantage of every occasional shift of wind, since by this means alone can a passage be made. The best authorities are, I think, against standing out to sea to the south-westward, in the hopes of fetching in upon the starboard tack. The Constellation American frigate tried this passage, but she lost a great deal of time thereby, being at least three weeks in going from LIMA to MOLLENDO.

The San Martin, bearing Lord Cochrane's flag, made the passage to ARICA, which is considerably further, in thirteen days, by keeping in shore, and taking advantage of the changes which take place, with more or less regularity every evening and morning.

As the weather along the south coast of PERU is invariably fine, ships are not otherwise incommoded at the various anchorages, than by a high swell, which always rolls in at the full and change of the moon. ARICA is the only place having any pretensions to the name of a harbour; but the several bays described in Mr. Foster's Memoir may be considered safe, provided the ground-tackling be good.

## No. VI.

*Chorillos (near Lima) to Valparaiso.*

10th of August to 28th, 1821.

(18 Days.)

THIS being what is called the winter passage, we lost the trade-wind in latitude  $25^{\circ}$  south, after which we had the winds to the SW as far as longitude  $88^{\circ}$  west, and latitude  $27^{\circ}$  south, when it shifted to the NW and West, and so to the SW and South, as far as  $78^{\circ}$  west longitude, and latitude  $33^{\circ}$  south. We were much embarrassed by calms, light winds, and heavy rains, after which the wind came to the northward and NNW with thick rainy weather. We made the land to the southward of VALPARAISO on the 27th, and got in next day by the wind coming round to the SW.

At this season of the year, when northerly winds prevail, with heavy rain, and unpleasant weather, it does not seem advisable to make the coast to the southward of the port. Neither ought a ship, I think, to run into VALPARAISO in one of these gales, since the wind frequently blows home, and is attended by a high swell. During the winter, the best ground-tackle ought to be laid out to the northward, and a birth taken sufficiently far from the shore to

allow of veering, in the event of bad weather coming on. It does not seem necessary to take more than barely room for this purpose, since, by lying near the shore, there will be always an undertow, which relieves the sea-cable of great part of the strain. As the launch will on these occasions be apt to swamp at her moorings, she ought to be hoisted in before the gale comes on, of which the barometer, the threatening aspect of the weather, and the rising swell, generally give sufficient warning. Previous to a "Norther," also, the land of CONCON, and that beyond it to the northward, are seen with unusual sharpness and distinctness.

This passage in eighteen days may be termed short. Formerly thirty days was usual, it afterwards sunk to twenty-five days, and, at the period of our arrival, three weeks was considered good. Sir Thomas Hardy, in His Majesty's ship *Creole*, made the passage from HUACHO in something less than fourteen days, the distance being more than two thousand two hundred miles. This was early in May, 1821, and it is well-worth attending to, that the trade-wind was crossed with a fore-topmast studding sail set, no regard being paid to any object, but getting through the trade-wind as fast as possible. The same ship, however, in February and March of the following year, was

twenty-eight days making the passage, but this is unusually long for a man-of-war.

No. VII.

*Valparaiso to Conception, Bay of Arauco, and  
Island of Mocha.*

*1st to 21st of October, 1821.*

As the prevalent winds along this coast are from the southward, it is necessary to take advantage of every slant that will allow of southing being made, and we were fortunate in meeting with a westerly wind on the third day after sailing, which carried us more than half the distance. The wind subsequently was south by west, which made the rest of the passage to CONCEPTION almost a dead beat. We arrived at TALCUHUANA, in CONCEPTION Bay, on the 8th. During the 9th, it blew fresh from the northward. We afterwards beat up to the Bay of ARAUCO, and to the Island of MOCHA, in  $38^{\circ} 19'$  south, having on this occasion been favoured with a south-easterly breeze, and then a southerly one to stand in with.

We endeavoured to reach VALDIVIA also, but the wind came from south by east, and blew so hard that we were obliged, for want of time, to give it up. On the return passage to VALPARAISO, we had light north-westerly and

west winds, then SW, and so to the southward, and south by east, which is the most common wind.

These particulars would seem to point out that a passage may always be made to the southward; for the winds are seldom steady for twelve hours, and by taking care to profit by every change, southing must be made

The passage from VALPARAISO to CONCEP-TION is generally made in ten days, which is also the usual time required for a passage to LIMA; the distance, however, in the first case, is two hundred and twenty miles, and in the latter, thirteen hundred and twenty, a circumstance which points out very decidedly the direction of the prevalent winds.

#### No. VIII.

*Valparaiso to Lima, calling at Coquimbo, Guasco, Copiapó, Arica, and Mollendo.*

*15th of November to 9th of December, 1821.*

*(24 Days.)*

THE winds during these passages along-shore are always light, and from the southward, hauling in from sea during the day, and freshening from off the land in the night.

Between **MOLLENDO** and **CALLAO** there is a pretty steady breeze from **ESE** with a drain of current along-shore; a remark which applies to the whole coast from **VALPARAISO** to **LIMA**.

A remarkable increase of the great **SW** swell is observable at the full and change of the moon on the coast, especially from **ARICA** to **HUACHO** inclusive, a circumstance which renders it difficult, and sometimes impossible, to land at those places.

No. IX.

*Lima to Pacasmayas, Payta, and Guayaquil.  
17th to 25th of December, 1821.*

**THE** winds between **LIMA** and **GUAYAQUIL** are moderate from the southward. At night hauling to the south-eastward, and in the day from **SSW**.

When we came off the entrance of the river of **GUAYAQUIL**, on the 23d of **December**, the wind met us from **NW**, and then fell calm. We were obliged to anchor on the ebb, and to beat up against the light northerly and north-westerly winds as far as the anchorage off the **NE** end of **PUNA**. In the afternoon of the 24th, we received a pilot from the town of **PUNA**, who undertook to carry us up during

the night. We accordingly weighed at four o'clock, and with the flood-tide and a light breeze from west by south, ran up in the dark, and anchored at four in the morning of the 25th off the town of GUAYAQUIL. The pilots of this river are expert, and appear to understand their business well ; but it is quite indispensable that their wishes be promptly and exactly attended to, as the passages are so narrow, and the tide so rapid, as to admit of no delay. Several ships have been run aground, by the captain hesitating to let go the anchor at the desire of the pilot.

The passage down again was more difficult in consequence of the prevalent winds being up the river. It afforded us, however, a means of becoming acquainted, to a certain extent, with the pilotage ; and I feel assured that Mr. Foster's directions, given in the second part of this notice, taken along with the chart usually supplied, and used with extreme caution, would prove sufficient, in time of war for instance, or when there might be some urgent necessity for a ship's going up without a pilot. In the narrow parts of the river we kedged down with the ebb, without any sail set, but having a bower anchor on the ground, and the cable at short stay peak ; in this way the ship was readily steered from side to side, or brought up at an instant's warning.

At other places we backed and filled, and at some made short tacks. We were always obliged, however, to anchor when the flood-tide made.

This is the period at which the rains are expected to set in, and the heavy threatening aspect of clouds over the hills, gave us reason to expect that we should not escape, but none fell during our stay, between the 23d and the 30th of December.

The passage from GUAYAQUIL back to LIMA requires attention, as may be seen from the following directions, which I obtained from Don Manuel Luzurragai, captain of the port of GUAYAQUIL.

“ The average passage, in a well found, and well managed ship, is twenty days ; eighteen is not uncommon ; and there is an instance of a schooner doing it in twelve. From the entrance of the river as far as PUNTA DE AGUJA, (in latitude 6° south,) the shore must be hugged as close as possible, in order to take advantage of the changes of wind, which take place only near the shore. In this way, by due vigilance, slants may be made every day and night. On reaching PUNTA DE AGUJA, work to the southward, as nearly on the meridian of that point

●

as may be, as far as  $11\frac{1}{2}^{\circ}$  latitude, and then strike in-shore for CALLAO, and if it is not fetched, creep along-shore, as formerly directed."

Persons accustomed to the navigation between LIMA and VALPARAISO are tempted to stand boldly out, in hopes of making their southing with ease, and then running in upon a parallel. But this is not found to be practicable; and, indeed, the cases have no resemblance, since the passage to VALPARAISO is made by passing quite through the trade-wind, and getting into the variables; whereas LIMA lies in the heart of the trade; accordingly, a ship that stretches off from GUAYAQUIL comes gradually up as she stands out, and finally makes about a south course; when she tacks again, the wind shifts as she draws in, and will be fortunate if she can retrace her first course, and very often does not fetch the point left in the first instance.

To work along-shore with effect, the land must be kept well on board, and constant vigilance be bestowed upon the navigation, otherwise a ship will make little progress.

## No. X.

*Guayaquil to the Galapagos.**30th of December, 1821, to 5th of January, 1822.**(6 Days.)*

As the winds between the GALAPAGOS and the main are always from south or SSE there is nothing to be particularly attended to in this passage, except the currents, which generally set to the northward, and increase in strength near the islands. On getting amongst them the greatest care is necessary, to avoid being carried to leeward of the anchorage where it is proposed to stop. In the Conway we were drifted to leeward of JAMES's Island, and could never afterwards regain it. We lay upwards of a week at ABINGDON Island, the most northern of the large ones, in a bay at the south end, where we were disagreeably exposed to the SSE winds.

It appeared as if the bad season was about to set in, for several nights we had rain and squalls.

It is to be regretted, that the true geographical position of these islands is still uncertain, and the hydrographical knowledge respecting them so exceedingly scanty. Several of the

islands have, it is said, some safe ports, but these are little known, and their resources still less so. We know that an ample supply of terrapins, or land tortoises, may be procured at some of the islands, and water is probably to be found at most of them, if diligent search were made. They offer at all seasons a most valuable asylum to the South Sea Whalers.

No. XI.

*Galapagos to Panama.*

*16th of January to 2d of February, 1822.*

*(17 Days.)*

THIS passage at all times of the year is tedious and uncertain, in consequence of the light baffling winds and calms which belong to the great bight, known under the name of the Bay of PANAMA; and these winds being also uncertain in direction, the best method seems to be to steer for the port, whenever that can be done.

For the two first days of our passage, the 17th and 18th of January, we had a fresh breeze from the southward, after which we were much retarded by calms, light winds, and squalls; and it was not till the 29th that we made the MORRO DE PUERCOS, the high land of the promontory forming the western limit of the

**Bay of PANAMA.** On steering to the eastward, we met a fresh breeze from north immediately on our opening the point. This carried us across the bay in the parallel of  $7^{\circ}$  north. As we closed with the eastern coast the wind drew more to the westward, and enabled us to make the land about Point ESCONDIDA, in  $7^{\circ} 40'$  north. From hence we took advantage of the shifts of wind between the night and the day, and beat up till abreast of the Island of GALERA, lying between the south end of the ISLA DEL REY and Point GARACHINE, forming the south side of the Gulf of SAN MICHAEL. There, in latitude  $8^{\circ} 11'$  north, it was thought prudent to anchor till the morning, as there is a shoal laid down in this neighbourhood, but which, we afterwards learned, has eight fathoms on its shallowest part. Next morning, the 1st, we were employed working against light winds from the northward, with a slight current in our favour: towards sunset the breeze freshened considerably, and when we tacked close to the Island of PETADO, on the NE shore of the bay, the breeze was so fresh that we could hardly carry the top-gallant sails. This breeze blew from NNE to NE by North, enabling us to clear, at a proper distance, the long line of small islands which stretch to the NNW of the ISLA DEL REY, and thence to proceed, in a straight line, a little to windward

of WNW by compass, directly for the anchorage of PANAMA. But towards the morning of the 2d of February, the wind drew to the NNW, and after the day broke, we had several tacks to make before reaching the anchorage, within the Island of PERICO.

After entering the bay we were not much influenced by currents. From what we saw and heard, it appeared to be essential, on working into PANAMA, to keep on the eastern side, where the wind is moderate, the water smooth, and there is no current; whereas, on the western side, the breeze is too strong, there is a short sea, and generally a drain of current setting out to seaward.

## No. XII.

### *General Remarks on the Winds and Weather, and the Navigation of the South-West Coast of Mexico.*

ON the south-west coast of MEXICO, the fair season, or what is called the summer, though the latitude be north, is from December to May inclusive. During this interval alone it is advisable to navigate the coast, for, in the winter, from June to November inclusive, every part of it is liable to hard gales, tornadoes, or heavy squalls, to calms, to constant

deluges of rain, and the most dangerous lightning; added to which, almost all parts of the coast are, at this time, so unhealthy as to be abandoned by the inhabitants. At the eastern end of this range of coast, about PANAMA, the winter sets in earlier than at SAN BLAS, which lies at the western end. Rains and sickness are looked for early in March at PANAMA; but, at SAN BLAS, rain seldom falls before the 15th of June; sometimes, however, it begins on the 1st of June, as we experienced. Of the intermediate coast I have no exact information, except that December, January, and February, are fine months every where; and that, with respect to the range between ACAPULCO to PANAMA, the months of March, April, and half of May, are also fine—at all other times the coast navigation may be generally described as dangerous, and on every account to be avoided.

From December to May inclusive, the prevalent winds between PANAMA and Cape BLANCO DE NICOYA are NW and northerly. From thence to RIO LEJO and SONSONATE NE and easterly. At this season off the Gulfs of PAPAGAYO and TECOANTEPEC there blow hard gales, the first being generally NE, and the latter North. These, if not too strong, as they sometimes are, greatly accelerate the

passages to the westward—they last for several days together, with a clear sky overhead, and a dense red haze near the horizon. We experienced both in the Conway in February 1822. The first, which was off PAPAGAYO on the 12th, carried us two hundred and thirty miles to the WNW; but the gale we met on crossing the Gulf of TECOANTEPEC on the 24th, 25th, and 26th, was so hard, that we could show no sail, and were drifted off to the SSW more than a hundred miles. A ship ought to be well prepared on these occasions, for the gale is not only severe, but the sea, which rises quickly, is uncommonly high and short, so as to strain a ship exceedingly.

From ACAPULCO to SAN BLAS what are called land and sea-breezes blow; but as far as my experience goes, during the whole of March, they scarcely deserve that name. They are described as blowing from NW and West during the day, and from NE at night; whence, it might be inferred, that a shift of wind, amounting to eight points, takes place between the day and night breezes. But, during the whole distance between ACAPULCO and SAN BLAS, together with about a hundred miles east of ACAPULCO, which we worked along, hank for hank, we never found, or very rarely, that a greater shift could be reckoned

on than four points. With this, however, and the greatest diligence, a daily progress of from thirty to fifty miles may be made.

Such being the general state of the winds on this coast, it is necessary to attend to the following directions for making a passage from the eastward.

On leaving PANAMA for REALEJO or SONSONATE, come out direct to the north-westward of the ISLA DEL REY—keep from twenty to thirty leagues off the shore as far as Cape BLANCO DE NICOYA, and on this passage advantage must be taken of every shift of wind to get to the north-westward. From Cape BLANCO hug the shore, in order to take advantage of the north-easterly winds which prevail close in. If a PAPAGAYO (as the strong breeze out of that gulf is called) be met with, the passage to SONSONATE becomes very short.

From SONSONATE to ACAPULCO keep at the distance of twenty, or at most thirty leagues from the coast. We met with very strong currents running to the eastward at this part of the passage; but whether by keeping farther in or farther out we should have avoided them, I am unable to say. The above direction is

that usually held to be the best by the old coasters.

If, when off the Gulf of **TECOANTEPEC**, any of the hard breezes which go by that name should come off, it is advisable, if sail can be carried, to ease the sheets off, and run well to the westward, without seeking to make northing; westing being, at all stages of that passage, by far the most difficult to accomplish. On approaching **ACAPULCO** the shore should be got hold of, and the land and sea-breezes turned to account.

This passage in summer is to be made by taking advantage of the difference in direction between the winds in the night and the winds in the day. During some months, the land winds, it is said, come more off the land than at others, and that the sea-breezes blow more directly on shore; but in March we seldom found a greater difference than four points; and to profit essentially by this small change, constant vigilance and activity are indispensable. The sea-breeze sets in, with very little variation as to time, about noon, or a little before, and blows with more or less strength till the evening. It was usually freshest at two o'clock; gradually fell after four; and died away as the sun went down. The land-breeze

was by no means so regular as to its periods or its force. Sometimes it came off in the first watch, but rarely before midnight, and often not till the morning, and was then generally light and uncertain. The principal point to be attended to in this navigation is, to have the ship so placed at the setting in of the sea-breeze, that she shall be able to make use of the whole of it on the larboard tack, before closing too much with the land. If this be accomplished, which a little experience of the periods renders easy, the ship will be near the shore just as the sea-breeze has ended, and there she will remain in the best situation to profit by the land-wind when it comes; for it not only comes off earlier to a ship near the coast, but is stronger, and may always be taken advantage of to carry the ship off to the sea-breeze station before noon of the next day.

These are the best directions for navigating on this coast which I have been able to procure: they are drawn from various sources, and, whenever it was possible, modified by personal experience. I am chiefly indebted to Don Manuel Luzurragui, master attendant of GUAYAQUIL, for the information they contain. In his opinion, were it required to make a passage from PANAMA to SAN BLAS, without touching at any intermediate port, the best

way would be to stretch well out, pass to the southward of Cocos Island, and then run with the southerly winds as far west as  $96^{\circ}$  before hauling up for SAN BLAS, so as to make a fair wind of the westerly breezes which belong to the coast. An experienced old pilot, however, whom I met at PANAMA, disapproved of this, and said, the best distance was fifteen or twenty leagues all the way. In the winter months, these passages are very unpleasant, and it is indispensable that the whole navigation be much further off shore, excepting only between ACAPULCO and SAN BLAS, when a distance from ten to twelve leagues will be sufficient.

The return passages from the west are always much easier. In the period called here the summer, from December to May, a distance of thirty to fifty leagues ensures a fair wind all the way. In winter, it is advisable to keep still further off, say a hundred leagues, to avoid the calms, and the incessant rains, squalls, and lightnings, which everywhere prevail on the coast at this season. Don Manuel Luzurragui advises, during winter, that all ports on this coast should be made to the southward and eastward, as the currents in this time of the year set from that quarter.

If it were required to return direct from **SAN BLAS** to **LIMA**, a course must be shaped so as to pass between the Island of **Cocos** and the **GALAPAGOS**, and to the south-eastward, till the land be made a little to the southward of the equator, between **Cape LORENZO** and **Cape ST. HELENA**. From thence work along shore as far as **Point AGUJA**, in latitude  $6^{\circ}$  south, after which, work due south, on the meridian of that point, as far as  $11\frac{1}{2}^{\circ}$  South, and then stretch in shore. If the outer passage were to be attempted from **SAN BLAS**, it would be necessary to run to  $25^{\circ}$  or  $30^{\circ}$  south across the trade, which would be a needless waste of distance and time.

Such general observations as the foregoing, on a navigation still imperfectly known, are, perhaps, better calculated to be useful to a stranger than detailed accounts of passages made at particular seasons. For although the success of a passage will principally depend on the navigator's own vigilance in watching for exceptions to the common rules, and on his skill and activity in profiting by them, yet he must always be materially aided by a knowledge of the prevalent winds and weather. As many persons, however, attach a certain degree of value to actual observations made on coasts little frequented, although the period in which

they may have been made be limited, I have given, in the two following notices, a brief abstract of the Conway's passages from PANAMA to ACAPULCO, and from ACAPULCO to SAN BLAS. The original notes from whence they are taken are too minute to interest any person not actually proceeding to that quarter of the world.

No. XIII.

*Panama to Acapulco.*

*5th of February to 7th of March, 1822.*

*(30 Days.)*

WE sailed from PANAMA on the 4th of February, and anchored on that afternoon at the Island of TABOGA, where we filled up our water. Next evening, the 5th, we ran out of the bay with a fresh NNW wind, and at half past two in the morning of the 6th rounded Point MALA, and hauled to the westward. As the day advanced the breeze slackened and drew to the southward. In twenty-four hours, however, we had run one hundred and forty miles, and were entirely clear of the bight of PANAMA. It cost us nearly six days more before we came abreast of Cape BLANCO DE NICOYA; at first we had light winds from SSW, then a moderate breeze from NNW, which backed round to the eastward, and was

followed by a calm : during each day we had the wind from almost every point of the compass, but light and uncertain. Between the 11th and 12th, we passed Cape BLANCO DE NICOYA with a fresh breeze from SSE and then SSW, which shifted suddenly to the northward, afterwards to the NNE, where it blew fresh for upwards of twenty-four hours, and enabled us to run more than two hundred and thirty miles to the west north-westward in one day. This breeze, which is known by the name of PAPAGAYO, failed us after passing the Gulf of the same name, and we then came within the influence of adverse currents. On reaching the longitude of  $92^{\circ}$  west, on the 16th we were set S 16 W 77 miles ; on the 17th, N 16 miles ; on the 18th, E 51 miles ; on the 19th, S  $78^{\circ}$ , E 63 miles ; on the 20th, S  $62^{\circ}$  E 45 miles ; on the 21st, S  $87^{\circ}$  E  $17\frac{1}{2}$  miles ; all of which we experienced between  $91^{\circ}$  and  $93^{\circ}$  west, at the distance of twenty or thirty leagues from the shore, meanwhile we had NNE and northerly winds, and calms.

After these currents slackened, we made westing as far as  $93\frac{1}{2}^{\circ}$  by help of NNE and easterly winds. On the 22d, 23d, and 24th, we were struggling against north-westerly winds off GUATIMALA between  $14^{\circ}$  and  $15\frac{1}{2}^{\circ}$  north latitude. This brought us up to the top of the

Bay of **TECOANTEPEC** at sunset of the 24th, we then tacked and stood to the westward. The weather at this time looked threatening; the sky was clear overhead, but all round the horizon there hung a fiery and portentous haze, and the sun set in great splendour; presently the breeze freshened, and came to north by west, and before midnight it blew a hard gale of wind from north. This lasted with little intermission till six in the morning of the 26th, or about thirty hours. There was during all the time an uncommonly high short sea, which made the ship extremely uneasy. The barometer fell from 29,94 to 29,81, between noon and four P. M., but rose again as the gale freshened. The sympiesometer fell twelve hundredths. This gale drove us to the southwest by south about one hundred and forty miles. A fine fresh breeze succeeded from **NNE**, which carried us one hundred and twenty miles towards **ACAPULCO**, and left us in longitude  $97\frac{1}{2}^{\circ}$  west, and latitude  $15^{\circ}$  north, on the 27th. This was the last fair wind we had on the coast, all the rest of our passage, as far as **SAN BLAS**, being made by dead beating. The distance from **ACAPULCO** was now less than one hundred and eighty miles, but it cost us eight days hard work to reach it, principally owing to a steady drain of lee-current running east by south at the following daily

rates, viz. thirteen, sixteen, twenty-seven, thirty-seven, twenty-five, ten, nine, seven, and nine miles. The winds were, meanwhile, from NW to NNW, with an occasional spurt from south-east and south, and several calms. We had not yet learned the most effectual method of taking advantage of the small variation between the day and night winds.

No. XIV.

*Acapulco to San Blas.*

*12th to 28th of March, 1822.*

*(16 Days.)*

THIS passage was considered good for the month of March; but in the latter days of December, and first of January, an English merchant ship made it in ten days, having a fair wind off shore nearly all the day. A merchant brig, which passed ACAPULCO on the 6th of February, at the distance of 150 miles, was a fortnight in reaching CAPE CORRIENTES, and nearly three weeks afterwards getting from thence to SAN BLAS, a distance of only seventy miles. There is, however, reason to believe that this vessel was badly handled.

It would be useless to give any more detailed account of this passage than will be seen in the preceding remarks, (No. XII.)

We generally got the sea-breeze about noon, with which we laid up for a short time W N W, and then broke off to N W, and so to the northward, towards the end of the breeze, as we approached the coast. We generally stood in within a couple of miles, and sometimes nearer, and sounded in from fifteen to twenty-five fathoms. If the breeze continued after sunset, we made short tacks, in order to preserve our vicinity to the land, to be ready for the night-wind. With this we generally lay off SW, sometimes W S W and West, but only for a short time. After passing latitude  $18^{\circ}$ , the coast trended more to the northward, and a much longer leg was made on the larboard tack, before we were obliged to go about. As we approached Cape CORRIENTES, in latitude  $20^{\circ}$ , the land winds became more northerly, and the sea breezes more westerly; so that, as the coast also trended off the northward, a more rapid advance was made.

On passing CORRIENTES, the TRES MARIAS Islands came in sight; and if they be passed to the south-eastward, at the distance of eight or ten leagues, and a N N E course steered, PIEDRA BLANCA DE MAR, off SAN BLAS, will be readily got sight of. This is a round, bold, white rock, in latitude  $21^{\circ} 34\frac{3}{4}'$  north, and longitude  $105^{\circ} 32\frac{1}{2}'$  west, and being one

hundred and thirty feet high, forms an excellent land-mark. It lies exactly eleven and three-quarters of a mile nearly due west from the harbour of SAN BLAS, which is pointed out by another white rock, bearing south, 83° east from the former. Close round this last rock, called PIEDRA DE TIERRA, on the eastern side, lies the anchorage. The coast between Cape CORRIENTES and SAN BLAS is full of deep and dangerous rocky bights. It is little known, and ought not to be approached. Care should also be taken, in the night-time, to keep clear of a small cluster of low rocks, which lie twenty-two miles to the NNW of Cape CORRIENTES. We made them in latitude 20° 43' north, and longitude 105° 51' 4" west. Vancouver places them in latitude 20° 45' north; longitude 105° 46' 55" west; an agreement sufficiently near. Our difference of longitude was ascertained by chronometers next day from SAN BLAS; where the longitude was afterwards determined by an occultation of a fixed star.

Cape CORRIENTES lies in latitude 20° 24½' north; longitude 105° 42' 26" west, or 23' 59" west from SAN BLAS.

During our stay at SAN BLAS, from the 28th of March to the 15th of June, we had light

land-winds every night, and a moderately fresh breeze from west every day, with the thermometer always above 80°.

Towards the end of the period, the sky, which had been heretofore clear, became overcast; the weather lost its former serene character, becoming dark and unsettled; and, on the 1st of June, the periodical rains set in with great violence, accompanied by thunder and lightning, and fresh winds from due south. This was nearly a fortnight earlier than the average period. The heat and closeness of the weather increased greatly after the rains set in; but although our men were much exposed, no sickness ensued, excepting a few cases of highly inflammatory fever. The town was almost completely deserted when we came away; the inhabitants having, as usual, fled to **TEPIC**, and other inland towns, to avoid the discomfort and sickness which accompany the rains.

As soon as the rains subside, in the latter end of October, or beginning of November, the people return, although that is the period described as being most unhealthy, when the ground is still moist, and the heat of the sun not materially abated.

## No. XV.

*San Blas, round Cape Horn, to Rio de Janeiro.*  
*15th of June to 12th of September, 1822.*  
 (89 Days.)

THE navigable distance of this passage, or that over which a ship must run, without counting casual deviations, is 7550 miles, and includes every variety of climate and weather.

An inspection of the track in the chart which accompanies this Memoir, will give a better idea of the extent and variety of this passage than any description can do. A few general remarks, however, may have their use. We were recommended by the oldest navigators at SAN BLAS to get off the coast as fast as possible, in order to avoid the very unpleasant weather which belongs to it at this season. This, it appears, is sometimes difficult to accomplish, and ships are even driven as far as ACAPULCO, before they can disentangle themselves from the westerly and south-westerly breezes. We, however, found no difficulty in running off to the SW as far as  $110^{\circ}$  W, and  $15^{\circ}$  north. From  $8\frac{1}{2}^{\circ}$  north, to  $3\frac{1}{2}^{\circ}$  north, and longitude  $105^{\circ}$  W, we were much retarded by southerly winds. We then got the trade-wind,

which hung far to the south at first, and obliged us to cross the line in  $110\frac{1}{2}^{\circ}$  west. We kept the trade-wind for fifteen days, that is, to the 23d of July, at which time we had reached the latitude of  $27^{\circ}$  south, having run by its means about two thousand miles. The wind afterwards came to the northward, and then to the NW, whence, in  $30\frac{1}{2}^{\circ}$  south, it shifted to south by east, and then to south-west on the 29th of July. In  $35\frac{1}{2}^{\circ}$  south, and  $102^{\circ}$  west, we had a hard gale from the southward.

The wind had been previously so fresh from the SW and SSW, that we were obliged to close reef at midnight of the 28th of July. It shortly afterwards came on to rain hard, and fell calm for an hour, at the end of which interval a gale suddenly came on from south, and blew with violence all that day. This gale was followed by fresh south-west by west winds, which came round to NW, and then to SSW again, as far as latitude  $46^{\circ}$  south, and longitude  $90^{\circ}$  west, when the wind hung for three days from the southward. From  $49\frac{1}{2}^{\circ}$  south, and  $82^{\circ}$  west, to  $55^{\circ}$  south, and  $78^{\circ}$  west, we had fresh NNE, NNW, and NW winds. Just as we were about to haul up to round the Cape on the 12th of August, the wind came from NE (by compass, or about ENE true,) which obliged us to go as far as  $57\frac{1}{2}^{\circ}$  south, before the

wind shifted to west, and north-west. We passed out of sight of Cape HORN on the night of the 14th of August, just two months from SAN BLAS, strictly  $60\frac{1}{2}$  days, the navigable distance being six thousand miles. From the meridian of Cape HORN to that of the FALKLAND Islands, we retained the NW, and latterly the SW winds. It then fell calm, after which we had SE and SSE breezes, with snow showers, (the first we had seen,) nearly as far as latitude  $40^{\circ}$  south. In the Pacific, between  $50^{\circ}$  and  $55^{\circ}$ , we had hard breezes, with rain, and a considerable sea, but not such as to prevent our scudding with ease. During all the passage off the Cape, we had fine weather, with smooth water, and a mild climate, that is to say, the thermometer was not below  $39^{\circ}$ . Off the FALKLAND Islands, with an ESE wind, it fell to  $35^{\circ}$ . This temperature seemed cold to persons recently come from a residence of more than six months in one of the hottest parts of the world, but, upon the whole, the season was finer than that of the correspondent north latitude.

When off the Cape in  $57^{\circ}$  south, and longitude  $69^{\circ}$  west, we fell in with four ice islands; two of these were very high and long; the other two were about twenty yards long, and as they floated not more than ten or twelve feet out of

the water, would, in all probability, not have been seen at night till too near to be avoided. Next day an immense island was seen, which could not have been less than two or three hundred feet high, and a quarter of a mile long. This was in  $56\frac{1}{2}^{\circ}$  south, and longitude  $65^{\circ}$  west. Some days afterwards, we fell in with an American Whaler which had passed more to the southward in  $58^{\circ}$ , where he not only met with innumerable ice islands, but with an extensive compact field, as far as the eye could reach. He found himself in the morning almost beset, and it cost him nearly twenty-four hours beating among the floating pieces and icebergs, before he was clear of them. I examined his chart, on which his track was laid down with every appearance of exactness; the ice and ice islands were severally sketched in a business-like manner on the chart. The high island which we saw on the morning of the 15th was probably one of the same group and the smaller ones fragments.

There are few things in navigation more dangerous than one of these low ice islands, in a dark night, when blowing hard, and with a high sea; all circumstances which unfortunately are likely enough to come together at this particular season, when the ice is most frequently observed to be floating about, off

Cape HORN. In bad weather it might be prudent to lie-to. But in fine weather, although dark, as it was with us, a leisurely course may be followed, provided uncommon vigilance be used. On this occasion I thought of a precaution, which it may perhaps be worth while stating. Having reefed the courses, that the officer of the watch might have a free view, the yards were braced sharp up, bowlines hauled, and every thing prepared for tacking, and always kept so at night, from whatever direction the wind might blow. On an ice island being seen a-head, and near us, in the case of the ship being by the wind, the helm being put down, she would readily come about: if off the wind, she would come to, with the sails so trimmed as to allow her sailing past the danger; or if this could not be, still she would be more ready to come about, and certainly be more manageable, in all respects, than if the yards had been in any other position.

The latter part of this passage between the latitude of  $40^{\circ}$  and that of Rio, was rendered tedious by frequent northerly winds. On the 24th of August, in latitude  $39^{\circ} 45'$ , the wind, which had been gradually hauling from the SE to the north-eastward, came to NNE, then to north, NNW, and latterly NW, shifting gradually at the rate of one point in twenty-

four hours. In the week from the 24th to the 31st we made, on an ENE course, only four hundred and eighty miles. During this period the wind was moderate, and the atmosphere filled with a dense haze, which made every thing damp. The barometer continued high all the time, never falling below thirty inches, and generally standing at 30,30. On the 31st, in latitude  $37^{\circ}$  south, longitude  $39^{\circ}$  west, the wind came in a squall to the SW. This wind, like the above, shifted from right to left, that is, from SW to South, SE, East, and so on to NE, North, and NW, with a thick haze, heavy rain, thunder and lightning, and the wind blowing occasionally in strong gusts. After this it fell calm, in latitude  $33^{\circ}$  south. The breeze which succeeded was first from the NE, but, as usual, it drew to the northward, with a thick haze, and a high swell from the same quarter. In the evening of the 5th, the wind, which was blowing fresh and steady from north, shifted suddenly, and without any lull, or other warning, to SW, and blew for two hours so hard that we could barely carry triple reefed top-sails, and reefed courses. This breeze in twenty-four hours fell light, shifted round as formerly to the South, SE, East, and in latitude  $28^{\circ}$  south to NNE. The only difference between this shift of wind, and those which preceded it, was the

absence of haze. It hung in the NNE quarter, blowing at times very fresh for three days, with a high short swell. On the 10th it fell calm, after which, on the evening of that day, a breeze sprung up from the SW, and having made ROUND ISLAND, off RIO, early on the morning of the 12th, in very thick rainy weather, we ran in, and anchored, after a passage of eighty-nine days from leaving SAN BLAS.

No. XVI.

*Rio de Janeiro to Bahia, or St. Salvador.*  
*25th of November to 13th of December, 1822.*  
*(18 Days.)*

THIS passage, and that of His Majesty's ship Doris, about the same time, serve to show how uncertain the winds are on this coast. We sailed in the Conway, on the 25th of November, met with north and north-easterly winds off Cape FRIO, which obliged us to stand off for nine days, at the end of which time we were one hundred and fifty miles farther from BAHIA than when we first sailed. The wind now shifted to the southward and SW, with a high swell, and much rain, and we reached our port on the 13th of December.

The Doris sailed on the 5th of December,

ten days after the Conway, and reached BAHIA on the 12th, one day before us.

It so happened, that, immediately on leaving RIO, she got the same southerly wind which carried us to the northward, and on the same day, but with a less distance to run. At this time of the year, northerly winds certainly prevail, and such circumstances as the above do not arise above two or three times in a season. As there are ample directions for navigating on this coast, it is needless for me to add any more.



**TABLE**  
OF  
**THE LATITUDES, LONGITUDES,**  
AND  
**Variation of the Compass**

*Of the various Ports on the Shores of the Pacific Ocean, visited by His Majesty's Ship Conway, in 1820, 1821, and 1822.*

EXTRACTED FROM A HYDROGRAPHICAL MEMOIR,

By MR. HENRY FOSTER, R. N.

Name of the Place.	Country.	Latitude.	Longitude.		Variation of Compass Easterly.	
			East or West of Valparaiso, by Chronometer.	West of Greenwich.		
Valparaiso.....	Coast of Chili	33° 1' 48" S		*71° 31' 00"	14° 43' E	
(Fort St. Antonio) ..		38 19 13	2° 15' 17" W	73 46 17	19 34	
Island of Mocha ....		37 14 30	1 42 00	73 13 00	18 22	
Arauco.....		37 5 30				
Point Lobos, Island of St. Mary's.....		36 42 52	1 28 33	72 59 33	15 30	
Talouhuana (Bay of)		36 43 34				
Penco (Conception)..		29 56 39	0 15 4 E	71 15 56		
Ccquimbo Bay.....		29 53 57	0 12 49	71 18 11	14 0	
Islet A., (Bay of Co- quimbo).....		28 27 0	0 21 55	71 9 5	13 30	
Guasco, (Outer-rock A.).....		27 19 0	0 40 19	70 50 41	13 30	
Bay of Copiapo, (Point A.).....		18 28 35	1 17 44	70 13 16	10 25	
Arica, (Town of St. Mark).....		17 42 00	0 11 25	71 19 35	10 18	
Point Coles.....		17 13 00	0 9 27 W	71 40 27		
Valley of Tambo ...		17 2 15	0 23 9	71 54 9	11 5	
Village of Mollendo.	17 1 00	0 29 15	72 0 15			
Point Isly.....	South West Coast of Peru	16 15 10	2 2 1	73 33 1	11 20	
Point Pescadores ...		14 58 53	3 52 57	75 23 57		
Point Nasco, or Ca- ballos.....		14 42 5	4 13 33	75 44 33		
Infernal Rock.....		14 36 29	4 32 48	76 3 48		
Hill of Mercedes ...		14 20 0	4 39 16	76 7 16		
Los Amigos Rocks...		12 3 45	5 31 12	77 2 12		
Castle of Callao ...				*77 6 10	10 34	
Do.....		West Coast of Peru	11 45 55			10 25
Ancon, (Point Mu- latas).....			6 58 10	8 11 5	79 42 5	9 36
Huacho.....						9 0
Hill of Eten.....						
Payta.....						

Name of the Place.	Country.	Latitude.	Longitude.		Variation of Compass Easterly.
			East or West of Valparaiso, by Chronometer.	West of Greenwich.	
Island of Sta Clara.. (Entrance of River Guayaquil) .....	Coast of Colombia	8° 13' 42" S	80° 43' 33" W	⊖ 80° 14' 33"	
Town of Guayaquil .....		2 12 12	8 8 46	⊖ 79 30 46	9° 5' E
Gardiner's Island ... (centre)		1 22 32	18 27 32	⊖ 89 58 32	
Charles' Island (Saddle pt.) .....	Galapagos Islands	1 20 40	18 39 31	⊖ 90 10 31	
(Post-Office Bay) .....			18 35 35	⊖ 90 6 35	
Indefatigable's Island (north end) .....		0 33 36			
James Island, (Sugar Loaf) .....		0 18 0	18 57 28	⊖ 90 28 28	
Earl of Abingdon's Island .....		0 32 21 N			
(Conway's anchorage) Do. (S W point) .....	Isthmus of Darien	0 32 19	18 49 39	⊖ 90 20 39	8 20 7 0
Panama (Town) .....					
			East or West of San Blas.		
Acapuleo (Fort Carlos) .....	South West Coast of Mexico		5 24 40 E	⊖ 99 53 47	8 40
Peaked Mountain, (supposed the volcano of Colima) ..		19 36 20 N	1 41 58	⊖ 103 36 29	
Cape Corrientes .....		20 24 32	0 23 59 W	⊖ 105 42 26	
Rock to the N W by N by compass of Cape Corrientes .....		20 43 00	0 33 14	* 105 51 41	
Piedra Blanca .....		21 34 48	0 13 40	Δ 105 32 7	
San Blas .....		21 32 24		* 105 18 27	
Do. ....				Δ 105 17 9	8 40

The Longitudes marked \* have been determined by occultations of the fixed Stars by the Moon. Those marked Δ by Lunars. Those ⊖ have been connected, by Time-keepers, with the stations at which occultations were observed.

## PART SECOND.

---

**THE** following remarks on sailing round **CAPE HORN** in the month of **MARCH** and **APRIL**, are from **CAPTAIN PIPON**, of His Majesty's Ship **TAGUS**.

In passing and repassing **CAPE HORN**, the former in **APRIL 1814**, the latter period in **MARCH 1815**, we incessantly experienced, much violent and tempestuous weather, attended with a very heavy sea; so that the ship laboured extremely; and on our return from **VALPARAISO** to **RIO DE JANEIRO**, notwithstanding the main top sail was close down on the cap, I found the head of the main mast sprung from a sudden jerk to windward, owing to the violent cross sea.— During this time, being in the **SOUTH PACIFIC**, nearly in the latitude of the opening of the Straits of **MAGELLAN**, it blew a very terrific gale, with tremendous squalls, attended with hail and snow, and the sea much agitated; the ropes were so hard frozen as to make

it difficult and dangerous for the men to go aloft.

In my opinion, from the accounts I have been able to collect, from experienced seamen, as well as from what written descriptions I have met with ; the best season for passing **CAPE HORN**, would be towards the latter end of **DECEMBER** and **JANUARY**, and ships should then be well provided with good canvas and cordage, and be made as snug as possible, squalls being here very heavy, frequent and sudden. Particular care should also be taken of the various changes that occur, during the violent gusts of wind that prevail, shifting often from **S W.** to **N W.**

*On rounding Cape Horn, from Commodore  
Bowles's remarks.*

**NOTWITHSTANDING** the dangers and difficulties of a passage round **CAPE HORN** into the **SOUTHERN PACIFIC**, are not of the most formidable nature formerly imagined, yet a great deal of severe weather may be expected, especially near the equinoxes, when hard gales from **W.** to **S W.** prevail, and are more serious, from the severity of the cold, which makes reducing sail at night difficult and dangerous.

Passing through the Straits of LA MAIRE is now very generally disused, as the short distance gained, is much more than counter-balanced by the danger of entangling your ship with the land, in the event of a shift of wind, as well as the risk to what she is exposed from the rapidity of the tide. The whalers now make the FAULKLAND ISLANDS, and see SATEN LAND only, as they pass to the westward.

From what I have myself observed, and heard from the most experienced navigators in those seas, I am convinced the most important object is, after rounding Cape ST. JOHN'S, to take every opportunity of getting to the westward, instead of the northward, and not to be anxious about the latter, till you are in the longitude of from  $82^{\circ}$  to  $85^{\circ}$  W. because between the parallels of  $54^{\circ}$  and  $50^{\circ}$  S. strong N W. winds prevail with a heavy sea, and it is extremely desirable before meeting them to have secured such an offing as to be able to stand on the larboard tack, until having passed the latitude of  $50^{\circ}$  S. when you may expect more moderate weather and S W. winds.

Floating ice is met with in standing to the southward, at a greater or less distance from Cape HORN, according to the time of the

year, and (probably) the winds which have prevailed, in general attention to any sudden change in the temperature, will give notice of the vicinity of the ice.

Some navigators are of opinion, that a passage from the ATLANTIC round Cape Horn into the PACIFIC, may be made in Winter much quicker and with equal security as in the summer season, and assigns the following reasons for it: that though the nights are long, yet there is no danger of falling in with icebergs, which are so numerous after the breaking up of winter, also the winds are more variable at that season, giving an opportunity to the navigator to make much more way than in summer, when they blow almost constantly from the westward.

*Description of Ports, Roads, &c.*

Port St. CARLOS on the north coast of the Island of CHILOE, on the coast of PATAGONIA, lies in latitude  $41^{\circ} 51' 50''$  S. ; longitude  $73^{\circ} 53' 15''$  W of Greenwich.

Plenty of wood and water can be procured here, and in the inner harbour, ships can refit.

See the engraved plan, which gives every

necessary information, and a better idea of it than any written description can.

*Island of Mocha, on the South Coast of Chili.  
From Lieutenant Foster's Memoir.*

Latitude of the N W Point.....	38°	19'	13" S
Longitude of the centre of the Island lies			
west of VALPARAISO, by chronometers..	2	15	17
From GREENWICH.....	73	46	17 W
Variation by Azimuth ship head, N by W...	19	34	0 E
Anchorage on the N E side of the Island, in			
H. M. S. Conway, in 13 fathoms fine sandy			
bottom, with S E extreme of Main Land	S 60	0	0 E
By Com- {	South extreme of Island.....	S 45	0 0 E
pass {	North extreme ditto.....	S 71	0 0 W
	Centre of the Island .....	S 20	0 0 E

THIS Island lies NE and SW, is high and wooded to the top ; off the NW end breakers extend to a considerable distance, and we were informed that a shoal runs out to seaward, at the distance of 5 miles from its southern extremity, but we did not examine any part of the Island.

The anchorage is said to be clear, and there is generally a heavy swell, which renders it prudent to lay with a good scope of cable. In the Conway by neglecting this precaution, when riding with the chain, we snapt the ring of the small bower anchor.

The sealing vessels on this coast are in the habit of calling here for the purpose of supplying themselves with fresh provisions, from the droves of wild horses and pigs that abound on it.

*Arauco, South Coast of Chili,  
From Lieutenant Foster's Memoir.*

Latitude of the Town .....	37°	14'	30" S
Longitude west from VALPARAISO, by chronometers .....	1	42	0
From GREENWICH .....	73	13	0
Variation by Azimuth, ships head W S W...	18	22	0 E

There does not appear to be a regular tide in this Bay, but a rise of about 5 feet was observed at the Conway's anchorage, in 8 fathoms, sandy bottom, about  $1\frac{1}{2}$  mile off the beach.

The centre of the town by compass ..... S 23° E  
 A white rock off the entrance of the River TABULS 65 W  
 Point LAVAPIE ..... N 88½ W

THE soundings in the Bay are irregular, and there are occasional ripples that have an alarming appearance, but it is believed they are merely the effects of opposite currents, we stood through one of them having 8 fathoms

The landing is on a sandy beach before the town, where there is a high surf in bad weather. There is no shelter for shipping when the wind is from the northward, nor do I believe it is frequented as a Port.

It is said, there exists a secure harbour on the Coast about 10 or 12 miles to the N E of the town, named **CULCURA**.

*Island of St. Mary, South Coast of Chili,  
From Lieutenant Foster's Memoir.*

Latitude of Point **LOBOS** ..... 37° 5' 30" S.

We anchored in **H M S Blossom**, in the South Bay, in  $4\frac{3}{4}$  fathoms, with the reef of Point **ANEGADOZA** N E by E. Watering Place N W by N. Point **LOBOS**, (the South extreme of the Island), S S W  $\frac{1}{2}$  W about  $1\frac{1}{4}$  mile off shore.

This Bay is spoken of by masters of sealing vessels, as a watering place, and affording good shelter from the north gales, that prevail in the winter season along this coast.

The North Bay, in which there is anchorage in 14 fathoms, is, I believe, only frequented in fine weather, during summer, by vessels employed in sealing.

*Bay of Conception, South Coast of Chili,  
From Lieutenant Foster's Memoir.*

IN this Bay there are these three distinct Ports, which we visited in H M S Conway, October, 1821, viz.:—**TALCAHUANA, PENCO, and TOME.**

The first **TALCAHUANA**, lies at the **S W** angle of the Bay, and is the principal resort of ships, as being the Sea Port of **CONCEPTION**, its

Latitude is . . . . .	36°	42'	52" S
Longitude west of <b>VALPARAISO</b> , by chro-			
nometer . . . . .	1	28	33
Of <b>GREENWICH</b> . . . . .	72	59	33
Variation by Azimuths' . . . . .	15	30	0 E

**H M S Conway** anchored in 6 fathoms, soft muddy bottom, with the extremes of the Island of **QUIRIGUINA** from **N 7° E** to **N 1° W** by compass;

Fort on the beach at the <b>Town</b> . . . . .	S 50° W
And the Head of <b>TALCAHUANA</b> . . . . .	S 9 W

In summer when southerly winds prevail, this anchorage is perfectly secure and convenient, but in winter, the hard northerly gales blow right in, and the Islands and Reefs afford inadequate shelter to ships at anchor off the

**Town.** In H M S Blossom we were obliged to strike lower yards and topsails, during a strong gale in May 1818.

There are several good watering places at **TALCAHUANA**, wood may also be got by cutting, or by purchase at a very low rate. Coals are to be dug up here on the beach, as well as at **PENCO**, when it is low water, and also on the coast to the northward of it. But it will generally be found preferable to purchase these supplies than to provide them in this way, as the best sort of coal lies in land, at the distance of a mile or two, and the trouble of carriage more than compensates the small cost from the inhabitants.

The second, or **PENCO**, is a small village built on the ruins of **OLD CONCEPTION**, at the S E angle of the Bay about one-quarter of a mile from the beach.

It lies in latitude .....  $36^{\circ} 45' 34''$  S

The Conway anchored off this place in  $9\frac{1}{2}$  fathoms, soft muddy bottom, with

- The fort on the beach ..... S  $23^{\circ}$  E by compass
- LITTLE GREEN HILL** ..... S  $50^{\circ}$  E
- Point **LINGUEN** ..... N  $64^{\circ}$  E

There is a more convenient anchorage in fine

weather, in 6 fathoms, soft muddy bottom, with the south end of the Island of QUIRIGUINA, just touching Point GANSOS, the church just on with the north end of a fort on the beach, bearing about S E  $\frac{3}{4}$  S, and Point PARRA, (which may be known from its having a rock at a little distance off above water,) N  $\frac{1}{2}$  E about three-quarters of a mile off shore.

The watering place at this Village is at a stream that runs into the sea, close by the north end of the Fort on the beach.

The third, or TOME, is a little bight at the N E corner of the Bay.

The Conway anchored for a night in 12 $\frac{1}{2}$  fathoms, with the

Head of TOME .....	N 23° E	} By compass.
Thrum Cap .....	N 15 W	
North Point of QUIRIGUINA.....	N 85 W	
South end of ditto .....	S 59 W	
Point PARRA .....	S 4 E	

It is here that large timber is most readily procured ; fire-wood is also in plenty, and there are great facilities for watering when the wind is not blowing fresh from the southward.

There is a small reef of rocks having 1 $\frac{1}{2}$

fathom over them, at the distance of about one-third of a mile from the beach, and about one mile to the southward of Point PARRA, where there is a stream of clear fresh water running down the beach into the sea; these rocks answer as a breakwater, and allow boats to water the ship with great ease when the wind is from the southward.

It is said, that coals were dug up here, at low water, on the beach, by H M S Slaney.

*The following remarks respecting Tome, are by Captain Hall, of H M S Conway.*

Logs of Linguen wood, 21 feet long, and a foot square, cost somewhat less than a dollar a-piece, and this wood proved excellent for boats. Seasoned stuff for oars may also be bought, and in short almost every species of timber may be met with at prices greatly below what obtain any where else on the South American station.

The war that had been waging in this country, previous to our visiting it, had in a great measure depopulated the most fertile parts of it, and deprived it at the same time

of its crops, and cattle, for which it had been so celebrated, nevertheless we did not find much difficulty in procuring supplies of fresh meat, and different kinds of stock.

A good bodied sweet wine is to be procured here at a moderate price.

*Port St. Vincent, near Conception, written by Captain Hall, and taken from Mr. Foster's Memoir.*

THIS Port lies on the S W side of the Isthmus of TALCAHUANA, and would certainly be a secure place to lie in during the prevalence of northerly winds in winter.

The Conway anchored at the mouth of this Port for some hours, and the boats having examined the inner part of the Bay, ascertained that at the North end is a cove or bight, completely secured from all winds, in which ships of any size might ride, at all seasons of the year, and this cove has the advantage of a variety of depths near the shore at different places, so that a ship might, if it were required, be hauled very near to the beach, inside the rocks forming the nook at the very top of the

bight. It is possible, though not probable, that in the high south winds of summer, a swell might find its way into this Cove, but not I think to do any injury. At such seasons a ship might shift to the south corner of the Port.

Upon the whole I am disposed to think, after visiting the whole Coast from CONCEPTION to SAN BLAS, that with the exception of ACACULCO and GUAYAQUIL, there is no anchorage which offers advantages nearly equal to those of Port ST. VINCENT. Its vicinity to TALCAHUANA, CONCEPTION, and PENCO, gives it the command of the supplies from those places, and its being much easier of access gives it a further advantage.

Note.—The paps of BIOBIO is the land mark of this Port, and those of CONCEPTION, their name sufficiently indicates their appearance, as to render any further description unnecessary.

The view of them, as given in the Plan of the Bay of CONCEPTION, supplied by the Admiralty, is sufficiently correct.

*Juan Fernandez,**Taken from Captain Pípon's Remarks.*

ON the 12th of February, 1815, being on our return from LIMA, and much in want of fuel, we anchored in the Bay of JUAN FERNANDEZ; it is situated on the North side of the Island, and the marks at our anchorage were the west point of the Bay W by N  $\frac{1}{2}$  N, the east point E  $\frac{3}{4}$  N, the flag-staff on the battery S W by W  $\frac{1}{2}$  W, in 35 fathoms, soft bottom, and had steadied the ship with a hawser and kedge anchor; in the night it blew in violent squalls off the land, and the Briton having only half a cable out, drove to sea, and did not recover the anchorage until the following morning.

Here you may procure abundance of wood and water, the former article we cut and embarked from a little Bay; the best watering is at a rivulet, where we filled our casks in the boat, with a hose. Cattle were plentiful on the Island, the soil of which appears rich, and with care and attention, the earth would doubtless be very productive, at present it is left almost uncultivated.

The Bay abounds with excellent fish of various kinds, which are caught with great facility, with hook and line.

The latitude of the anchorage is .....33° 38' 13" S  
 Longitude .....78 49 0 W  
 Variation .....14 0 0 E

On the 6th of March, while cruising on the Coast of Chili, the weather was so extremely hazy: that no observation could be taken of the sun; we observed a considerable reef bearing from us N N E  $\frac{3}{4}$  E by compass, on which the sea broke with great violence, by all the observations I could make, it appears to be that laid down in the charts of the coast, wherein the centre of it is placed in latitude 33° 56' south, distance about 5 miles off shore; as however, it may probably extend somewhat farther off, ships should be cautious not to approach the land during the night, in the above latitude.

*Valparaiso,*  
*Principal Sea Port on the Coast of Chili,*  
*From Mr. Foster's Memoir.*

Latitude of Fort St. ANTONIO .....33° 1' 34" S  
 Longitude west of GREENWICH, by occulta-  
 tion of Antares by the moon .....71 31 0  
 Variation .....14 43 0 E

**THE following observations on making and entering this Harbour from the southward are by Commodore Bowles.**

If bound to Valparaiso, make the land to the southward, in latitude  $33^{\circ} 26' S$ ; there is a white rock which shews when 8 or 10 miles **W N W** of it, like a ship under sail, and 14 or 15 miles more to the northward is **Point COROUMILLA**, which is very remarkable, having near its Point a hummock, resembling a sugar loaf, which makes nearly alike both from the northward and southward. Within this Point, which lies in latitude  $33^{\circ} 6'$  the land is high. **VALPARAISO** Point is about 7 or 8 miles to the **NE** of **COROUMILLA**, it is known by a signal staff and house on its summit, in rounding this Point, it is advisable before 11 A. M. to give it a good birth, as, although you may bring a fresh breeze from the southward, yet drawing a little into the Bay, you meet with eddy winds, which, if you are too near the land, makes your situation dangerous, being rocky bottom and very deep. The best mark is to open the shipping at the anchorage before you haul in. There is no danger in your way; in the summer months, from September to March, the southerly winds prevail in the afternoon, blowing strong down the valleys.

Merchant vessels anchor close to the beach, generally burying their small bower anchor on shore, or back the inshore anchor with a stream.

There is a current which sets in round the Bay with a southerly wind, and out in the opposite direction with the last of the south winds, which are generally over at 6 or 7 P. M. You may be sure of a strong southerly wind, when the mornings are clear and very warm, with the sea outside the Bay rippling. During the winter months it appears advisable to moor with an open hawse to the N N E, as it blows three months so hard from the northward, as to prevent any communication with the shore for several days: during these gales, there is always an underset out of the Bay, and the bank being steep, there is little danger of the anchors dragging up hill.

*The following observations on Valparaiso, are by Captain Pipon, of H. M. S. Tagus.*

THERE are no dangers to be apprehended in sailing in or out of this harbour; on entering, it is advisable to keep the point of the harbour close on board, ranging a rock that is about a cables length from it, pretty close, this will keep you to windward, and enable you to fetch the anchorage, which is opposite the

d

town, in from 28 to 20 fathoms water. The plan of the harbour published by the Hydrographical Office, will give a better idea than any description, it is only necessary to observe, that it is so free from dangers as not to require pilots to take ships in. The prevailing winds here, are off the land, blowing sometimes with great violence, (that is from the southward and westward,) with this wind there is very little surf on the beach, and you may land at all times under the Custom-house. In the months of May, June, and July, the northerly winds occasionally set in, and the harbour being quite open to this quarter, it is necessary to guard against it, as a heavy sea and swell is then thrown in; on these occasions, boats cannot land at the usual place, but are obliged to go under the western fort, which is well sheltered, and where you land with great facility.

The tide here is very irregular, being much affected by the winds. It is high water about 9 o'clock by the shore, at full and change, and rises about 6 feet, neaps about 5. With the land wind, (that is about S W,) and blowing strong, the tide is observed to ebb lower than on other occasions, and vice versa; with the wind from the northward it is known to rise extremely high, frequently overflowing the low sandy beach, a little above which, stands the

suburbs, called the **ALMANDRAL** or **ALMOND GROVE**.

Wood is scarce and difficult to be procured, indeed this article alone, if purchased, would amount to more than the whole of the necessary money, allowed to Pursers on board ships of war. In order to avoid this expence, it is necessary to call at the Island of **JUAN FERNANDEZ**, where it is procured in the greatest abundance and tolerable facility.

Watering here is very commodious, and the water extremely good,\* though it is occasionally attended with inconvenience, when there is any surf on the beach, which generally was the case when the land wind set in strong; in order to avoid this inconvenience, and to prevent the expenditure of casks, which would naturally follow, we took the precaution of landing our empty casks in the evening, when it was nearly calm, filling them during the night and rafting them off at day light the

---

\* Qu. Can the water of this well, be affected by any change in the weather, as Mr. Foster of H. M. S. Conway, makes the following remark on its quality:—

“ Here the water is purchased from a resident in the **ALMANDRAL**, it is not good, sometimes turning black, and has then a very disagreeable taste

following morning, at which times we could always ensure a calm, and with it a smooth beach. The casks were obliged to be rolled up about half a mile in a vineyard belonging to Mr. Burillas, and as it is difficult to prevent seamen from picking, when fruit is within their reach, we were under the necessity to enter into an agreement with this gentleman to pay him a quarter of a dollar for every cask filled; chiefly in recompence for the injury his garden suffered. On other occasions, when the fruit was not ripe, we paid him one real, or the eighth part of a dollar: the water is plentiful, and you fill with great expedition; the well is situated about the centre of the *ALMANDRAL*, and this is the only place where ships of war can water in this Bay.

Provisions and refreshments of every description are to be procured in the greatest abundance, of the best quality, and extremely reasonable, the bullocks in particular are uncommonly fine, although not large, yet in good condition, we paid 15 dollars each, and on an average they weighed about 290lb.; they may be procured in any number.

Wine and spirits are also plentiful, this latter being of a strong and fiery nature, is not perhaps, so wholesome as our rum, yet with

care and attention in collecting it in the country, some of a very good quality may be procured.

The wine is good, yet these people, although their vineyards produce most delicious grapes, have not arrived at any perfection in making it, with proper management, I am convinced the wine would prove excellent.

Flour and biscuit can also be procured in any quantity of the best quality, and at a moderate price. Pease and calavanses, and in short, almost every article can be procured here for the victualling any number of ships; cheese and butter indeed are not found in any great quantities, from the heat of the climate, but we had an excellent substitute in the cocoa and sugar, which our crews were supplied with every morning for breakfast. These two latter articles are brought from LIMA, where of course they are procured at a more reasonable rate than at VALPARAISO; yet even here, they are by no means expensive.

Fruit and vegetables are equally choice and good; vegetables are produced in the most luxuriant way, with scarce any cultivation of the ground; the fruits are, the orange, the

peach, grapes, apples, pears, melons of various kinds, bananas, &c. &c. Of the vegetables are potatoes, onions, cabbage, pumpkins, and all manner of green herbs.

Poultry of all descriptions, are also cheap and abundant ; it is however, necessary in this plentiful country, to recommend to all Captains of ships coming on this station, to be most frugal and economical of their salt beef and pork, as it is not to be procured here.\*

*Coquimbo Bay, Coast of Chili.  
From Lieutenant Foster's Memoir.*

Latitude of ISLOT A.† .....	29	53'	57" S
Longitude east of VALPARAISO, by chro-			
nometer .....	0	12	49
West of GREENWICH .....	71	18	11
Variation by Amplitude at setting .....	14	0	0 E

Anchorage of the Conway, in 8 fathoms, fine white sandy bottom, with

Church at SERCA, or Town of COQUIMBO	N 44° E	} By compass.
Extreme north point of Western shore	.. N 50 W	
Houses near the landing place	..... S 52 W	

---

\* See page 104, an account of the process for salting beef in this climate, by Mr. Inderwick, Purser of H. M. S. Conway, by which he appears to have succeeded. Sir Thomas Hardy corned all kinds of meat at VALPARAISO, and caused the ships of the squadron to do the same.

† See plan published by the Hydrographical Office.

THE Spanish survey of this Bay, published by the Admiralty, we found to be correct, and if the lead be kept briskly going, when approaching the eastern shore, or standing towards the bottom of the Bay, it will be a sufficient guide, as the water shoals gradually towards the beach, which is low and sandy.

The western shore is high and bold, particularly at its northern extreme, off which there lies an isolated rock, having  $4\frac{1}{2}$  fathoms within a boats length from it; there is also on this point, a platform with two guns, and a hut that answers the purpose of a guard-house, they are somewhat concealed from the circumstance of their partaking so much of the appearance of the rock on which they stand. From this point, to the distance of near a mile towards the S W corner of the Bay, there is 9 fathoms at half a cables length off the rocky beach, and then another point projects a little from the line of coast, having also two guns mounted on an open platform and a shed amongst the rocks, these are more visible than those on the outer point. Off this inner point a ledge of sunken rocks extend to about a quarter of a mile, but there is 15 feet at a cables length from the beach.

The watering place, we were told by Captain Ridgely, of the U. S. S. Constellation, is at a

lagoon on the eastern side of the Bay, bearing from our anchorage about E N E by compass ; and also plenty of fish caught with the Seine, on the sandy beach, and that the best anchorage is in 6 fathoms, at the S W angle of the Bay.

*The following remarks on Coquimbo Bay, by Captain Pipon.*

ON the 21st of November we anchored in COQUIMBO BAY ; this is a very snug Bay, though one great inconvenience attends it ; which is, that fresh water is difficult to be procured, and not good ; wood is also scarce, and far from the anchorage. Bring a rock, called the Tortoise Rock, (10 or 12 feet long, and about 6 feet above water,) nearly on with the Point, you will lie in very smooth water, in from 6 to 10 fathoms, black sand.

In going in, it is necessary to give PASARO NINO, (a rock or small Island,) a birth, in case of calm, and least you should be obliged to anchor, for the ground near it is very rocky. There is no landing at the town, which is called LA SERENA, and is 6 miles by land from the anchorage. From here we proceeded to the northward along shore, passing between the little Islands CHOROS and PAJAROS ; the passage between them is wide and perfectly safe.

*Guasco, Coast of Chili,  
From Lieutenant Foster's Memoir.*

Latitude of Rock A* .....	28°	27'	0" S
Longitude east of VALPARAISO, by chro-			
nometer .....	0	21	55
West of GREENWICH .....	71	9	5
Variation by Azimuths .....	13	30	0 E

Anchorage of the Conway, in 5 fathoms fine dark sandy bottom, with the

Outer Point to the westward .....	S 74°	30'	W	}	By compass.
Outer Rock A. off Inner Point .....	S 88	30	W		
Huts near the Landing Place .....	S 27	0	W		

GUASCO may be known by the Point that runs out to the westward from the main, forming the outer harbour or PUERTE GRANDE, being very rugged, and white topped with birds dung.

The Point itself is isolated by a small Creek, and has a remarkable sharp peaked little hill near its centre, besides two detached rocks off its northern extremity. Round this Point to the eastward, is the outer harbour, in which there is no good anchorage, the water being very deep, and the bottom in most parts of it rocky.

---

\* See plan published by the Hydrographical Office.

The second or inner Point, has two large rocks lying in a N W direction from the Point, which forms with the northern shore, the inner harbour of GUASCO. Here vessels receive copper from the mines of GUASCO, and the asients of SANTA ROSA, the latter place being about 5 leagues in the interior.

This Port, appears to afford but little shelter from the north gales in the winter season, and we observed the wreck of a vessel on the beach ; in summer it is perfectly secure.

The watering place is in the River GUASCO, the mouth of which bears N E by compass from the anchorage, it is strongly impregnated with salt water near half a cables length from the beach, but above that, it is considered good.

*Bay of Copiapo, Coast of Chili,  
From Lieutenant Foster's Memoir.*

Latitude of Point A,* from a Spanish chart	27°	19'	0" S
Longitude east of VALPARAISO, by chro-			
nometers	0	40	19
West of GREENWICH	70	50	41
Variation by Azimuth and Amplitude	13	30	0
High water at change of the moon	8h.	10m.	P. M.
Perpendicular rise of spring tides	4		feet

---

\* See plan published by the Hydrographical Office.

Anchorage of the Conway in  $5\frac{1}{2}$  fathoms,  
sandy bottom, with

The Caxa Grande .....	S 66° W	} By compass.
Extremes of ISLA DEL MORRO, from N 31° W to .....	N 38 W	
Point A, near landing place .....	S 50 W	

To the westward of the anchorage, there lies a long ledge of sunken rocks, over which the sea breaks with great violence in bad weather, and although there may possibly be passages between them, it can never be advisable to risk entering that way. A ship bound here from the southward, having made the **CAXA GRANDE**, (which is one of the ledge of rocks always above water) should give it a birth of a mile, and steer for the centre of the **ISLE GRANDE** or **DEL MORRO**, N  $\frac{1}{2}$  E by compass, until the northern part of the Sandy Bay in the harbour bears S E by E, when you may steer in for the anchorage on that bearing, and when **Point DALLAS**, (a rugged Point to the southward,) bears S by E, you will have passed the eastern edge of the northern reef, which does not shew itself in fine weather.

Neither wood, water, nor provisions are to be procured here, it is the Port of **COPIAPO**, (famous for its copper mines,) situated 18 leagues in the interior, over a level good road.

*Cobija.*

*Extract from the Log Book of Captain Robert Hunter, Commander of a Merchant Ship.*

Latitude of COBIJA, by Spanish charts.....22° 30' S  
Longitude west from GREENWICH, ditto.....70 2

IF going into this Port, it is necessary to pass MEXILLONES Bay within 6 or 8 miles, stand directly in shore, and run down within 2 or 3 miles to make sure of it. The Spanish charts lay it down about 35 miles from MEXILLONES, but I question whether it is more than 32: there are two palm trees at the watering place, which is an excellent guide.

*Chuereanatta.*

*Extract from the same.*

Latitude ..... 20° 17' S

IF bound to this Port bring Point GRANDE to bear S W by S, there is a red bluff which you will see to the northward, continue your course to the south bluff until you bring the hills to bear S E by E, you will then have 16 fathoms water good anchorage. In approaching it from the southward it is very easily known by three white rocks that lie on the Point, the south and middle rocks are nearest to each other; this is an excellent mark if bound into

**IQUIQUE**, pass the Point at the distance of a mile or two, and steering **N N E** will take you right in for the Island of **IQUIQUE**, you will see the church spire at a considerable distance from it, which appears at first like a sail; give the Island a good birth in consequence of a reef that lies on the west side, anchor about half way up the Bay, in from 8 to 12 fathoms. **N. B.** No fresh water to be got here.

*Gulley of Victor.*

*Extract from the same.*

**THIS** is a very good harbour, about 19 miles to the southward of **ARICA**, though the landing is bad, there is no danger in running into it; anchor in 6 or 7 fathoms, within two cables length of the shore, on the south side of the Bay.

*Arica Roads, South Coast of Peru.*

*From Lieutenant Foster's Memoir.*

Latitude of the Town of <b>ST. MARK</b> .....	18°	22'	35" S
Longitude east of <b>VALPARAISO</b> , by chro-			
nometer .....	1	17	44
West of <b>GREENWICH</b> .....	70	13	16
Variation by Azimuth ship's head <b>S W</b> .....	10	25	0 E

The **Conway** anchored in  $7\frac{1}{2}$  fathoms, dark sand, with the

Head of ARICA.....	S 50° W	} By compass.
Burying Ground to the north of the Town, (known by its being enclosed with a wall, white washed, and no houses near it) .....	S 76 E	
Island off the Head of ARICA named HUANA.....	S 27 W	

IN the summer, vessels should lie well out, to enjoy the strength of the sea breeze, as the valley is said to be noted for the tertega, (a sort of ague.)

The head of ARICA is a remarkable bold white bluff, standing out from the Coast, and may be known from there being an Island named HUANA off it.

The landing place is on the beach before the town, and should not be attempted by ships boats, in consequence of the surf and shallow shelf extending to some little distance from it.

Here the natives land the cargoes of vessels, &c. in what is termed a balsa, which is an ingenious and excellent mode of conveying either articles of merchandize or people on shore, without getting wet. The balsa is made of seal skins, sewn together so as to form two large bladders; these being filled with air, the two foremost ends are fastened

close together, the after ends having a spread of 4 feet, and lashed to a slight spar, form the balsa, which of course floats high in the water. The manager of the balsa furnished with a double bladed paddle sits close forward, and the people or goods lie abaft, he then approaches the shore, and waits at the back of the surf for a sea that will throw him well up on the beach; which effected, he immediately jumps on shore, secures his balsa from returning with the sea, and you land without any danger, or chance of getting wet, beyond the sole of your shoes. Fresh water is to be got, I am informed, by digging wells on the beach, above high water mark: but the great surf on the shore must render it troublesome to water a ship.

The valley of ARICA produces cotton, red and black pepper, olives, castor oil, and various kinds of tropical fruit, and vegetables in abundance. It is the sea port of TAGNA.

### *Arica Roads.*

*By Captain Robert Hunter.*

ARICA is easily known by the point which runs considerably out from the MORRO, and forms an Island, you may round this within

two cables length, and anchor in about 8 fathoms, keeping a street open that runs to the other end of the Town. N.B. It is necessary to anchor with a kedge astern, in all the harbours of this coast, to prevent rolling; chains are the best if you have them.

*Point Coles, South Coast of Peru.*

*From Lieutenant Foster's Memoir;*

*The S. E. boundary of the Bay of Ilo.*

Latitude .....	17°	42'	0" S
Longitude east of VALPARAISO, by chronometer .....	0	11	25
West of GREENWICH .....	71	19	25
Variation by Azimuth, ships head, S S E $\frac{1}{2}$ E.	10	18	0 E

Point COLES is a high long level Point, running out to seaward from a wide valley to the northward of it, (somewhat resembling that of TAMBO,) near its extreme point the land terminates abruptly, and from thence a low narrow neck stretches into the sea, on which there are several high hummocks that appear like Islands, when at the distance of five or six miles.

About three quarters of a mile to the SW of this Point is the Tortugua rock or island, it is in one with the centre or largest hummock

when bearing by compass N 47° E. The **MORRO DE SAMA**, which is the highest headland on this part of the coast, bears from the **Tortugua Rock**, by compass, S 69° 40' E.

About 5 miles to the northward of **Point COLES** is the open roadstead of **ILO**. If you are going there, pass outside of the **Tortugua Rock**, giving it a good birth, and when to the northward of **Point COLES**, do not keep too close in shore, as rocks lie a good way off the **Points**, which form the different bays between **Point COLES** and **ILO**.

The **Conway** anchored in 18½ fathoms, the **Village of PACOCHA** bore east by compass, and **Point COLES** S 7° W; here we had a considerable swell, although the weather was fine.

The landing place at **ILO**, is on a sandy beach to the northward of some sunken rocks lying out from the coast a little to the southward of the town, which stands close to the river, and near the sea. All boats, of whatever size, ought to pass outside the rocks, as the passage amongst them is dangerous.

*The following is extracted from Captain Robson's remarks.*

**ILO** is the best place for supplies, on the south coast of **PERU**, wood and water can be

f

had ; oxen, sheep, and plenty of fodder, very reasonable, also bread, wine, and aguardiente from MOQUEHUA, which lies 18 leagues in the interior.

*Ilo,*

*By Captain Robert Hunter.*

IF bound here, and having passed ARICA, keep the Coast close aboard to within sight of Point COLES : this Point appears at first sight, like several small Islands, but on approaching, forms one Island ; round it, at the distance of a mile, taking care to give all the rocks a wide birth ; continue standing into the Bay until you see the town, at which time you will see two or three houses at the head of the Bay ; after passing all the rocks, which you must leave on your starboard hand, steer direct for the aforesaid houses, until half a mile off them, and come to an anchor in from 8 to 10 fathoms water, sand and shells.

*Valley and Village of Tambo, South Coast of Peru.*

*From Lieutenant Foster's Memoir.*

Latitude of the Valley .....	17°	30'	0" S
Longitude by chronometer of the centre of			
the Valley, west from VALPARAISO .....	0	9	27
West from GREENWICH.....	71	40	27

*The following description is inserted by Captain Hall, in Lieutenant Foster's Memoir.*

“ The Coast land, both to the east and west of TAMBO, is moderately high and flat, that on the eastern side maintaining its character for 3 or 4 miles, that on the west, not above half a mile. The materials are apparently of a loose earth, lying in horizontal strata. The Valley, which appears to contain the bed of a river, is flat and covered with trees, interspersed with numerous buildings; the Valley, at its junction with the sea, is upwards of a mile across, and it appears to intersect very deeply and widely the coast range of hills that form this coast, and the term Valley therefore seems more appropriate than Gully.”

*Village of Mollendo, South Coast of Peru,  
Sea Port of Arequipa, the second City in Peru,  
situated thirty leagues inland.*

*From Lieutenant Foster's Memoir.*

Latitude of MOLLENDO .....	17	2'	15" S
Longitude west of VALPARAISO, by chro- nometers .....	0	23	9
West of GREENWICH.....	71	54	9
Variation by Azimuth when 12 miles S E of the Port .....	11	5	0 E

In June, 1821, the Conway, anchored in 20 fathoms, fine dark grey sand, with

Point ISLY .....	N 87° W	} By compass.
Town of MOLLENDO .....	N 9 W	
Point MEXICO, (a low flat Point to the Eastward) .....	S 67 E	

In December following, anchored in 19 fathoms, coarse sandy bottom, about three-quarters of a mile from the beach, with

The Chapel on the S E angle of the Road to AREQUIPA .....	N 24° W	} By compass.
Point ISLY .....	S 87 W	
Point MEXICO .....	S 66 E	

MOLLENDO may be known when coming from sea, by the road (in the lower range of mountains) leading to AREQUIPA, it may be seen at a considerable distance, and the land between MOLLENDO and Point ISLY is much streaked with white ashes out of the Volcano of AREQUIPA.

On seeing this road, bring the eastern part of it to bear N N W by compass, and on drawing in with the land, the Village of MOLLENDO will be seen in a deep Gully.

The anchorage is on the open Coast, but as it seldom blows strong, there is no danger, provided your anchors and cables are good; the only necessary precaution, is to take care that no part of the Village be shut in with the

land, to the westward of it, as the bottom then becomes rocky.

The landing here is difficult, in consequence of the high surf, which is alarming to strangers; at times you can land out of a boat, on the rock to the westward of the sandy beach before the Village, or you may land on the beach from a balsa.

There is no fresh water within a league of the Village.

*Captain Robson of the Merchant Ship Thais, gives the following accurate description of the remarkable Road to Arequipa.*

To the eastward of Point ISLY, about half way up to the lower range of mountains, a white road will appear running along in a straight line about E S E; at its eastern end it takes a southern direction, leading down to a Gully, about half way between which and another Gully to the eastward, lies the Village of MOLLENDO.

*Point Isly,  
From Lieutenant Foster's Memoir.*

Latitude .....	17°	1'	0" S
Longitude west of VALPARAISO, by chro-			
nometers .....	0	29	15
West of GREENWICH .....	72	0	15

THIS Point is formed of detached rocks that extend about half a mile from the main, and make a prominent feature on this part of the Coast, which is, generally speaking, almost straight.

The land to the eastward, as far as MOLLENDO, is high, and has several deep gullies, the first of which is CIQUAS, it is between 4 and 5 miles from MOLLENDO, the course into it, is N W b W with regular soundings from 8 to 2 fathoms, sandy bottom. There is a heavy surf outside, breaking on a reef of rocks that shelter the Creek, at the head of which there is good landing for boats; but there is no fresh water within a league of the beach. GUANO vessels haul inside to repair.

*Quilca, South Coast of Peru,  
From Captain Maclean, Royal Navy.*

Latitude of SEAL ROCK.....	16° 44' 50" S
Longitude from GREENWICH, by chronometer from VALPARAISO, allowing it to be in 71° 31' .....	72 21 15W
Variation.....	9 50 0 E

FOUND good anchorage in 13 fathoms, soft dark sand, QUILCA CHURCH N  $\frac{1}{2}$  W, and the SEAL ROCK which lies about three quarters of

a mile from the shore, E by N ; the greatest difficulty in getting into this anchorage, is from the frequent calms, and ships often get drifted to the northward and westward by the current, which runs in a line with the coast about here, at the rate of 10 or 12 miles per day : the sea breeze is very light and irregular, it is in general from South to S E by E ; sometimes a light breeze comes off the land in the night, which appears to be the best time for getting to sea. There is a constant strong swell from the southward, and particularly at the full and change of the moon, it is often found necessary to moor with the stream anchor out astern, to keep the ship's bow to the swell, and prevent rolling her scuppers in the water. The landing place which is at a Creek about two miles to the westward of this anchorage, is good, and might be easily fortified, so as to prevent any force from landing. Fresh water can only be got out of the river QUILCA, and has to be hauled through the surf by a guess rope to the boats by a grapnel, and rafted off to the ship, as the surf is often so very high, boats can never land with safety. Fire wood is very bad, and can only be got at a very high price. There is a small Bay to the eastward of the SEAL ROCK, where there is a quantity of wood to be got at times, when the surf is not high, but as it has been thrown out of the sea it is of a bad quality.

Ships coming here to anchor, should keep **QUILCA CHURCH** in sight to the eastward of a high cliff, which is near the entrance of the river, bearing about  $N \frac{1}{4} E$ , they will then be sure of falling in with the bank, which runs about east and west from the **SEAL ROCK**, about  $1\frac{3}{4}$  mile, and has from 10, 13, 14 to 20 fathoms water, but when the Church is shut in with the Cliff, the water deepens suddenly, from 40 to 50 fathoms; when the Church and Cliff are in one, they bear  $N$  by  $E \frac{3}{4} E$ , and from the west end of the bank in from 26 to 30 fathoms; care should be taken not to open the **SEAL ROCK** without the Point of **QUILCA**, as they will then be inside the bank, in 40, 45, and 50 fathoms, and too near the beach, as the surf is often very high; when the Rock and Point are in one, they bear  $E S E$  and  $W S W$ .

The best anchorage, and most convenient for the landing place, appears to be with **QUILCA CHURCH** bearing north and the **SEAL ROCK** east, in 13 and 14 fathoms fine black sandy bottom.

The Port of **QUILCA** is difficult to find out, except when brought to bear about north, the valley will then be distinctly seen, and the road also to **AREQUIPA**, which is white, and on the west side of the valley; it would be

advisable for ships bound for this place to get close in with the land, about 5 or 6 leagues to the eastward, the current and sea breeze will enable them as they get to the westward to make out the Port. It will be difficult also to make out the Church and Village of QUILCA farther off shore than 3 or 4 miles, as they stand low in the Valley, and the Church is nearly the same colour as the white cliffs and sand hills about it.

The line of Coast between here and about ARICA, lies nearly W N W and E S E, and consequently renders the latitude to strangers, making this Port, of but little use.

*Quilca, South Coast of Peru,  
By Captain Robert Hunter.*

Latitude of QUILCA .....16° 43' S  
Longitude from GREENWICH, by chronometer  
and lunar observations, settled with the assist-  
ance of the Officers of H. M. Sloop *Alacrity* -72 20 W

To anchor in these Roads, bring the Church, (the door of which is red) to bear N by W, and anchor in from 14 to 17 fathoms clear ground. QUILCA is the first town or green valley you see after leaving MOLLEDO. If you cannot obtain a latitude, the only way to

make sure of it is, to keep very close to the land, the landing place is to the westward of the anchorage ; here you may procure good water, wood, and bullocks. Anchor on the south side of the valley, about half or three quarters of a mile off GUANY Rock, which lies on the south of the valley ; for if the valley is past to the north west, you get off the bank into 100 fathoms or more, and will be unable to bring up.

The little Cove of **QUILCA**, which lies about half a mile from the Valley, is the only landing place for goods. The current sets strong to the N W, though on full and change I have seen it set  $1\frac{1}{2}$  mile to the S E.

*Point Pescadores, South Coast of Peru,  
From Lieutenant Foster's Memoir.*

Latitude .....	16°	15'	10" S
Longitude west of VALPARAISO, by chronometers.....	2	2	1
West of GREENWICH .....	73	33	1
Variation by mean of Amplitudes and Azimuths .....	11	20	0 E

*The following description of the Point is given by Captain Hall, in Mr. Foster's Memoir.*

**POINT PESCADORES** when made from the southward, looks at first like an Island, or

rather a set of rocks, which form a line jutting into the sea to the southward. To the eastward of this Point, at the distance of about two leagues, lies the Village of PESCADORES, in a valley or wide quebrada, which like all the surrounding country is desolate, excepting in the centre, where there is a grove of trees, of a dark green colour, under the shade of which the houses are placed.

Between the Point and this Valley the Coast is uncommonly rugged, being blistered as it were all over its surface. When off the Point the Valley may be distinguished, but the grove is hid by the uneven land before mentioned.

On reaching the eastern extreme of this rugged district, the trees will come in sight. About half a mile on the western side of the Village, there appears to lie a sheltered landing place, and another at the distance of two miles, also to the westward. Off the Village itself we did not distinguish any spot where the surf did not break too high to admit of landing.

Five or six miles east of this Valley we saw the ruins of a house, nearly in the situation of the place named OCONA, in the charts.

*Point Nasca, or Caballos,  
From Lieutenant Foster's Memoir.*

Latitude .....	14°	58'	53" S
Longitude west of VALPARAISO, by chro- nometer .....	3	52	57
West of GREENWICH .....	75	23	57

THE Point which forms this anchorage, may be readily known from its bold and marked aspect, and the difference of its colour from the land to the north westward of it.

The Point is high and of a dark iron colour : the country, to the northward, is composed of white wavy sand hills. Inland to the south eastward of it, there is a round high bold mountain, which stands considerably above the rest.

The anchorage appears to be secure, behind a point of black rocks, which run towards the N W ; but this is mere conjecture, as we did not enter.

*Infernal Rock, Coast of Peru.*

Latitude .....	14°	42'	5"
Longitude west of VALPARAISO, by chrono- meter .....	4	13	33
West of GREENWICH .....	75	44	33

THIS Rock is about 15 feet high, and is detached from the Coast between three and four miles.

*Hill of Mercedes, Coast of Peru.*

Latitude .....	14°	35'	29" S
Longitude west of VALPARAISO, by chronometer .....	4	32	48
West of GREENWICH .....	76	3	48

*Los Amigos Rocks.*

Latitude .....	14°	20'	0" S
Longitude west of VALPARAISO, by chronometer .....	4	36	16
West of GREENWICH .....	76	7	16

*Pisco Bay,*

*From Captain Prescott, of H. M. S. Aurora, in 1824.*

Latitude* .....	13°	43'	5" S
Variation .....	9	46	0 E

SHIPS making the land about SANGALLAN, will make it as an Island, in coming from seaward, in the parallel of 13° 54' south; at the same time the land to windward of it will have the appearance of several Islands, but on

---

\* Spaniards make it in 13° 45' 0"

nearing the land of SANGALLAN and about six or eight miles distant, two peaked rocks will appear, and shortly after the whole of the CHINCA ISLES will come in view.

With SANGALLAN bearing E N E, the passage between it and the main will be shut in, but three very remarkable points or projections of the land will be distinctly seen; round the second point is the passage through EL BOQUERON.

In going in between the Island SANGALLAN and PARACA, pass on either side of a rock, which lies nearly midway between the main land and SANGALLAN, and is about two feet out of the water, with the sea constantly breaking over it; after passing this rock, keep in mid-channel till the Church of PISCO is in sight, then steer direct for it, and anchor according to the draught of water of your ship.

In entering the Port, north of the CHINCA Isles, there is no danger to be apprehended; but it is said there is a small rock lying due east, two miles off the middle of the southmost CHINCA ISLES, which are three in number; we could not find less than 28 fathoms in the situation assigned to it by the charts, but still such a rock may exist.

The *Aurora's* anchorage was with the following bearings:—centre of CHINCA ISLES N 78° W, N W point of SANGALLAN S 49½° W, and PISCO CHURCH N 81° E, in 5½ fathoms good ground.

Fresh provisions and vegetables are to be had here, wood is dear, and not plentiful; water may be procured at the head of the Bay, which is about six or seven miles distant from the anchorage off the town.

Landing is difficult, as there is generally a heavy surf on the beach.

*Callao Road, the Port of Lima, Capital of Peru,  
From Lieutenant Foster's Memoir.*

Latitude of CALLAO CASTLE .....	12°	3'	35" S
Longitude west from VALPARAISO, by chro- nometer.....	5	31	12
West from GREENWICH .....	77	2	12
Variation by numerous Azimuths observed on shore .....	10	34	0 E

*Directions for sailing into Callao Roads, by  
the southern or Boqueron Passage.*

ON making the Island of SAN LORENZO from the southward and westward, steer so as

to keep it a little on the larboard bow, and the **MORRO SOLAR**, (a high and remarkable land three or four leagues to the southward of **CALLAO**,) well on the starboard bow. On closing the land a small but remarkable rock called the **HORADADA** will come in sight. It lies about one-third of the way from **SAN LORENZO** towards the **MORRO SOLAR**. Pass to the westward of this rock, (which on some bearings is discovered to be perforated) at the distance of half a mile; and as soon as possible, bring it on with the low part of **MORRO**, when it will bear about  $S\ 63\frac{1}{2}^{\circ}\ E$ , by compass, and should then appear to cover the sandy rock, connecting two distinct and somewhat peaked hills, forming the extreme point of land which runs into the sea from the **MORRO SOLAR**. This mark will carry a ship completely through the passage till the Castle bears by compass  $N\ 60^{\circ}\ E$ , when a course may be shaped north eastward for the Roads. Should the wind prove scant, (which is very rare,) or so light as to prevent the fair way marks being kept in one. Care must be taken first of the shoal which extends half a mile to the northward from the Island of **FRONTON**, (which lies off the south end of the Island of **SAN LORENZO**,) and afterwards of the spit, or gravelly key, extending  $1\frac{1}{2}$  mile, in a south western direction from **CALLAO** Point.

To avoid FRONTON SHOAL do not shut in the HORADADA with the western end of the high land of the MORRO SOLAR; or 6° inside the extreme point, or bring the HORADADA to bear by compass S 67° E.

To keep clear of CALLAO SHOAL, on the other hand, the HORADADA must be allowed to open the extreme point; because with these two in one, a ship would just graze the shoal in  $3\frac{1}{2}$  fathoms water. A current going at the rate of one mile per hour to the north westward, may be reckoned upon. The anchorage is every way good in the passage, and the lead, if carefully and briskly going, will in all parts of it, afford sufficient warning. After passing FRONTON SHOAL, the Coast of SAN LORENZO may be approached at any distance, being bold, and free from shoals. There is generally a breeze from the southward and westward.

The watering place is extremely convenient, it is situated close to the MOLE HEAD, alongside of which, boats lie and fill their casks, by leading a short hose from the jet into the boat; this water is not good, it turns black, and has an unpleasant taste.

Supplies of cocoa, sugar, and spirits, are to be procured here, fresh meat and different

sorts of live stock, also plenty of vegetables, with a great variety of tropical fruit.

*For sailing into Callao Roads, to the northward of San Lorenzo Island.*

*From Captain Pípon's Remarks.*

WHEN entering the Port of CALLAO, after having made the Island of SAN LORENZO, you may steer so as to pass pretty close to the point of the Island; and this will enable you to fetch the anchorage, otherwise you may have to make several tacks to get in.

There are no dangers to be apprehended in working in, except a shoal between Point CALLAO and SAN LORENZO Island; it is, however, above water, and the sea breaking on it with some violence, it is easily discovered.

Should you have occasion to work to windward to fetch the anchorage; the above shoal with another rock, said to lay off Point GALERO, (Island of ST. LORENZO,) are so far to the southward that you need not apprehend bordering on them; you may run close to the shipping, and anchor in from seven to five fathoms; the marks for the anchorage are: east end of LITTLE LORENZO, south, a rock between the two LORENZOS on with Point CALLAO S by W  $\frac{1}{4}$  W; LORENZO Island, (the

extremes,) from S S W  $\frac{3}{4}$  W to W by S. Pier head of Fort ST. RAPHAEL, on with the eastern tower of the said fort S E  $\frac{3}{4}$  S. LIMA City, N E  $\frac{1}{2}$  E; the mouth of the River RIMAC, (corrupted into LIMA,) N N E, by compass.

This anchorage is certainly the best in the SOUTH SEAS; and I know not, whether it may not with strict propriety, be called the best in the world; although marks are given for the anchorage; yet you may lay with the greatest safety in any part of the Bay, and in any depth of water, clear ground, and gradual soundings from 20 to 3 $\frac{1}{2}$  fathoms, to the Mole Head, or landing place.

The sea in this anchorage is always uncommonly still, and the weather serene and beautiful. Ships may careen in all seasons, without any apprehension of surprise from gusts or gales of wind. It invariably blows from one quarter, not varying at most more than one or two points; that is from S by E to S by W. The road is open to the North and N N W winds, but these are very rare indeed, and then only blow with a moderate steady and gentle breeze. Pilots are not necessary, and you may always put to sea at pleasure.

Wood is extremely expensive, more so, even than at VALPARAISO; so that ships, in

these seas, must seize on every possible opportunity of supplying themselves with that article whenever it is in their power.

The tides here are very irregular, and uncertain, and in general rise about 5 feet, occasionally more, according to the strength of the wind in the offing; it however never blows strong in the harbour, though a great swell and surf is frequently thrown in on CALLAO beach, which prevents boats from landing there; and this happens often on the full and change of the moon. There are pier heads or landing places erected at the batteries of ST. RAPHAEL and ST. SEBASTIAN, but often cannot be approached from the heavy surf. On the north beach a boat may sometimes be beached, but in general the surf is also violent there.

The Point of CALLAO is very low, and consists of an entire bank of small round stones, as far nearly as the battery of ST. RAPHAEL.

To the southward and eastward of the fort, are the ruins of OLD CALLAO, formerly destroyed by a terrific earthquake, and overwhelming of the sea; which receding, and a second time advancing in tremendous waves, completed the entire destruction of the Port

and Town. The mole where you get water, is a tolerable landing place, protected from the surf, by a pier composed of old hulks, sunk for the purpose, where you may land at all times. Provisions and refreshments are here also extremely abundant, but are not to be procured at so cheap a rate as at VALPARAISO. Wine and spirits are, I think, of a superior quality, and can be got for any number of ships.

The navigation in these seas, from the prevailing mild weather, is truly delightful, though care must be taken, if approaching this place in the night time, to avoid the rocks, called LAS HORMIGAS; they are situated to the northward and westward of SAN LORENZO Island, about eleven leagues, and can be seen in clear weather, four or five leagues off.

The Hercules Rock, as laid down in the Spanish charts, in latitude  $10^{\circ} 53'$  S, and longitude  $78^{\circ} 48'$  W. It is said to have been seen by the Hercules Spanish ship of war, and therefore called by that name. If it exists we must have passed very close to it, on the 30th of June 1814, in company with H.M.S. Briton, we were however informed by Captain Colminares, an officer of great talent and respectability, that this danger does not exist.

*The Palados Rocks,*  
*From Captain Thomas Brown, in H. M. S.*  
*Tartar, 1823.*

THE PALADOS ROCKS are eight in number, extending about four leagues to the S W from Point SALINAS ; the outer or westernmost one named PALADOS, lies in latitude  $11^{\circ} 28'$  S, and longitude  $77^{\circ} 30' 40''$  W, and bears from MAZORQUE, the next easternmost from it S W by W, having a safe passage between them, the others appear bold to, and no doubt a passage between them.

They lie in the fair way when bound coast way to the northward from CALLAO ; the anchorage at HUACO, bears from the largest of these Islands N by  $E \frac{1}{2} E$ , distant six leagues.

About N by  $W \frac{1}{4} W$ , true 42 leagues from the outer PALADO is the harbour and river of CASMA, situated in latitude  $9^{\circ} 27' 36'' S^*$ ; longitude  $78^{\circ} 15' 15''$  W, open only from S W by S, to W N W from the anchorage in eight fathoms, but may anchor more to the S E by S, in 4 or  $4\frac{1}{2}$  fathoms, and nearer the mouth of the river for the convenience of getting wood and

---

\* The Spanish chart places this in  $9^{\circ} 42' 0''$  and  $78^{\circ} 10'$ .

water, for which, it is the best place on all the Coast of PERU.

This Port may be entered at all times with perfect safety, and anchored in, in any depth from 4,  $4\frac{1}{2}$  to 8, 9 and 10 fathoms, clean sandy bottom: the rocky shores are bold to, and to the beach gradual soundings to four fathoms very near the surf, the shoalest part extending to the N N W, from the mouth of the river, but boats may be beached with safety a little to the eastward of its entrance.

This harbour is rendered the more commodious by its bold shores, being entirely clear from any detached rocks or shoals, and the wind never blowing strong or tempestuous, and generally from the South and S S E, except the land breeze at night, which frequently springs up from the eastward, and is the best time to leave it, when bound to the south-eastward, as it enables you to make a good course, before the sea breeze sets in the next day.

The entrance is nearly two miles wide from N W  $\frac{1}{2}$  W to S E  $\frac{1}{2}$  E, and two and a half miles deep to the N E, and nearly four miles from N by W  $\frac{1}{2}$  W to S by E  $\frac{1}{2}$  E, over a clean sandy bottom; it may be known by a rock off its entrance.

Provisions of all kinds may be procured here, and a few miles up the valley wood may be cut on the banks of the river, and water had by landing the casks a little to the right of the river, rolling them over the beach and filled from the stream of one of its branches, the other being brackish, from its communication with the salt water, which is thrown up by the surf.

Rafting appears to be the best method of getting it off.

*Guanchaco,*

*From Captain Prescott, of H. M. S. Aurora.*

SHIPS bound to GUANCHACO, should run in for the land in latitude  $8^{\circ} 6' S$ , when they will have the roads bearing E by N of them, as well as a very remarkable peaked hill, named the PEAK of GUANCHACO, the Church, which stands on a rising ground over the village, will also be seen, and soon after, the shipping in the roads.

In sailing in there is no difficulty whatever : off the south end of the village there is a shoal extending to seaward about three quarters of a mile, in a W S W direction ; on the outer

part of it there are from  $3\frac{1}{2}$  to 5 fathoms, rocky ground, just within which the sea constantly breaks.

Anchoring marks.—Bring the church and the tree which stands in the village, any where between  $E \frac{1}{2} N$  and  $E$  by  $S$ , in 7 to 8 fathoms, two miles off shore for large ships; farther in to the southward the ground is foul.

Fresh beef of a good quality is to be had, which must be brought off by the boats of the country, as it is nearly impossible for the boats of strangers to land, in consequence of the very great surf: it is therefore a bad place for watering, and in no respect a desirable rendezvous for ships of war.

*Payta, North Coast of Peru,  
From Captain Pípon.*

ON the 2d July, 1814, we anchored in the harbour of PAYTA in 13 fathoms, soft bottom; the town bearing  $S$  by  $E \frac{1}{2} E$ , the western point of the bay  $S W$  by  $W$ ; off shore two miles. This anchorage is chiefly visited by English whalers, who are allowed to touch here for refreshments and water, the former is procured from the town of PIURA, (which, we are told, is considerable) and is 30 miles from PAYTA; and the latter, which is not plentiful, is brought

even for the use of the inhabitants of the town, a distance of four miles.

*Payta,*

*From Lieutenant Foster.*

Latitude of the town from the Spanish charts	5°	5'	0" S
Longitude west from GREENWICH, ditto...	80	56	0 W
Variation .....	9	0	0 E

ANCHORAGE of H. M. S. Conway, in 9½ fathoms, soft green mud, off shore one mile, with the church S 20° E, extreme point to the westward, west by compass.

There is not I believe any danger in entering this spacious Bay.

In the Conway we kept the weather shore close on board, and did not get bottom with 10 fathoms of line, but we were going very fast through the water.

The town appears to be regularly built, and part of it is on the side of a steep hill. No fresh water for shipping at this place.

*Captain Hall has inserted the following description of the Silla, or Saddle of Payta, in Mr. Foster's Memoir.*

“THE high land or Silla of PAYTA is sufficiently remarkable, it is high and peaked,

forming three clusters of peaks joined together at the base, the middle being the highest, the two northern ones of a dark brown colour, the southern is the lowest, and is of a lighter brown. These peaks rise from a level line of cliffs, which face the west, and meet the sea, without any beach, or any that is visible at the distance of three or four miles. This line of cliffs extend five or six miles. Off the southern extreme there lies a black steep Island, which is not distinguishable from the coast till it be passed some distance.

“ The cliffs are about 100 feet high, and are alternately white and black ; the latter appearing to be compact rock, the other earth and sand, in horizontal beds.

“ On rounding the Point to enter **PAYTA**, there appears a false Bay, which must be passed, as the true one lies further in, and forms an exceeding snug harbour, with uncommonly tenacious holding ground, and no danger of any kind.”

*Tumbez Bay, near Guayaquil,  
From Captain Pipon.*

ON the 4th of July, 1814, we anchored in the Bay of **TUMBEZ**, in  $6\frac{1}{2}$  fathoms, soft clay,

and good holding ground ; Point MALPELO, bearing S W, a reef extending without the Point, S W by W, the Island of ST. CLARA N  $\frac{1}{2}$  W. From this anchorage, it was impossible to discover the entrance of the River TUMBEZ ; we sounded from the ship to the shore, in every direction, and found the soundings very regular, from 6 to  $5\frac{1}{2}$ , and 5 and 2 fathoms, within two cables length of the beach, which is a fine sand, with considerable surf on it. We found here a commodious inlet for wooding ; the entrance about one cable wide, and only 5 feet water ; this was at the beginning of the flood tide ; there is a bar across it, indeed it is dry at low water in many places, so that we could only pass it with the boats, during the flood ; this however, was not attended with any material delay or inconvenience, for having once got the boats into the inlet before low water ; the people were employed filling them with fuel during the time the bar was not passable.

We shifted our birth off the mouth of this inlet, for the convenience of the boats passing and repassing, and anchored in  $5\frac{1}{2}$  fathoms.

This inlet is extremely well calculated to admit boats, any time before low water ; it is however best to enter it with a flowing tide.

Here wood may be procured in great abundance, and it being very spacious, any number of boats may wood at the same time. The boats lay close to the beach of the different little Islands, scattered within the inlet, without the least surf or swell, so that the boats load with great facility. There are no inhabitants about this inlet; we found, by the shore, the tide rose in general about six feet. The mosquitos are extremely troublesome and alligators very numerous. With our seine a great quantity of very fine fish were caught. After examining the shores, we at length discovered the entrance into the River TUMBEZ; a bar, with a violent and dangerous surf, lies at the mouth of it; so that the utmost caution must be used in entering it. It lays very near to MALPELO POINT, where we first discovered a reef with breakers on it. In this river only, is fresh water to be found, and I would recommend boats employed on this service, to enter it together, and to keep a good look out, and steering tolerably close to the Point on the larboard hand; entering, avoid going near the breakers. On this Point, however, you will discover huts, the residence of pilots and fishermen, who will not only point out the course you should pursue, but will willingly embark in your boats, and direct you how to avoid all dangers. After proceeding about one

mile up the river, you will find the water perfectly sweet and good ; and as you take it from alongside your boats, watering is here very expeditiously effected. Wooding would be difficult here, the mosquitos being more troublesome than it is possible to describe, alligators of a large kind, are also very numerous ; (some small ones we shot,) also large guanas ; but the woods are so thick as to be impenetrable ; besides being swampy and muddy, I would therefore recommend this river for watering, and the before-mentioned inlet for wooding.

The weather during our stay here, was very fine ; and, it is pleasing to remark, that although the duty the people were employed upon, was uncommonly severe from the great heat, and notwithstanding the ground on which the wood was cut was swampy, yet I did not perceive that any of my men felt any ill effects from it, owing, perhaps, to the precaution taken, (as recommended by my surgeon,) to serve out a small quantity of wine, previous to their leaving the ship ; it may certainly have been the means of preventing sickness. There are no forts of any description here, and wooding and watering might easily be effected at all times, even were you at war with the natives. The country around appears an almost impenetrable

wood; though we discovered many cultivated spots up the river, consisting of plantains, bananas, Indian corn, sweet potatoes, &c. To these plantations the workmen repair in canoes along the river, for I do not imagine the woods in this neighbourhood are passable, even to the Indians or slaves.

The town of **TUMBEZ**, does not even merit the appellation of a village; it lays about seven miles up the river, and is situated on a level plain, surrounded by a wood. It is composed of a few miserable huts, and the inhabitants appear to exist in a very wretched state. A governor resides here, who was extremely polite, and offered to procure us any refreshment the place afforded.

*Island of Santa Clara, called also Amortajado, at the entrance of the River Guayaquil.*

*From Lieutenant Foster.*

Latitude .....	3°	13'	42" S
Longitude west of VALPARAISO, .....	8	43	33
West of GREENWICH .....	80	14	33

THIS Island is so remarkable, that it cannot well be mistaken; it is high, and on many bearings assumes the appearance of a gigantic shrouded corpse, which it exactly resembles when the centre bears  $W \frac{1}{2} S$ . Thence comes the name **AMORTAJADO**, given it by the Spaniards.

*Town of Guayaquil, principal Sea Port of Quito.*

Latitude of the south end of the Town . . . .	2	12'	21" S
Longitude west of VALPARAISO, by chro-			
nometers . . . . .	8	8	46
West of GREENWICH . . . . .	79	39	46
Variation by mean of Azimuths and Amplitudes			
observed on shore . . . . .	9	5	0 E

ANCHORAGE of H. M. S. Conway abreast of the southern part of the town, in  $4\frac{1}{2}$  fathoms at low water, soft muddy bottom, with

The Steeples of the Custom-house . . N 25° W	} By compass.
North end of the Island of SANTAY N 65 E	
Wreck off the North end of ditto . . N 54 E	
Hill to the Northward of the Town, having a building on its summit . . N 7 E	

Here we had a rise of nine feet, and the greatest strength of the flood, setting to the northward was three and a half miles per hour, and the ebb to the southward at the rate of three miles per hour, spring tides.

The town stands on a low plain, on the right bank of the river of the same name. At the southern end of the town, is the arsenal where vessels are built on slips.

Plenty of large timber and fire-wood to be had here; fresh water is brought down the river in large jars, from the northward in catamarans, and must be purchased.

Fresh beef and various kinds of fruit are also in abundance, and of course, cocoa which is the staple commodity of the place.

*River Navigation.*

The following remarks on the navigation of the river, made during our passage up and down in the Conway, between the 23rd and 31st of December, 1821. Taken along with the excellent chart of the river supplied by the Admiralty, and every possible precaution used, they may enable a stranger to proceed up the river if very urgent public service were to require it, and that no pilot could be procured; otherwise it would always be much preferable for a stranger to take a pilot at PUNTA DE ARENA, or at the town of PUNA, on the Island of that name, off the entrance of the river.

Having made the Island of SANTA CLARA, or AMORTAJADO, pass between three and four miles to the southward of it, steer a mid-channel course to the eastward. The Island may be approached much nearer, but there are said to be shoals lying off it on all sides.

The passage into the river to the northward of SANTA CLARA is not recommended, in

consequence of the numerous shoals between it, and the coast to the north eastward.

In all parts of the river with light winds, and the ebb tide making, it would be well to anchor, as it sets to the southward and westward in this part of the river at the rate of one mile and a quarter per hour as we found. The flood which did not run so strong here, sets to the northward and eastward, at the rate of three-quarters of a mile per hour.

As we advanced to the northward and eastward we gave Point ARENA, on the S E angle of the Island of PUNA, a good birth on passing, and stood more to the eastward on the opposite side of the river, which is clear of shoals, and may be approached with safety to four fathoms at the distance of two or three miles.

This stretch over is advisable before hauling up to the northward, to avoid a small bank, that lies a little to the northward of, but at some distance to the eastward of Point ARENA. This Point, which is a pilot station, does not appear sandy at the distance of two or three miles, as its name implies, but in common with the rest of the coast woody, and this renders it, as well as other places, difficult to be known on many bearings. The pilot gave us a mark

by which it might be known, when a vessel was in the direction of the before-mentioned shoal. It was as follows : when the mouth of a small river, to the northward and eastward of Point ARENA, and near PUNA VIEJA, was no longer open ; that is to say, when the two points forming the river's mouth, as it appeared came in one, and bearing at that time N 58° W by compass, Hill of MALA also on the Island of PUNA at this time bearing N 8° W and the BOCO DEL GALAO S 84° W we had  $6\frac{1}{4}$  fathoms. This mark is principally useful in coming from the northward, or when coming from the southward and having opened the Hill of MALA, situated on the N E side of the Island of PUNA, bring it to bear N 8° W before steering to the northward, it might be approached nearer, but I am not aware of any marks sufficiently conspicuous by which one could with propriety go closer. The Hill of MALA is well characterised in the chart, and is seen at some distance off, making like a moderately high Island, when about five or six leagues to the southward of it.

Being to the northward of this shoal, keep the mid-channel, or rather to the eastern side of the river, and in advancing to the northward, the Point MANDINGO will be seen, it is

a bold bluff, forming the extreme N E point of the Island of PUNA, it is easily known, and must not be brought to bear to the eastward of north by compass; but when bearing N by W steer direct for it, when it is flood tide, as otherwise you will be set to the N N E on the bank, off the south end of the Island of MON-DRAGON.

By not bringing the Point MANDINGO to the eastward of north, the dangerous bank of MALA will be avoided, the northern extreme of which, lies off shore nearly a mile, and due east of the Hill of MALA; from thence it stretches to six or seven miles in a S by W direction, maintaining a distance of about four miles from the Island. The land nearest the north end of this shoal, forms an ill defined point, but it may be known by the land trending suddenly off to the westward. You will however, be just clear of the north end of this shoal when the Hill of MALA bears S 84° W by compass, with this bearing of the Hill and a hut on the beach N 78° W. Point MANDINGO N 10° E; we anchored in seven fathoms muddy bottom; here the ebb tide set S W  $\frac{1}{2}$  W, at the rate of two miles an hour; a few miles to the southward of this we found the flood setting N N E a mile and half per hour.

The coast of the Island of PUNA to the northward of the bank of MALA, as far as Point MANDINGO is steep to, except off Point CENUNELA, where a small spit of sand runs out to the eastward about one-third of a mile, on which there are only  $2\frac{1}{4}$  fathoms, in other parts close to beach four fathoms.

Point MANDINGO might be rounded at the distance of one-third of a mile.

The anchorage off the town of PUNA, is in six fathoms, with the town bearing south about three-quarters of a mile. The Conway anchored with the extremes of the town from S  $14^{\circ}$  W to S  $24^{\circ}$  W. Point MANDINGO S  $14^{\circ}$  E extreme western point of PUNA, N  $78^{\circ}$  W; here we observed the flood tide set to the N W  $\frac{1}{2}$  W, at the rate of two and a half miles per hour. The ebb sets to the S S E in this part of the river.

It may not be unnecessary to remark, that hitherto the soundings laid down in the chart, were of little or no service to us, they are extremely irregular, and very few of them. We had when in near mid-channel 5,  $4\frac{1}{4}$ , 6, but most commonly  $5\frac{1}{2}$  fathoms; and we were informed by the pilot, that near the bank of MALA, the water deepens from its usual depth

in mid-channel to seven and eight fathoms, and immediately afterwards shoals on the bank to two fathoms.

*From Puna to Guayquil,  
(December 24th, P. M.)*

HAVING got a pilot on board from PUNA, we weighed with the flood tide, and steered for the centre of GREEN ISLAND, bearing N W  $\frac{1}{2}$  W, and when Point MANDINGO bore S 30° E the western extreme of GREEN ISLAND N 73° W, and the extreme point of MONDRAGON N 73° E, we hauled up for the eastern extreme point of GREEN ISLAND bearing N 22° W, having 4 $\frac{3}{4}$  fathoms, and when the western extreme of GREEN ISLAND bore N 81° W we steered N 6° W until Point MANDINGO bore S 38° W; western end of GREEN ISLAND S 81° W; Point LITTLE CHUPADOR N 15° E, here we had 5 $\frac{3}{4}$  fathoms, and steered north along the banks of GREEN ISLAND, to which we gave a birth of one-third of a mile, on passing, and had 5 fathoms when the north end of GREEN ISLAND was just on with the south-western end of the Island of MAGUINANA bearing S 82° W, we then steered for Point LITTLE CHUPADOR N N E, and gave it a birth of a quarter of a mile on passing; between Point LITTLE CHUPADOR and the north end

of GREEN ISLAND lies a sand bank, and directly opposite to Point LITTLE CHUPADOR on the Island of MONDRAGON a sand bank begins to run out to the southward and westward ; its south western extreme point, lies with Point MANDINGO S 11° E, south end of MONDRAGON S 30° 30' E, and the north end of GREEN ISLAND S 55° W we had 3½ fathoms on it, at high water. Therefore between GREEN ISLAND and CHUPADOR, be careful in not bringing Point MANDINGO to the southward of S 11° E.

Being passed Point LITTLE CHUPADOR, we kept the western bank of the river close on board, to avoid the sand banks, lying off the Island of MONDRAGON, and we had five fathoms soft mud when a small sort of look out house bore west.

To pass the sunken rock, called the BAJA, is considered one of the difficulties of this river navigation, it lies in the direction of the Island of MONDRAGON, when bearing S 67° E by compass, and both the ebb and flood tides set upon it ; at half tide there is a ripple which points out its situation, and on still nights the water roars over it so as to be heard at a sufficient distance, by which the danger may be avoided ; between the BAJA and the western

shore we had  $3\frac{1}{2}$  fathoms at low water, we had also the same soundings between Point **PIEDRA** and the **BAJA**.

Point **PIEDRA** lies between two and three miles to the northward of the **BAJA**, and may be easily known, there being a few houses on it, and the wood cleared away; to this point we gave a birth on passing; the river is deep hereabouts, close to the northward of the point we had nine fathoms when nearly low water.

We kept on Point **PIEDRA** side of the river for about two miles further to the northward, and then steered **N E** across, to avoid the bank that lies to the southward, at some distance from the Island of **SONA**, (part of this bank we saw dry at half tide) as well as to avoid those extending to the northward from the small Islands lying off the north end of the Island of **MATORILLOS**. Here it may be observed, that the tide of ebb separates itself into two currents, the one running **S by W** along the western shore of the river, and the other **S E by E**, between the Island of **MATORILLOS** and the main land to the eastward: therefore when coming down the river, it will be advisable to haul over to the western shore, before the **S E by E** current is felt.

In going up, after crossing the river, and having hold of the eastern shore, we kept it very close on board, and as we advanced to the northward we saw a red tiled house, and a small sort of out-house near it, which is to the northward of a clump of trees that we passed very close to, and when this house bore east, we were just to the northward of the spit that runs out to the eastward of the Island of SONA; then keeping nearer to the eastern shore, than to the Island side of the river, in steering to the northward, we saw a round shaped hill to the N N W, having a building on its summit, that hill is the northern boundary of the town of GUAYAQUIL, and when brought to bear N 25° W by compass, and the centre of the eastern branch of the river, (which is divided by the Island of SANTAY,) N 8° W, we steered across, keeping nearer to the western side of the two, as a bank lies at a little distance from the south end of the Island of SANTAY, where there are two or three houses.

When these houses bore N 63° E, Point GORDO S 14° E, and the hill to the northward of the town of GUAYAQUIL N 23° 30' W, we had five fathoms at high water, and then kept the western shore, or GUAYAQUIL side of the river close on board, to avoid the banks lying off the Island of SANTAY and the wreck of a

French vessel. Our anchorage was off the southern end of the town with the bearings already given.

It may be necessary to state that all the bearings in the foregoing directions of the river are by compass.

*Bay of St. Elena, West Coast of Colombia,  
From Captain Pipon's Remarks.*

Latitude of Point ST. ELENA by the Spanish	
charts.....	2° 10' 0" S
Longitude west of GREENWICH .....	80 45 0

ON the 9th of July 1814, we anchored in the Bay of ST. ELENA, in  $6\frac{3}{4}$  fathoms, sandy bottom, about two miles off shore; this is a miserable spot, although the anchorage is good. We found, on examining the shore, that fire wood might be procured for ships in want of that article; but no fresh water, and from what intelligence we could obtain from the inhabitants of the miserable village at the bottom of the Bay, there is no fresh water within five miles of the anchorage; all they have to make use of, being brought on rafts, from that distance. No refreshment is to be procured here; the poor inhabitants living chiefly on fish caught in the Bay. They have some salt pans in the neighbourhood.

*Solango Island, and opposite Coast on the Main.*

Latitude by the Spanish charts ..... 1° 38' 0" S  
 Longitude from GREENWICH ..... 80 38 0 W

ON the 12th of July 1814, we anchored off SOLANGO ISLAND opposite a fine sandy beach in 25 fathoms water, about one mile off shore, and began our operation of wooding; finding however that we were rather too distant from the rivulet, we shifted our birth, and anchored nearer the main land, for the convenience of watering, in 19 fathoms, blue mud; the bearings when at anchor were, the Island of PLATA N W  $\frac{1}{4}$  N, seven or eight leagues. The N W point of a small Island N W by W  $\frac{1}{4}$  W, and a rocky point on the main N E. The Channel between the Island and the Main, consists of a ledge of rocks across, many of them above water. We also found that in this anchorage, wood was procured with greater facility and plenty than at SALANGO ISLAND; and by penetrating a little into the woods, spars of large dimensions and various sizes were found. You may anchor here in between 15 and 20 fathoms water, and will not then be more than half a mile off shore.

Bamboos of large dimensions were also found here; and with our seine, we caught

such an abundance of excellent fish, as is almost incredible; one, in particular, whose name we did not know, of a reddish hue, and large scales, resembling much in flavour the red mullet, though considerably larger. Here our ships' companies were fully and very pleasantly occupied; and although in all our operations of wooding, watering, and hauling the seine, we had to toil in general against a heavy surf, yet our labours were invariably well repaid. The greatest surf prevailed with a rising tide, but at low water we were always enabled to raft off our casks with tolerable facility.

There are two huts erected by the rivulet, the residence of a few poor fishermen: these people had little to dispose of, though they were very civil and willing to supply our wants as far as their abilities would permit, and had we been inclined to remain here a few days longer, offered to furnish us with live cattle and vegetables. Plantains, of which there were several plantations in the neighbourhood, with a few lemons, and Seville oranges, were the only productions we saw here; and the country around an entire forest.

After having fully completed ourselves with those necessary articles fuel and water, we

weighed from this anchorage on the 15th July. This will be found a most convenient place to supply ships cruising in these seas, with those indispensable necessaries, for here you need be under no apprehension of disturbance or molestation.

*The Island of La Plata.*

Latitude of the centre, from the Spanish  
charts ..... 1° 18' 0" S  
Longitude west from GREENWICH ..... 80 53 0

ON approaching this island, we found the soundings very irregular, having only 16 fathoms as we rounded the southern point, at a good distance, and then deepening to 34 and 35, as we hauled in for the little sandy bay. We anchored in 35 fathoms, abreast of this bay, about one mile off shore.

The marks when at anchor were, The south point (off which is a reef,) S S W. The extreme point W  $\frac{1}{4}$  N. The SANDY BEACH S W by W  $\frac{1}{4}$  W. Cape ST. LORENZO, N by E  $\frac{3}{4}$  E. It is however, advisable to anchor more within the bay, in 19 and 20 fathoms; you will not then be above two or three cables' length off shore.

Wood may be procured here, but not very abundant. Water was not to be found. By

report from a fisherman, whose vessel was hauled up in the little sandy bay opposite the anchorage, after rain a small quantity might be obtained; but whilst we were here we found every thing completely dried up. Fish may be caught here in great abundance, but turtle are not plentiful, as mentioned by COLNETT, and in the Gazetteer. Considering that no water is to be procured here, it is by no means a desirable place to touch at; I would in preference recommend anchoring off the Island of SOLANGO, where abundance of fire-wood may be cut, and fresh water procured from a considerable rivulet, that empties itself into the sea from the main land.

*Galapagos Islands,*

*From Lieutenant Foster's Memoir.*

GARDINER'S ISLAND, the centre, latitude ..	1°	22'	32" S
Longitude west from VALPARAISO, by chro-			
nometer .....	18	27	32
West of GREENWICH .....	89	58	32

HEREABOUTS we found a current setting N 64° W, at the rate of a mile and a half per hour.

Between this Island and CHARLES' ISLAND there are several smaller ones.

*Charles' Island.*

Latitude of SADDLE POINT.....	1° 20' 40" S
Longitude from VALPARAISO, by chrono-	
meter .....	18 39 31
West of GREENWICH .....	90 10 31

**THIS** Point is the **S W** extreme of the Island and is not unaptly named.

On the evening of the 4th January 1822, we anchored in twelve fathoms, sandy bottom, in a snug Bay, at the **N W** end of the Island, where we found three whalers lying in a stock of terrapin, or tortoises, and completing their water. The water they said was very scarce, and a long way from the beach.

This is called **POST OFFICE BAY** in **COLNETT'S** Chart of these islands. We entered it from the **S W**. It lies in  $90^{\circ} 6' 35''$  west from **GREENWICH**.

At 10 P. M. we weighed and stood for **JAMES' ISLAND**, which bears by compass from this anchorage, **N W** by **N**, but in order to counteract the effects of these strong **N W** currents, we were directed by the masters of these whalers to steer **N** by **W**, which we did, and in the morning we found ourselves in the

fair passage between the Islands of **INDEFATIGABLE** and **ALBEMARLE**, agreeable to their instructions.

On our passage between these Islands, we saw several detached rocks, or small islands, that were not marked in **COLNETT'S** Chart, and **CROSSMAN'S ISLAND**, which by his chart lies nearly in mid-channel, does not exist; at least we sailed over the place assigned to it there.

The average strength and direction of these currents appeared to us, from a careful comparison of the dead reckoning with the observations, to be **N 60° W**, 30 miles in twenty-four hours.

#### *Indefatigable's Island.*

Latitude of the North end ..... 0° 33' 36" S

There is a white rock that lies off to the eastward of **ALBEMARLE ISLAND**, which is in the same latitude.

And when the sights for time were taken on the meridian of the **SUGAR LOAF** on **JAMES' ISLAND**, this rock bore due south, consequently has the same longitude as the **SUGAR LOAF**.

*James' Island.*

AT which it is said there is fresh water near the anchoring place, on the N W side of it.

Latitude of the SUGAR LOAF .....	0°	18'	0" S
Longitude from VALPARAISO, by chrono-			
meter.....	18	57	28 W
From GREENWICH .....	90	28	28 W

The SUGAR LOAF is sufficiently remarkable to arrest the attention, when navigating amongst these islands, which, unquestionably, owe their origin to volcanic eruptions.

It stands on the western side of JAMES' ISLAND, and carries its breadth well up towards the top, which from appearance I should take to be upwards of 1000 feet high; the dome of ST. PAUL's, were it on a larger scale, would not be much unlike it.

A little to the Northward and Eastward of this SUGAR LOAF, is the anchorage marked in COLNETT's Chart, but the CONWAY, from being somewhat too far off shore, with light winds, strong N W currents, and no soundings, was swept past and could not regain the spot, though the attempt was made on the following day.

We then stood for the EARL OF ABINGDON ISLAND, and so strong was the lee current,

that we considered ourselves fortunate when we succeeded in anchoring at the south end, where there is an open bay, by no means secure, as the wind from the southward blows directly in.

*Earl of Abingdon Island.*

Latitude of the Conway's anchorage .....	0	32	21 N
Of the S W point of the Island .....	0	32	19 N
Longitude west of VALPARAISO, by chrono-			
meter .....	18	49	39
West from GREENWICH.....	90	20	39
Variation .....	8	20	0 E

ANCHORAGE of H. M. S. Conway, in 18 fathoms, sandy bottom.

The extreme eastern point, CAPE				
IBBETSON .....	N	83°	E	
High hill, near the centre of the			} By compass.	
Island.....	N	30		W
Western extreme of the bay.....	S	86		W

Alongside the Conway there was no perceptible current: the rise of tide appears to be about seven feet, but had no opportunity of ascertaining the exact time of high water at full and change.

It does not appear that there is any fresh water at this Island, as parties went on shore in the day time to catch terrapin, which they found in abundance, but never any water.

On the 16th January, we left this bay, which possesses nothing to recommend it, for it has a constant dead lee shore, and a very unpleasant sea sometimes setting in; but during our stay we had, generally speaking, fine weather, since the bad season had hardly commenced.

These Islands stand much in need of a correct survey.

*Galapagos Islands,  
From Captain Pípon's Remarks.*

ON the 20th July, 1814, we made these Islands, meeting with very rapid currents, which set to the westward and greatly retarded our progress. The weather also was extremely foggy, and rains very frequent and prevailing at this time of the year.

As we approached CHARLES' ISLAND, we did not find the current so strong as when close to ALBERMARLE ISLAND. On the 25th July, we anchored in CHARLES' BAY, (CHARLES' ISLAND) in 13 fathoms, sandy bottom; the marks when at anchor, were,

BARINGTON ISLAND .....	N E by N	}	By compass.
DUNCAN and JARVIS ISLAND ..	N by W		
CAPE ROSE .....	W by N $\frac{1}{2}$ N		
The extreme Points of the Bay,			
from .....	N 63° E to S 60° W		
The middle and highest Mount ..	S by E $\frac{1}{4}$ E		

**CHARLES' BAY** is very snug, the bottom a fine sand, and the soundings are gradual from 13 to 6 fathoms. The best anchorage is about the middle of the Bay; towards the east part of it it is rather rocky. Turtle and fish were caught here in great abundance, and seals also were numerous. The land tortoise or terrapin, was not met with here. We searched in vain for fresh water on the Island. Wood might be procured, but with some difficulty, the Island being overgrown with bushes that renders it almost impenetrable.

The tides in this Bay rise and fall from seven to eight feet, and flows full and change at 2 o'clock. The anchorage is on the N E side of the Island, and is indeed the only anchorage in the Island. Birds were so tame that they suffered themselves to be taken by the hand, and were of various kinds and beautiful plumage.

*Stephens' Bay, Chatham Island.*

ON the 17th July, 1814, we anchored in this Bay, in  $7\frac{1}{2}$  fathoms, coarse white sand. The marks when at anchor were,

The KICKER ROCK ... ..	W by S $\frac{1}{4}$ S	} By compass
The North Point .....	N E by N	
BARINGTON ISLAND.....	W $\frac{1}{4}$ S	
The South Point of the Bay.....	S W $\frac{1}{4}$ W	

Notwithstanding the most diligent search, no fresh water was found here, or in any of the Bays to the eastward. Turtle and fish were caught in great abundance, as also very large terrapin, or land tortoise. Guanos too were plentiful, which we understood were excellent eating, but their disgusting appearance prevented our tasting any. Seals are likewise numerous, and as they are not often disturbed, are easily killed.

ENDERBY COVE, is a very snug one, and best adapted for wooding, from the extreme smooth sea in it, and the convenient little beaches.

The best anchorage, on examining this Bay, we found to be on the east side of it; you may anchor in from 20 to 7 fathoms, in general a hard white sand. Towards the centre of the Bay, as you approach the shore, it becomes more rocky and stony.

After having supplied ourselves with such articles as this place afforded, we weighed and stood to the W N W, sounding continually, which indeed was our constant practice, and frequently experienced benefits and advantages by it.

July 29th, our latitude was  $0^{\circ} 43' 45''$  S. Longitude by chronometer,  $89^{\circ} 53'$  W from GREENWICH. The KICKER ROCK then bore S  $61^{\circ}$  E, distant 24 miles.

*James' Island.*

LATITUDE by a good observation, taken between ALBANY ISLAND and the eastern part of JAMES' ISLAND, immediately opposite  $0^{\circ} 10' 52''$  S.

The anchorage at this Island we found to be in a very snug Bay, the best situation in twelve fathoms, the Tagus was in six, fine sandy bottom, but rather too near the shore, being within three-quarters of a mile, with the following bearings; ALBANY ISLAND N N W  $\frac{1}{2}$  W; MOUNT TERRAPIN S  $\frac{1}{2}$  W; the South extreme point of the Bay S S W  $\frac{3}{4}$  W.

Here wood may easily be procured, and from the appearance of great quantities having been cut in this neighbourhood, I imagine it is much frequented by English whalers. At the foot of a hill, which we named MOUNT TERRAPIN, a small run of water was discovered, but I do not think it practicable, with every possible care, that more than a few breakers could be

collected daily ; though perhaps in the rainy season, one might be more successful, as the rivulet bore evident marks of there having been occasionally a rush of water, as the rock on each side was much worn away ; it is probable however, that it does not originate in any spring, but from a deposit of rain water oozing out of the upper part of the land.— The land in this neighbourhood has every appearance of a volcanic eruption having lately visited this place, the earth bearing marks of having been convulsed, and streams of lava to have flowed in many directions. The access, however, to the little rivulet is tolerably easy, and is about one mile and a half from the landing place ; fine grass and trees only occupying the space between it and the Cove in which we landed. Here we also procured a quantity of grass for the stock, which proved of great advantage and benefit to us, during our route to the MARQUISAS ISLANDS.

Abundance of terrapin were found here, chiefly at the foot of the hill, which occasioned our naming it MOUNT TERRAPIN. In the sandy bay opposite our anchorage the finest grey mullets were caught with a seine, and in such extraordinary quantities, as almost exceeds belief. Guanos were also very plentiful, and some goats were seen on the island.

*Albermarle Island, &c.*

ON the 1st of August we weighed from the anchorage in JAMES' ISLAND; and working to windward between ALBERMARLE and HARBOROUGH ISLANDS, discovered a very snug Cove in the former of these Islands, which we bore up for and anchored in. It is situated in the narrowest part of the passage between these two Islands, and is not easily seen, from the narrowness of its entrance; it is indeed altogether in point of size inconsiderable, and lays between two high lands; it is steep to all round, having no less than six fathoms water close to the shore. The soundings as you enter, decrease from 24 to 20, 18, 16, 14, 12, 10 and 6 fathoms. There are no dangers whatever in entering, and if the breeze fails, you may tow in with your boats and anchor in any part. The shore round it is so steep as to be almost inaccessible. The best method of steadying your ship is, with a hawser fast to the shore, having first come to with a bower anchor. You may ride in this Cove with the greatest safety, and I imagine it is capable of containing at least six frigates. It is not more than three cables' length wide, and not quite a mile in length. We weighed at day light in the morning of the 5th of August, and found no difficulty in warping and turning out.

No fresh water was to be found in any part of this Island, and I have reason to believe, there are no springs of fresh water in any one of the GALAPAGOS ISLANDS. Fish is plentiful every where, and the beaches to the northward and southward of this Cove are filled with the finest turtle,

In working to windward, between ALBERMARLE and NARBOROUGH ISLANDS, we were much baffled with light and variable winds, which were succeeded frequently by calms. As we passed the latter Island, we observed two craters burning, and the lava running even to the water's edge. The channel in the narrowest part, is not more than three miles wide, and the shores to the southward on both sides generally rugged, though I apprehend there are no dangers but what shew themselves above water.

*Bay of Panama, North-west Coast of Colombia,  
From Lieutenant Foster's Memoir.*

IT is recommended when going to PANAMA either from the northward or southward to get hold of the eastern shore, and work up along it, as the prevailing wind is from the N N W, in the day time, North and N N E in the night, which enables a vessel to make a long stretch

to the W N W in smooth water, whereas it would be a dead beat to windward between the ISLA DEL REY and the western shore, independently of the drain of current out, and a short rough sea.

In the Spanish surveys of this Bay there is a bank extending eight miles to the S E from the Island of GALERA, on which the least water marked is eight Spanish fathoms and we were informed that there was not less.

When working up this side it may be advisable not to stand inshore on the main side to less than six fathoms as there is a bank laid down off it at the distance of four miles, but we were told that the water gradually shoaled to it.

If the wind proves light, and the small Islands laying to the northward of the ISLA DEL REY have not been seen, and night coming on, it would be well to anchor, and not to run in in the night time unless it were moonlight; before being perfectly satisfied on this head.

Latitude of the Cathedral.....	8°	58'	10"N
Longitude west from GREENWICH, by the			
Spanish charts .....	79	21	0
Variation by mean of Azimuths and Amplitudes .....	7	0	0 E

ANCHORAGE of H. M. S. Conway in  $3\frac{1}{2}$  fathoms, muddy bottom, with

The Cathedral .....	N 50° W	} By compass
Tower of OLD PANAMA CASTLE..	N 17½ E	
A detached rock lying off the Island of PENCO .....	S 27 E	

The flood tide appears to sit to the W N W, and the ebb to the S S E, but the current was so slight, that the direction of either tide is uncertain. The rise as got by means of the lead alongside of the ship, appeared to be between 11 and 12 feet, and the time of high water about two hours.

Supplies of fresh beef and live oxen are obtained here in plenty; the inconvenient distance that ships lie off the town, watering is rendered somewhat troublesome, and it is seldom done, since such facilities are found at the Island of TABOGA that lies between eight and nine miles to the southward and directly in the way out from this anchorage.

*Island of Taboga, West side of the Bay of  
Panama.*

THE anchorage is good on the N E side of the Island, about two-thirds of a mile, off a

little Village almost hid in tamarind, plantain, and cocoa nut trees, but which may be made out by the white walls of a Church in ruins, that stands higher up the Hill than the Village.

There is a watering place on each side of the Village, but which are not seen until you land; that on the S E side is the largest stream, and at night runs clear and constant, but in the day time it is liable to be contaminated by washing operations; the other to be northward though smaller lies more out of the Village.

We landed our casks and hoisted them by means of our launch into the cutters, which went backwards and forwards all night; as the heat in the day time is very great at this place, we considered ourselves fortunate in having the full moon, which enabled us to complete our water by an early hour next morning, having worked watch and watch all night.

Here we procured various kinds of tropical fruits, together with a supply of yams, fowls and vegetables, and fodder for the oxen.

The town of PANAMA is supplied from these and the neighbouring Islands with the last mentioned articles.

The anchorage of H. M. S. Conway, was in  $8\frac{1}{2}$  fathoms at low water.

With PANAMA Cathedral.....	North	} By compass
Church of the Village.....	S 47° W	
Islands of TABOQUILLA from .....	N 57° E	
to .....	N 77 E	
Rock between the Islands .....	N 80½ E	

High water at full moon at 2h. 30m. P. M.  
Perpendicular rise, by means of the lead alongside, was 9 feet.

*Acapulco, South Coast of Mexico,*

Latitude from a Spanish plan.....	16° 50' 29"N
Longitude east of ST. BLAS, by chronometers	5 24 40
From GREENWICH .....	99 53 47W
Variation by Azimuths, observed on shore...	8 40 0 E

ANCHORAGE of the Conway was in 10 fathoms mud and sandy bottom, with

The Flag Staff on FORT CARLOS	N 20° E	} By compass
Church in ruins, near the centre of the Town .....	N 44 W	
Island of FARALLON (which is white from the dung of birds).....	N 63½ E	
Eastern extreme of the Port .....	S 70 E	

FROM this place we made a hawser fast to a small rock bearing S 55° W, by which we

canted the ship's broadside to the sea breeze, which at times blows fresh.

Here we obtained fresh beef and vegetables, and watered the ship from the wells in the town near the landing place; but we had often to wait in consequence of the water being low, and not always clear.

The best watering place, we were told, is a stream running into the sea, on the N W side of a hill, directly to the southward of the Fort; but at this season it had run dry, and could not be discovered.

*The following remarks respecting the appearance of the Land from Sea, are inserted by Captain Hall, in Mr. Foster's Memoir.*

“THE entrance into ACAPULCO lies about midway between the east and west extremes of a high portion of the Coast, which stands forward in a very prominent way to the southward of the rest of the Coast; the centre part is the highest, probably about 3,000 feet above the sea.

Both ends run off to bluff points: the eastern one is called POINT MARQUES, and is distinguishable by its presenting a set of steep

white cliffs; it is succeeded on the eastern side by a long line of white sandy beach, backed by a lower range of country which reaches to the foot of the hills.

The entrance of the harbour when bearing north has **POINT MARQUES** on the east, and a small promontory on the west, not unlike each other, and both having white cliffs.

The entrance may also be distinguished by a remarkable white rock which lies nearly abreast of the middle part of the white beach at the bottom of the Bay of **ACAPULCO**, this may be seen with ease at the distance of three or four leagues, when it bears on any point of the compass between  $N \frac{1}{2} W$  and  $N N E \frac{1}{2} E$  by compass, in other cases it is shut in, either by the land near **PORT MARQUES** or by the Island of **GRIFO**, off the entrance.

**PORT MARQUES** lies close round the Point of that name, and is not very distinguishable till it be approached within a couple of leagues.

There are no dangers in **ACAPULCO** harbour, except one shoal nearer the shore than any ship would think of going; there can be no difficulty in making out the situation of this.

harbour, when it is understood that its latitude is  $16^{\circ} 51' N$ , and that it is pointed out by a lofty promontory which maintains its height and abruptness to the very sea, without any low land ; this high land is covered with trees or shrubs, and every where presents a green surface, except where it meets the sea, and then its face is laid bare, and shows only naked white or grey cliffs of granite, not of a massy character, but splintered in all directions.

The anchorage is abreast of the town in the western corner of the Bay, near two white rocks, to one of which a hawser may be made fast, and the ship canted to the sea breeze. There is a remarkable high land considerably to the eastward and much further inland than the promontory of ACAPULCO, having a long tabular top, which rises considerably above the neighbouring peaks. But there is no difficulty in distinguishing this promontory, when coming along shore from the eastward, as it is the first high coast land which reaches to the sea, and terminating a line of low white beach. On the western side, the coast land is high, and offers such a variety of forms and heights, that it may not be easy to distinguish the high land of ACAPULCO, or rather a stranger might perhaps mistake some other part of the coast for it.

The paps of COYUCA are the marks generally pointed out as affording the means of distinguishing the land ; they lie some leagues to the westward or W N westward of the promontory of ACAPULCO, and might be better described I think as a castle or fort-like mountain, than as paps. There is first a very abrupt precipice facing the west, with a surface somewhat tabular, but not quite level ; the top being nearly equal in horizontal length to what the cliff is in abrupt height ; then there is a nick or gully which is succeeded by a flat peak, not very unlike a pap. After this there is a long hog-backed ridge, with an irregular peaked termination at the eastern end. The land between this and ACAPULCO sinks considerably, and though it still maintains a tolerable height, the promontory is always sufficiently conspicuous.

When its extreme south point bears about east, and indeed when it bears considerably to the northward of east there is no high land to be seen beyond it to the eastward.

At the distance of seven or eight leagues the land about Point MARQUES makes like an Island.

*Remarks on the position of a Peaked Mountain  
on the West Coast of Mexico, probably the  
Volcano of Colima,*

*From Lieutenant Foster.*

Latitude by mean of all the observations . . .	19°	36'	20"N
Longitude east of SAN BLAS by mean of all the observation . . . . .	1	41	58
Consequently west of GREENWICH . . . . .	103	36	29

THE observations for its height above the level of the sea did not agree with each other, but they all made it upwards of 13,000 feet. There was snow on the top of it in February.

*Cape Corrientes West Coast of Mexico,*

Latitude inferred from observations at sea . .	20°	24'	32"N
Longitude west of SAN BLAS, by chrono- meters . . . . .	0	23	59
West of GREENWICH . . . . .	105	42	26

*The following description of the Cape, by Cap-  
tain Hall, is inserted in Lieutenant Foster's  
Memoir.*

“THE Cape is a bold and well characterized Promontory, jutting far into the sea, with a tolerably straight sky line broken here and

there by ravines and small peaks ; it is every where clad with underwood to the top, and has the appearance of being a safe bold shore, sandy beaches were noticed at different places but in general the cliffs appear to be washed by the sea ; we had no bottom with 64 fathoms of line, at the distance of four or five miles from the shore."

*Rock to the N W by N by compass, off Cape Corrientes,*

*From Lieutenant Foster,*

Latitude deduced from observations at sea ..20° 43' 0"N  
 The rock west of SAN BLAS as inferred from  
 a transit bearing off CAPE CORRIENTES . 0 33 14  
 Consequently west from GREENWICH ....105 51 41

ABOUT eighteen leagues to the N by E of this rock lies the land mark of SAN BLAS called PIEDRA BLANCA.

*Piedra Blanca, Land-mark for the Port of San Blas,*

Latitude determined trigonometrically from  
 SAN BLAS ..... 21° 34' 48"N  
 Difference of longitude ditto ..... 0 13 40W  
 Consequently west from GREENWICH ....105 32 7

THIS rock is 130 feet high, and may be seen at the distance of four or five leagues, it is white from being covered with the dung of birds, and there are twelve fathoms at a ship's length off all round.

The **PIEDRA BLANCA DE TIERRA**, another white rock 55 feet high, in the harbour of **SAN BLAS** can be seen by this, bearing by compass **S 83° E** distant  $11\frac{3}{4}$  miles.

*Port of San Blas, West Coast of Mexico,  
The Sea Port of Tepic and of Guadalajara, the  
capital of New Galatia.*

Latitude of Captain Hall's observatory, marked in the plan .....	21°	32'	24"N
Longitude by an occultation of A. Leonis ..	105	18	27 W
Longitude by twelve sets of lunars on oppo- site sides of the moon .....	105	17	9
Variation of the compass, by Azimuths, ob- served on shore .....	8	40	0 E

**HIGH** water full and change 8h. 5m. **P. M.**; perpendicular rise about four feet and a half. **N. B.** The evening tide rises about nine inches higher than the morning. The best anchorage is with

<b>PIEDRA BLANCA DE TIERRA</b> .....	<b>S 85°</b>	<b>20' W</b>
Flag Staff on Fort at the entrance .....	<b>N 4</b>	<b>40 W</b>
Flag Staff at the Town of <b>SAN BLAS</b> .....	<b>N 43</b>	<b>40 E</b>

IN  $4\frac{1}{2}$  fathoms fine dark sandy bottom, and the boats will fetch off and on, to the shore with the sea breeze.

It is customary to anchor with the best bower to sea, and to take the stream in, over the stern from the eastward so as to stem the heavy swell, which is always very high about the period of the full and change of the moon.

*Remarks and Directions.*

HAVING passed about eight or ten leagues to the southward of the group called the TRES MARIAS Islands, (the westernmost of which lies 54 miles west of SAN BLAS by chronometers,) steer a N N Easterly course until PIEDRA BLANCA comes in sight, when it would be advisable to steer directly for it, and pass about a league or two to the southward of it, from thence you will see PIEDRA BLANCA DE TIERRA, which points out the harbour, for this you may steer direct, taking care not to go in shore of the line of bearing of the two rocks, as a sand bank lies off the coast about half way between them, to a considerable distance on the pitch of which there is only  $2\frac{1}{4}$  fathoms.

Vessels provided with chain cables should use them here, as the barnacles will soon

destroy the hempen ones, and the boats should be frequently out of water, and their bottoms scrubbed, as the worm is very destructive at this place ; a mixture of tallow and lime, laid on thick, is described as being the only preservative of boats bottoms.

Supplies of vegetables may be procured from the market, which is held on Saturday evenings and Sunday mornings ; the watering place is at a well dug near the end or commencement of a rope-walk, on the beach, the water is somewhat brackish, but improves by keeping.

Plenty of fish are to be caught at the anchorage, and oysters are found clustered to the roots of the trees on the banks of the river.

Early in June the rainy season commences with great violence, like the monsoons of the EAST INDIES, and continues for six months, during which period there prevail violent squalls, a heavy rolling sea at the anchorage, thunder and dangerous lightning and almost constant rain. The inhabitants at this season, retire to the neighbouring town of TEPIC, and to other parts of the country, not only to avoid the bad weather, but the ardent fevers which are prevalent.

In the evenings and mornings the air is so filled with mosquitos and sand flies, that those periods which otherwise would be the best to work in, are not the most suitable for communicating with the shore.

There is always reason too to apprehend the effect of marsh miasma, in the mornings and evenings at a spot so surrounded with swamps. Our boats passed backwards and forwards in the heat of the day, and a constant communication was kept up with the town, but little or no sickness ensued, it is true some cases of fever occurred, and it is worthy of remark, that it fell most severely upon those who had gone up the river in a boat. There is no doubt, however, that this place is extremely unhealthy at times, and every precaution, especially against exposure at night, would be at all times of importance.

*The following remarks respecting Provisions and Naval Stores, are by Mr. Inderwick, Purser of H. M. S. Conway.*

NEARLY all sorts of provisions and stores may be procured at SAN BLAS, either in the town, or by having them sent from TEPIC. The spirits of the country are bad and dear. Vegetables are only to be procured in the

town at the market, they are of various kinds, principally pumkins, cabbages, and onions.

Live oxen are in plenty and reasonable ; the only difficulty likely to arise in completing a ship with salt provisions is owing to the extreme heat of the weather ; the following mode was adapted in curing the beef.

The oxen were killed early in the morning, and the meat was immediately cut from the bones, except from some of the ribs, the meat was cut thin and wiped as dry as could be done, this occupied but a few minutes, when the men commenced rubbing salt well into the meat while warm, which being done, the whole was put on a stage erected in the open air, from whence the sun was excluded ; planks of wood were lain upon it, on which were placed all the weight that could be put, for the purpose of pressing out the blood, &c. ; in this state it remained 'till the following morning, when it was examined, and appearing good was again well rubbed with salt and the weights again put on, it remained so for three days, when it was weighed and put into casks, and on getting them on board, they were filled with strong pickle ; for making which, a quantity of salt and salt petre had been procured.

This meat kept perfectly sweet: one cask of it was used when half way between SAN BLAS and CAPE HORN; and the two last casks were used on our passage from RIO DE JANEIRO to BAHIA in December following, being upwards of six months after it was cured. Naval stores, such as pitch, tar, rope, and twine, may be procured here, the produce of the country.

*Remarks on the Marquisas Islands,*

*From Captain Pipon.*

ON the 20th August came in sight of the MARQUISAS ISLANDS, one bearing S W by W, at eight A. M. we had approached considerably; and while the Tagus reconnoitred the south part of the Island, the Briton steered round the northern point, for the same purpose. To the southward several beautiful spots appeared, and soon after some of the natives were discovered in canoes, some fishing, and others standing by their boats, hauled up on the beach; nothing particular appearing to detain us at this Island, we continued our route to NOOAHEEVAH, or SIR HENRY MARTIN'S ISLAND. On the 21st we anchored in PORT ANNA MARIA; it is impossible to conceive a more snug anchorage than this Port afforded; we moored with the best bower to the southward in  $10\frac{1}{2}$  fathoms, and the small bower

to the northward in  $6\frac{1}{2}$  fathoms, a soft muddy bottom, and within half a mile of the watering places. This we found the best and most convenient anchorage; it is close to the white sandy beach on the starboard side of the Bay as you enter. I mention this particularly, for besides its proximity to the watering places, it is also the most convenient for wooding; the moment the natives were apprized we were British, we found them most friendly and without any appearance of distrust. On sounding and surveying this Bay, we found the anchorage good in every part of it, and the weather so mild, that you need be in no apprehension of driving; rains indeed were frequent, and sometimes heavy, but never attended with gusts of wind; the water here is most abundant, and of an excellent quality; it is best to raft off your casks, on account of the surf, which occasionally is rather high, but never attended with danger or much inconvenience; it was pleasing to remark with what cheerfulness the Indians, of their own accord, assisted in this duty: you may water at three different places; the Tagus from a rivulet, which is a fine running stream, completed her water, that is about fifty tons, in one day; wood is also plentiful, and can be procured and embarked with great facility from the little white sandy beach.

Refreshments to be procured, are not very plentiful, consisting only in a few hogs, cocoa nuts, and the bread fruit, this latter however was not in season, it not being ripe before the latter end of September; a few fowls were seen, and the only domestic animals in possession of the natives, were the dog, with a few cats; cocoa nuts were here very plentiful and delicious, and we were told, the bread fruit, when in season, was also very abundant.

It is impossible to imagine a race of men, more docile, tractable, and inoffensive than the Indians bordering on this Bay, and the neighbourhood; in their shape they were very beautiful, exceeding in general the usual height, and very athletic; no deformity of any kind was observed in any one of them.

The chief commodities in estimation among the natives, were whales' teeth, of which we had fortunately procured a tolerable supply at the GALLAPAGOS ISLANDS, (and which is a very favorite ornament,) cloth also, linen, biscuit, knives, razors, hatchets, and small files, these latter were in great demand for the polishing and pointing their fish hooks; red cloth was also in particular estimation. In return for the presents made by the King, of

hogs, &c. to the ship's company, two muskets, 36lbs. of powder, with a few flints and musket balls, were presented to His Majesty, (according to his request,) with other little private articles, with which he was highly delighted. At this Port we found an Englishman, by the name of William Wilson, who had been eleven years a resident on the Island; he perfectly understands the language, and served at all times as an interpreter; he was extremely attentive and indefatigable in his endeavours to be useful, and is extremely beloved by the natives; he has acquired some property in collecting sandal-wood, which he sends to Canton, by American ships that occasionally touch here for that article. Sir Thomas Stains and myself left with him such poultry as our coops afforded; such as turkeys, male and female, geese, ducks, fowls, and pigeons; which we earnestly hope may be of use to future navigators; and from the excellent situation in which they were placed, and under the protection of the King, who had tabooed the place, we have every reason to hope they will speedily multiply: we also left some terrapins, or land tortoise, and my servant, a good farmer, planted a very fine field of potatoes, which I fortunately was able to spare, and which under Divine Providence, may be invaluable to the natives.

While here, we visited in our boats, **COMPTROLLER'S BAY**, inhabited by a tribe of Indians, called **Typees**, reputed very warlike, and from the magnitude of their war canoes, we had reason to believe they do not confine their excursions to the coasts of **NOOAHEEVAH** only, but frequently visit other Islands, with hostile intentions; some of these canoes were capable of containing from sixty to eighty men, and are put together with a degree of skill and art which would do credit to more enlightened people; they were then not on good terms with the natives of **PORT ANNA MARIA**; we had however, the good fortune to establish a friendly understanding between these two tribes before we left them. **COMPTROLLER'S BAY** although extensive, is not so good as **PORT ANNA MARIA**; the water being deep from 27 to 30 fathoms, even close to the shore, and fresh water not so easily procured. Here however we were received by the chiefs and natives in a most friendly manner, a hog being immediately killed and dressed for our dinner. The inhabitants of this port, although large in stature, are not so fine a race of men as those of the Harbour of **PORT ANNA MARIA**; after having purchased a few hogs and cocoa nuts from the natives, we returned to our ships highly gratified with the novel scenes that had come under our view. During the time of our

stay in this Port we were frequently visited by the King and chiefs and a numerous assortment of the natives, they were particularly honest in their dealings, no act of dishonesty having been discovered, either among the men or women. I have dwelt long on this Island, the Port being one of the best in the world, and certainly highly deserving the attention of our Government; a few European commodities, with some of the South American fruits, and grain sent here, would be of incalculable advantage to the natives, as well as to strangers visiting these Islands.

On the following day we anchored in a little Cove in the Island of SANTA CHRISTIANA, two or three miles to the eastward of RESOLUTION BAY; as it had no name in any of our charts, we called it BRITON'S COVE. We came to in  $10\frac{1}{2}$  fathoms; BRITON being nearer in shore, had only  $6\frac{1}{2}$  fathoms. The water in this little Cove is so extremely clear, as to be able to see your anchor very distinctly; this anchorage to all appearance, is preferable to RESOLUTION BAY, being free from those violent gusts of wind which are frequent in this latter Bay, and which constantly occasion the driving of ships; besides the water in RESOLUTION BAY is steep, from 40 to 30 fathoms, except you are close in shore; should

a ship, however be in want of water, it would be advisable to come here, where it is plentiful and of a very fine quality. The stream issuing from a rock is the best, though two other runs exist in the Bay, which are also extremely good. The natives here appeared much addicted to thieving, very wild and uncivilized.

Poultry and hogs were here plentiful, but the former being allowed to run wild in the woods, are with difficulty caught, and the natives are not inclined to part with their best hogs. Whales teeth and files, with knives, hatchets, razors, &c. are the best articles for trade here, but files in general had the preference.

On the 2d of September we weighed and made sail, and on the 17th at 2h. 35m. A. M. to our astonishment land was discovered; we hove to, and it was determined to remain in that situation until day light, to ascertain what land it could be, PITCAIRN'S ISLAND being laid down in the charts nearly three degrees more to the westward, we could not imagine this in view to be that Island, for we considered it hardly possible so great an error could have crept into our charts; nevertheless we soon found, on the natives coming on board, that this was literally PITCAIRN'S ISLAND, and

that it was peopled by the descendants of Fletcher Christian and others, who had left OTAHEITE with him, in the Bounty, on the 22d of September, 1789, and had not since been heard of.

By very good observations, we found at noon, the body of the Island bearing due west, true, distance three miles.

The latitude to be.....	25°	4'	0" S
Longitude by two chronometers.....	130	26	0 W
By Briton's chronometer .....	130	23	0
Variation .....	10	0	0 E

The Island is very difficult of access, having no anchorage near it; and the surf breaking high with the least wind, landing is attended with great difficulty. It is plentifully stocked with hogs, goats, poultry, bread fruit, yams, bananas, plantains, cocoa nuts, &c. Water would be difficult to procure, from the great surf on the rocks.

*The following remarks were not received until after the foregoing were printed off, and consequently could not be inserted in their proper places, but as they have not been described, and Captain Ferguson differing in opinion from Captain Brown in his remarks on Casma, (page 54,) and also noticing a dangerous rock which has been discovered at its entrance, it may be proper to introduce it with the others here.*

*Huacho,*

*From Captain Ferguson, of H. M. S. Mersey.*

Latitude..... 11° 7' 0" S  
 Longitude ..... 77 29 30W

THIS Bay is small, but the anchorage is good, in six or seven fathoms water, sandy bottom; all kinds of provisions are in great plenty, and landing is pretty good.

In beating up from HUACHO to CALLAO, I kept inside the HORMIGAS ROCKS, but I would not recommend it, in consequence of its preventing you from making a stretch out during the night, which I think it is necessary to do. It has been found by experience that the best plan of beating up along the Coast, is to stand out all night and inshore all day, by which means you take advantage of the alteration

that takes place in the night and day breezes. It is advisable not to go too close in, as you are then liable to lose the wind ; this plan may be carried on as far as ARICA and the intermediate ports. From the apparent clearness of the Coast no danger is to be apprehended ; we found the soundings very regular, from PECOSMAYO to ARICA, but the shore is generally much steeper as you get to the southward. The current is variable, sometimes running strong to the southward.

*Casma.*

Latitude ..... 9° 27' S.  
Longitude..... 78 20 W

THE anchorage is fair but confined, from the flats running so far out, and the gusts of wind from off the land being very severe at times, landing is excessively bad from the tremendous surf. On sounding the entrance a rock\* a little under water was found on the south side, nearly half a mile from the shore ; otherwise it is clear, you may anchor in  $7\frac{1}{2}$  fathoms, sandy bottom. Upon the whole I did not like it as a Bay.

---

\* This rock has nine feet on it, and breaks at times ; it lies about a cable and a half from the shore.—Master's remarks.

*Samanco,*

*From Mr. Bremner, Master of H.M.S. Mersey.*

Latitude ..... 9° 12' 0" S  
 Longitude..... 78 28 0 W

**THIS** Port lies five leagues to the N W of **CASMA**, and is an extensive harbour.

At a distance when steering for it, a bluff like an island will appear, this bluff is situated on a sandy beach on the inner side of the harbour; the entrance to it is about two miles wide; formed by **POINT SAMANCO** on the south, and **SEAL ISLAND** on the north, with twenty-five fathoms between; on approaching it, a fine valley of trees will appear; off **POINT SAMANCO** is a rock formed like a bell, and between **SEAL ISLAND** and the **PENINSULA** is a channel with nine fathoms in the narrowest part. The soundings in this Port are regular, you shallow your water gradually, and may anchor just inside of **PÉLICAN POINT**, in seven fathoms.

Landing is good, and plenty of fire wood can be procured in consequence of the great quantity of drift found in all the Bays and Calctas, (Creeks) along this Coast; the River **NEPENA** does not reach the sea, but loses itself in the sand not far from the beach, and

forms a kind of lagoon, the water is not good. Bullocks are to be procured at a moderate price.

*Santa,*  
*From Captain Ferguson.*

Latitude ..... 9° 0' 0" S  
Longitude ..... 78 39 0 W

THIS is a good anchorage from the prevailing winds ; under the island perhaps may be best, but in that case you would be far from the watering place, which is very good ; the *Mersey* anchored in eight fathoms, but a better birth may be taken in five. Landing is good, and provisions are to be got at a moderate price.

The Island is quite white, as most are upon this Coast.

*Pacasmayo.*

Latitude ..... 7° 25' 0" S  
Longitude ..... 79 29 0 W

ALTHOUGH very open, is a much better anchorage than at GUANCHACO, in consequence of the Point running out, in some degree makes it smoother ; you may anchor in five or six fathoms, sandy bottom.

The soundings are much less all along this part of the Coast, but they are regular. Sometimes there is a strong current setting to the northward, and at other times it is scarcely observable.

# INDEX

TO THE

*Ports, Islands, &c. described in the Second Part.*

---

	Page.
Acapulco.....	93
Arauco .....	6
Arica .....	29
Blas, San, Port of .....	100
Callao .....	47
Carlos, Port St. ....	4
Casma .....	54
Casma.....	114
Chureamatta .....	28
Clara, Santa, Island .....	63
Cobijo Port .....	28
Coles Point .....	32
Conception Bay .....	8
Copiapo .....	26
Coquimbo .....	24
Elena, St. ....	74
Galapagos .....	78
Guanchaco .....	56
Guasco .....	25
Guayaquil .....	64
Gully Victor .....	29
Huacho .....	113
Ilo .....	33
Infernal Rock.....	44

## INDEX.

	Page.
Isly Point .....	37
Juan Fernandez .....	14
La Plata Island.....	77
Los Amigos Rocks .....	45
Marquisas Islands .....	105
Mary, St., Island and Bay .....	7
Mercedes, Hill of.....	45
Mocha, Island of .....	5
Molendo .....	35
Nasca, or Cabellos Point .....	44
Palados Rocks .....	54
Panama Bay .....	89
Pacasmayo .....	116
Payta .....	57
Penco Bay .....	9
Pescadores Point .....	42
Piedra Blanca Rock .....	99
Pisco Bay .....	45
Quilca .....	38
Samanco .....	115
Santa .....	116
Talcahuana Port .....	8
Tambo .....	34
Tome Bay .....	10
Tumbez Bay .....	59
Valparaiso .....	15
Vincent, Port St. ....	12